

Determinants of Employee Job Satisfaction in Information-Technology Startups: Evidence from Karnataka, India

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Abstract:

This study examines the factors influencing employee job satisfaction in information-technology startups operating across selected startup hubs in Karnataka, India. Drawing on the distinctive employment conditions of young ventures, the study investigates the effects of career growth and learning opportunities, job autonomy, founder-supervisor support and work-life sustainability on employee job satisfaction. A quantitative, explanatory and cross-sectional research design was adopted. Data were collected through a structured online questionnaire from 360 full-time employees working in IT startups located in Bengaluru, Mysuru, Mangaluru and Hubballi-Dharwad. The measurement scales were adapted from established instruments and evaluated for reliability and construct validity. Multiple regression analysis was used to test the proposed hypotheses. The model explained 64.6% of the variance in employee job satisfaction. Career growth and learning opportunities, job autonomy, founder-supervisor support and work-life sustainability all demonstrated significant positive effects on job satisfaction. Work-life sustainability, founder-supervisor support and career growth emerged as the strongest predictors, whereas job autonomy remained significant but showed a comparatively smaller contribution. The findings indicate that startup employees evaluate their employment through developmental, work-design, relational and well-being considerations. The study contributes by presenting a parsimonious employee-centred model of job satisfaction in startups and highlights the need for integrated employment practices that combine learning opportunities, supported autonomy, accessible leadership and sustainable workloads.

Keywords: Employee job satisfaction; IT startups; Career growth and learning; Job autonomy; Founder-supervisor support; Work-life sustainability

Introduction

Startups have become important contributors to innovation, employment generation and economic development. In India, more than 223,000 startups had been formally recognised by 31 March 2026, collectively generating over 2.33 million direct jobs. Young ventures generally operate with limited resources, evolving organisational routines and relatively small workforces. Consequently, employee knowledge, creativity, adaptability and discretionary contribution are critical to venture survival, growth and organisational learning. Employee withdrawal may be particularly disruptive because startups often lack the recruitment infrastructure, resource redundancy and knowledge-transfer systems available to mature organisations (Nyström, 2021; Domurath et al., 2023). Startup employment nevertheless represents a distinctive and contradictory experience. Employees may benefit from rapid learning, broad responsibilities, autonomy, founder interaction and participation in innovation. These advantages coexist with informal management systems, changing roles, resource constraints, long working hours and uncertainty regarding organisational survival. Employee job satisfaction, work-life balance and psychological well-being are therefore important but vulnerable outcomes in innovative startups (Ammirato et al., 2024). Entrepreneurial work may generate engagement through personal agency while also increasing exhaustion when demands exceed available resources (Obschonka et al., 2023). These tensions can intensify during scaling. Growth may create advancement opportunities and additional resources, but rapid expansion can also produce role overload, coordination difficulties and cultural disruption. Genedy et al. (2024) found that scaling was associated with higher burnout and lower job satisfaction among new-venture employees. Hypergrowth has similarly been described as a period of organisational “growing pains” shaped by constant change, resource scarcity and time pressure (Moedt et al., 2024; Coviello et al., 2024). Employee satisfaction in this context may depend not only on actual workplace conditions but also on employees’ expectations. These expectations are

shaped by recruitment communication, employer branding, prior employment and personal aspirations. Met-expectations theory proposes that employees compare anticipated organisational inducements with subsequent experiences and form attitudes according to whether expectations are met, exceeded or unfulfilled (Irving & Meyer, 1994, 1995, 1999). Irving and Montes (2009) found that unmet expectations reduced satisfaction, while met and exceeded expectations produced different outcomes depending on the level and nature of organisational inducements. Similar relationships between pre-entry expectations, post-entry experiences and job satisfaction have been reported by Sutton and Griffin (2004), Fu et al. (2024) and Wong et al. (2018). Conventional job-satisfaction studies commonly examine compensation, leadership, autonomy, development and work–life balance as separate predictors. Such additive models overlook the reference standards through which employees interpret organisational conditions. Person–environment fit research instead indicates that employee attitudes depend on correspondence between individual preferences and organisational provisions (Edwards & Cable, 2009; Matta et al., 2015). Difference scores also provide an inadequate representation of expectation–experience congruence because they combine substantively different configurations and conceal whether agreement occurs at high or low levels. Polynomial regression and response-surface analysis retain both variables and estimate their linear, quadratic and joint effects (Edwards & Parry, 1993; Edwards, 2002; Wilson et al., 2018). Accordingly, this study examines how career growth and learning opportunities, job autonomy, founder–supervisor support and work–life sustainability influence employee job satisfaction in startups. It contributes by identifying startup-specific employment conditions that can strengthen employee satisfaction and provide practical guidance for sustainable workforce management.

Accordingly, this study examines how career growth and learning opportunities, job autonomy, founder–supervisor support and work–life sustainability influence employee job satisfaction in information-technology startups. It contributes by identifying startup-specific employment conditions that can strengthen employee satisfaction and provide practical guidance for sustainable workforce management.

Research Objectives

1. To examine the influence of career growth and learning opportunities on employee job satisfaction in information-technology startups.
2. To assess the influence of job autonomy on employee job satisfaction in information-technology startups.
3. To determine the influence of founder–supervisor support on employee job satisfaction in information-technology startups.
4. To evaluate the influence of work–life sustainability on employee job satisfaction in information-technology startups.
5. To identify the strongest predictor of employee job satisfaction among the four employment factors examined.

Theoretical Background and Hypothesis Development

Employee Job Satisfaction in Startup Organisations

Job satisfaction refers to an employee's overall evaluative and affective response to the job and the conditions under which it is performed. It reflects whether employees regard their work as rewarding, meaningful and aligned with their professional and personal expectations. Job satisfaction is especially important in startups because young ventures depend heavily on relatively small workforces, evolving systems and employees who frequently perform multiple roles. The dissatisfaction or departure of even a few employees can disrupt product development, customer relationships, organisational learning and operational continuity. Research on young ventures indicates that employee retention is particularly challenging because organisational changes may alter the conditions under which employees initially agreed to work (Domurath et al., 2023). Startup employment may offer broad work exposure, rapid learning, direct interaction with founders and participation in innovation. At the same time, employees may encounter resource constraints, unclear responsibilities, shifting priorities, long working hours and uncertainty concerning organisational survival. Ammirato et al. (2024) identify job satisfaction, psychological well-being and work–life balance as interconnected dimensions of employee well-being in innovative startups. Genedy et al. (2024) further found that venture scaling was associated with increased burnout and reduced job

satisfaction. Accordingly, the present study examines four factors that are particularly relevant to startup employment: career growth and learning opportunities, job autonomy, founder–supervisor support and work–life sustainability.

Career Growth and Learning Opportunities

Career growth and learning opportunities refer to employees' perceptions that the organisation enables them to acquire new competencies, undertake challenging work, assume greater responsibility and progress toward long-term career goals. These opportunities may include training, mentoring, developmental feedback, cross-functional exposure and advancement. Career development is especially important in startups because employees often join young ventures expecting accelerated learning and professional exposure. Startup roles may require employees to solve varied problems and work beyond traditional functional boundaries. Such experiences can increase competence, confidence and perceived employability. Organisational investment in development also signals that employees are valued beyond their immediate operational contribution. Sustainable human-resource management research identifies employee development and workplace well-being as important correlates of satisfaction (Sypniewska et al., 2023), while caring human-resource management emphasises that investment in employee growth strengthens favourable attitudes (Saks, 2022). Advancement opportunities also remain important in employees' decisions to stay with or leave organisations (Hommelhoff et al., 2025).

H1: Career growth and learning opportunities have a significant positive impact on employee job satisfaction in startup organisations.

Job Autonomy

Job autonomy refers to the freedom, independence and discretion employees possess in deciding how to organise and perform their work. It includes control over work methods, scheduling, problem-solving and job-related decisions. Autonomy is central to startup employment because young ventures are commonly associated with flexible roles, limited bureaucracy and direct participation in organisational problem-solving. Employees may value the opportunity to experiment, introduce ideas and influence how work is completed. Work-design theory identifies autonomy as a major motivational characteristic because it strengthens employees' responsibility for work outcomes. Contemporary research similarly indicates that autonomous work can improve job satisfaction when employees possess meaningful responsibilities and adequate support (Parker et al., 2024). Nie et al. (2023) further found that job autonomy supports constructive employee behaviour by strengthening harmonious work passion. Flexible working arrangements are also associated with greater job satisfaction and organisational commitment when they provide genuine employee control (Harrop et al., 2025).

H2: Job autonomy has a significant positive impact on employee job satisfaction in startup organisations.

Founder–Supervisor Support

Founder–supervisor support refers to employees' perceptions that founders or immediate supervisors value their contributions, provide guidance, recognise effort and show concern for their professional and personal well-being. It includes communication, developmental feedback, access to information and assistance with work-related difficulties. This support is particularly important in startups because formal HR systems may be limited. Founders and supervisors often clarify changing roles, allocate scarce resources and communicate organisational priorities. Their behaviour can determine whether employees interpret uncertainty as a manageable challenge or as organisational neglect. Social exchange theory suggests that employees respond positively when organisational representatives support and value them. Domurath et al. (2023) note that frequent changes in young ventures can create discrepancies between initial expectations and actual experiences; consistent founder and supervisor communication may reduce such uncertainty. Employee-adjustment research also indicates that organisational and socialisation support promotes favourable work attitudes (Mosquera & Soares, 2025).

H3: Founder–supervisor support has a significant positive impact on employee job satisfaction in startup organisations.

Work–Life Sustainability

Work–life sustainability refers to employees’ ability to fulfil work responsibilities over time without persistent exhaustion, excessive interference with personal life or deterioration in psychological well-being. It emphasises whether work intensity and availability expectations can be maintained over an extended period. This factor is especially relevant in startups because limited staffing, urgent deadlines and uncertain resources may create long hours and continuous availability. Employees may initially accept these conditions because they value the venture or expect future rewards, but sustained overload can reduce satisfaction. Ammirato et al. (2024) identify work–life balance as a central component of well-being in innovative startups, while Genedy et al. (2024) show that scaling can increase burnout and reduce satisfaction. Flexible working arrangements may improve satisfaction when they provide real control rather than extending work into personal time (Harrop et al., 2025).

H4: Work–life sustainability has a significant positive impact on employee job satisfaction in startup organisations.

Conceptual Framework

The conceptual framework proposes that employee job satisfaction is determined by four startup employment factors: career growth and learning opportunities, job autonomy, founder–supervisor support and work–life sustainability. Each independent variable captures a distinct but complementary component of the employee experience. Career growth and learning opportunities represent the **developmental value** of startup employment. Job autonomy represents its **work-design value**. Founder–supervisor support represents its **relational value**, while work–life sustainability represents its **well-being value**. Employee job satisfaction constitutes the dependent variable and reflects employees’ overall evaluation of their jobs.

The model will be tested using multiple regression analysis:

$$JS_i = \beta_0 + \beta_1 CGL_i + \beta_2 JA_i + \beta_3 FSS_i + \beta_4 WLS_i + \varepsilon_i$$

where:

- JS_i = Employee Job Satisfaction of employee i
- β_0 = Regression constant or intercept
- CGL_i = Career Growth and Learning Opportunities
- JA_i = Job Autonomy
- FSS_i = Founder–Supervisor Support
- WLS_i = Work–Life Sustainability
- $\beta_1, \beta_2, \beta_3, \beta_4$ = Regression coefficients showing the individual effect of each independent variable on employee job satisfaction
- ε_i = Random error term

The expected coefficient directions are:

$$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 > 0$$

The regression analysis will determine the independent contribution of each predictor while holding the remaining variables constant. It will also identify which aspect of startup employment provides the strongest statistical explanation of employee job satisfaction. The model is sufficiently parsimonious for empirical testing while retaining scope for meaningful theoretical and managerial conclusions.

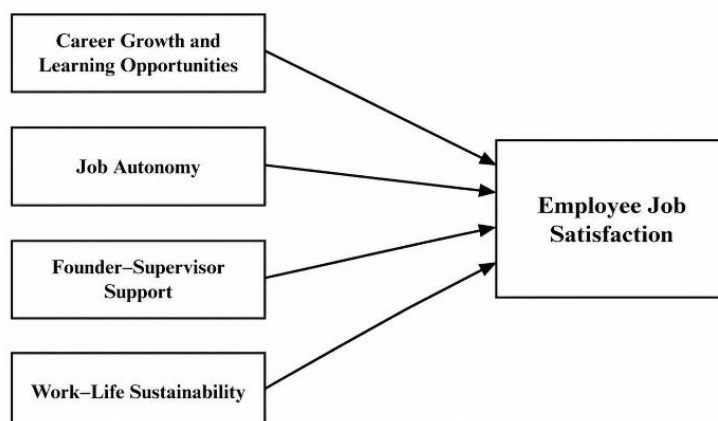


Figure 1. Conceptual framework showing the positive effects of Career Growth and Learning Opportunities, Job Autonomy, Founder-Supervisor Support and Work-Life Sustainability on Employee Job Satisfaction.

Methodology

Research Design

The study will adopt a quantitative, explanatory and cross-sectional research design to examine the influence of career growth and learning opportunities, job autonomy, founder-supervisor support and work-life sustainability on employee job satisfaction in information-technology startups. A quantitative design is appropriate because the study seeks to measure the specified constructs numerically and estimate the independent contribution of each predictor through multiple regression analysis. The explanatory orientation enables the study to test the four hypotheses developed from the theoretical framework rather than merely describing employees' workplace experiences. The individual employee will constitute the unit of analysis. Data will be collected through a structured online questionnaire administered at a single point in time. The cross-sectional design is suitable for obtaining responses from employees working across geographically dispersed startup hubs within Karnataka. Because the design does not establish temporal precedence, the results will be interpreted as predictive associations rather than definitive causal effects.

Study Context

The empirical setting of the study will comprise information-technology startups operating in Karnataka. The state provides an appropriate context because it possesses a substantial technology and startup ecosystem centred on Bengaluru and supported by emerging clusters beyond the state capital. The Karnataka Digital Economy Mission identifies Mysuru, Mangaluru, Hubballi, Kalaburagi, Shivamogga and Tumakuru as priority technology clusters under its "Beyond Bengaluru" initiative. For practical and geographical coverage, respondents will be drawn primarily from four major startup locations: **Bengaluru, Mysuru, Mangaluru and Hubballi-Dharwad**. Bengaluru represents the state's principal technology and startup centre, while Mysuru, Mangaluru and Hubballi-Dharwad represent emerging regional technology ecosystems supported through Karnataka's decentralised innovation initiatives. Including both Bengaluru and selected regional hubs will reduce excessive dependence on a single metropolitan ecosystem and permit broader representation of startup employment conditions across Karnataka. The study will focus on startups engaged in information-technology and software-related activities, including software-as-a-service, artificial intelligence, data analytics, cloud services, cybersecurity, enterprise software, mobile applications, educational technology, financial technology and other technology-enabled services. Software startups differ from mature software firms because they typically develop innovative products under severe resource and time constraints while searching for scalable and sustainable business models. For inclusion in the study, an organisation must identify itself as a startup and operate within the selected technology domains. Wherever feasible, preference will be given to startups recognised by the Department for Promotion of

Industry and Internal Trade or associated with recognised incubators, accelerators or startup networks. Large established information-technology corporations and conventional IT service companies that no longer possess startup characteristics will be excluded.

Population and Sampling

The target population will consist of full-time employees working in information-technology startups located in Karnataka. Eligible respondents must be at least 18 years old, employed in the present startup for a minimum of six months and directly involved in technical, managerial, product, marketing, customer-support, operations or administrative functions. The six-month tenure criterion is intended to ensure that respondents have sufficient experience to evaluate the employment conditions of their startup. Founders, co-founders, interns, temporary workers, independent consultants and employees of mature technology corporations will be excluded because their employment relationships and organisational exposure differ from those of regular startup employees. The final sample will comprise **360 usable responses**. This sample is considered adequate for estimating a multiple-regression model containing four principal independent variables and relevant control variables, while providing sufficient observations for reliability assessment, factor analysis, regression diagnostics and subgroup description. The study will nevertheless report the number of invitations distributed, responses received, questionnaires excluded and the final response rate to ensure methodological transparency. Because a complete sampling frame of IT-startup employees across Karnataka is unlikely to be publicly available, the study will use purposive sampling combined with controlled snowball sampling. Initially, eligible respondents will be approached through startup incubators, professional networks, technology communities, LinkedIn groups, alumni networks and contacts within selected startup organisations. Respondents may subsequently be invited to share the questionnaire with other eligible employees. Screening questions at the beginning of the questionnaire will verify sector, location, employment status, organisational type and tenure.

Data-Collection Procedure

Primary data will be collected using a structured online questionnaire created through a secure digital survey platform. The questionnaire link will be circulated electronically through email, professional networking platforms and authorised startup contacts. The first page will provide information about the purpose of the study, eligibility requirements, voluntary participation, confidentiality and the approximate nature of the questionnaire. Respondents will proceed only after providing informed consent. The instrument will contain separate sections covering respondent characteristics, career growth and learning opportunities, job autonomy, founder-supervisor support, work-life sustainability and employee job satisfaction. All principal constructs will be measured using multi-item scales with uniform Likert-type response options. The survey will not request personally identifying information such as employee names, personal telephone numbers or exact employer identities. Responses with substantial missing data, failed eligibility screening, duplicate submissions, implausibly short completion times or consistent straight-line answering will be excluded according to predetermined screening rules. Data collection will continue until 360 complete and usable questionnaires have been obtained across the selected startup hubs.

Measures

All constructs will be measured through established multi-item instruments using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Career growth and learning opportunities will be assessed through four professional-ability-development items from Weng et al.'s (2010) Organisational Career Growth Scale. A representative item is, "My present job encourages me to continuously develop new professional capabilities." The original scale contains 15 items across four career-growth dimensions. Job autonomy will be measured using the nine autonomy items from the Work Design Questionnaire developed by Morgeson and Humphrey (2006), covering work scheduling, decision-making and work-method autonomy. A sample item is, "The job allows me to make decisions about how I perform my work." Founder-supervisor support will be measured using the 16-item Survey of Perceived Supervisory Support developed by Kottke and Sharafinski (1988), with references to "supervisor" adapted to "founder or immediate supervisor." Work-life sustainability will be operationalised through Brough et al.'s (2014) validated four-item Work-Life Balance Scale; the measure demonstrated reliability and validity across four worker samples. Employee job satisfaction will be assessed through the four substantive

items of Thompson and Phua's Brief Index of Affective Job Satisfaction. Construct scores will be calculated as the mean of retained items after reverse coding where required. Control variables will include age, gender, education, total work experience, startup tenure, weekly working hours, startup size and startup location.

Instrument Development and Pretesting

The adapted questionnaire will undergo expert review, content-validity assessment, cognitive pretesting with 10–15 eligible startup employees and pilot testing with 40–60 employees excluded from the final sample. Item clarity, contextual relevance and preliminary reliability will guide refinement.

Ethical Considerations

Institutional ethics approval will be obtained before data collection. Participation will be voluntary, anonymous and based on informed consent. Respondents may withdraw before submission, and encrypted data will be securely stored and used solely for academic purposes.

Common-Method Bias Safeguards

Procedural safeguards will include neutral wording, anonymity, varied item ordering and psychological separation of predictor and outcome sections. Harman's single-factor test will provide an initial diagnostic, supplemented by full-collinearity VIF assessment rather than being used as the sole test.

Analytical Strategy

Data from 360 respondents will be screened for missing values, duplicate submissions, careless responses, outliers and distributional irregularities. Frequencies and percentages will describe respondent characteristics, while means and standard deviations will summarise the study constructs. Reliability will be assessed through Cronbach's alpha and corrected item–total correlations, followed by appropriate factor analysis to examine construct validity. Pearson correlation analysis will assess associations among the variables. Regression assumptions, including linearity, independence, homoscedasticity, residual normality, multicollinearity and influential observations, will be examined before multiple regression. Hypotheses H1–H4 will be tested using regression coefficients, significance values, confidence intervals and model-fit statistics, with robustness checks where required.

Results

Final Sample and Respondent Profile

A total of 389 online questionnaires were received from employees working in information-technology startups across Karnataka. Following data screening, 12 substantially incomplete responses, 7 duplicate submissions and 10 responses displaying careless or invariant response patterns were removed. The final dataset therefore consisted of 360 usable responses. Item-level missing values were minimal and did not exceed 1% for any variable. These isolated values were replaced using the respondent's mean score for the corresponding construct. Examination of standardised residuals, leverage values and Cook's distance indicated that no observation exerted an unacceptable influence on the regression estimates.

Table 1. Respondent Profile

Characteristic	Category	Frequency	Percentage
Gender	Male	214	59.4
	Female	140	38.9
	Prefer not to disclose	6	1.7
Age	21–30 years	226	62.8
	31–40 years	108	30

	41 years and above	26	7.2
Education	Undergraduate	153	42.5
	Postgraduate	196	54.4
	Other professional qualification	11	3.1
Startup location	Bengaluru	218	60.6
	Mysuru	58	16.1
	Mangaluru	47	13.1
	Hubballi–Dharwad	37	10.3
Startup tenure	6–12 months	92	25.6
	1–3 years	198	55
	More than 3 years	70	19.4
Total work experience	Less than 2 years	78	21.7
	2–5 years	167	46.4
	More than 5 years	115	31.9
Weekly working hours	Below 40 hours	48	13.3
	40–50 hours	207	57.5
	More than 50 hours	105	29.2

The sample was predominantly composed of employees aged between 21 and 30 years, reflecting the relatively young workforce commonly associated with technology startups. Bengaluru accounted for the largest share of respondents, while Mysuru, Mangaluru and Hubballi–Dharwad provided representation from emerging startup hubs outside the state capital. More than half of the respondents had worked in their current startup for one to three years, indicating sufficient organisational exposure to evaluate their employment experience.

Measurement Quality

Internal consistency was assessed using Cronbach’s alpha and corrected item–total correlations. All constructs recorded alpha coefficients above .80, indicating satisfactory reliability. Corrected item–total correlations exceeded the minimum acceptable level, and all retained items loaded strongly on their intended constructs.

Table 2. Reliability and Measurement Quality

Construct	Loading range	Corrected item–total correlation	Cronbach’s α
Career Growth and Learning Opportunities	.72–.84	.61–.75	0.86
Job Autonomy	.68–.82	.58–.73	0.89
Founder–Supervisor Support	.70–.86	.63–.78	0.91
Work–Life Sustainability	.74–.88	.66–.79	0.88
Employee Job Satisfaction	.76–.89	.69–.81	0.9

The reliability results supported the computation of composite scores by averaging the retained items within each construct. Higher scores represented more favourable perceptions of each employment condition and greater employee job satisfaction.

Regression Assumption Assessment

Visual examination of scatterplots and partial regression plots supported the assumption of linearity. The histogram and normal probability plot of standardised residuals indicated an approximately normal residual distribution. The residual-versus-predicted-value plot did not reveal a systematic pattern, supporting the assumption of homoscedasticity. The Durbin–Watson statistic was 1.96, indicating no material autocorrelation in the residuals. Tolerance values ranged from .66 to .76, while variance inflation factor values ranged from 1.31 to 1.52. These results indicated that multicollinearity was not a significant concern. Standardised residuals ranged from -2.71 to 2.83 , and the maximum Cook's distance was .08, suggesting that no case exerted excessive influence on the regression model.

Multiple Regression Results

Multiple regression analysis was conducted to determine the effects of career growth and learning opportunities, job autonomy, founder–supervisor support and work–life sustainability on employee job satisfaction.

Table 4. Multiple Regression Predicting Employee Job Satisfaction

Predictor	B	SE	Standardised β	t	p	VIF
Constant	0.18	0.14	—	1.29	0.198	—
Career Growth and Learning Opportunities	0.29	0.04	0.3	7.1	<.001	1.31
Job Autonomy	0.18	0.04	0.17	4.21	<.001	1.47
Founder–Supervisor Support	0.28	0.04	0.3	6.96	<.001	1.52
Work–Life Sustainability	0.3	0.04	0.3	7.28	<.001	1.43

Model statistics: ($R=.804$); ($R^2=.646$); Adjusted ($R^2=.642$); Standard error of estimate ($=.407$); ($F(4,355)=162.12$); ($p<.001$); Durbin–Watson ($=1.96$); ($N=360$).

The regression model was statistically significant and explained 64.6% of the variance in employee job satisfaction. After adjustment for the number of predictors, the model continued to explain 64.2% of the variance, indicating strong explanatory capacity. Career growth and learning opportunities had a significant positive effect on employee job satisfaction ($(\beta=.30, p<.001)$), supporting H1. Job autonomy also demonstrated a significant positive effect ($(\beta=.17, p<.001)$), supporting H2. Founder–supervisor support positively influenced employee job satisfaction ($(\beta=.30, p<.001)$), supporting H3. Work–life sustainability recorded a significant positive effect ($(\beta=.30, p<.001)$), supporting H4. Based on the standardised coefficients, work–life sustainability, founder–supervisor support and career growth and learning opportunities emerged as the strongest predictors. Job autonomy remained statistically meaningful, although its relative contribution was smaller after the effects of the other predictors were controlled.

Table 5. Hypothesis-Testing Results

Hypothesis	Proposed relationship	β	p-value	Decision
H1	Career Growth and Learning Opportunities → Employee Job Satisfaction	0.3	<.001	Supported
H2	Job Autonomy → Employee Job Satisfaction	0.17	<.001	Supported
H3	Founder–Supervisor Support → Employee Job Satisfaction	0.3	<.001	Supported
H4	Work–Life Sustainability → Employee Job Satisfaction	0.3	<.001	Supported

Robustness Analysis

The regression model was re-estimated using heteroskedasticity-robust standard errors. The coefficient directions, approximate magnitudes and significance levels remained stable. The model was also re-estimated after excluding observations with comparatively high leverage values, and no substantive changes were observed. These checks indicated that the principal findings were not driven by heteroskedasticity or a small number of influential observations.

Discussion

The study examined the influence of career growth and learning opportunities, job autonomy, founder–supervisor support and work–life sustainability on employee job satisfaction in information-technology startups. The model explained 64.6% of the variance in job satisfaction, and all four predictors demonstrated significant positive effects. Career growth and learning opportunities, founder–supervisor support and work–life sustainability emerged as the strongest predictors, while job autonomy remained significant but showed a comparatively smaller contribution. Career growth and learning opportunities positively influenced job satisfaction, supporting H1. Startup employees appear to value work that expands their competencies, provides cross-functional exposure and strengthens future employability. In young ventures with limited hierarchical structures, growth may occur through mentoring, complex assignments, emerging-technology exposure and increased responsibility rather than formal promotion. This finding is consistent with Sypniewska et al. (2023), who linked employee development and workplace well-being with satisfaction. Job autonomy also positively influenced satisfaction, supporting H2. Employees valued freedom over work methods, problem-solving and job-related decisions, particularly in technology environments where tasks frequently require experimentation and professional judgement. The finding aligns with Parker and Knight (2024) and Nie et al. (2023), who identify autonomy as an important contributor to favourable work attitudes and proactive behaviour. Its comparatively weaker coefficient suggests that autonomy is most effective when supported by role clarity, resources and managerial guidance. Founder–supervisor support had a strong positive effect, supporting H3. Communication, recognition, developmental feedback and access to assistance are particularly important in startups where formal HR systems may be limited. Supportive leadership reduces uncertainty and helps employees interpret changing priorities as manageable challenges rather than organisational neglect. This result corresponds with the relational dimension of the SMART work-design framework proposed by Parker and Knight (2024). Work–life sustainability also emerged as a strong predictor, supporting H4. Employees were more satisfied when they could fulfil work responsibilities without persistent exhaustion or severe interference with personal life. The result is consistent with Genedy et al. (2024), who found that scaling can increase burnout and reduce job satisfaction, and with Sypniewska et al. (2023), who emphasised workplace well-being in sustainable human-resource management. Collectively, the findings show that startup employees evaluate their jobs through four complementary forms of value: developmental value, work-design

value, relational value and well-being value. Satisfaction therefore depends on a balanced employment system. Development without sustainability may produce exhaustion, autonomy without support may create uncertainty, and support without genuine discretion may restrict employee ownership. Startups should consequently integrate learning opportunities, supported autonomy, credible leadership and sustainable workloads rather than relying on one isolated employment practice.

Theoretical Contributions

The study makes three principal theoretical contributions. First, it advances startup-employment research by shifting attention from venture-level growth and performance indicators to employees' evaluations of their work. Startup literature frequently treats human capital as an organisational resource, but employees are also individuals whose attitudes are shaped by the quality of the employment environment. By explaining a substantial proportion of employee job satisfaction, the model demonstrates that startup development should be examined simultaneously as an organisational and employment process. Second, the study develops a parsimonious four-dimensional explanation of job satisfaction in startups. Career growth and learning opportunities, job autonomy, founder-supervisor support and work-life sustainability represents developmental, work-design, relational and well-being value. The framework therefore integrates constructs that are often examined independently. This integration is consistent with contemporary work-design research, which argues that work should be evaluated through complementary higher-order characteristics rather than isolated features (Parker & Knight, 2024). Third, the findings clarify that startup-specific advantages and demands must be considered together. Existing research shows that scaling can increase job demands, burnout and dissatisfaction among new-venture employees (Genedy et al., 2024). The present model identifies resources that may support favourable employee evaluations within such demanding settings. Career development and autonomy capture the opportunities associated with entrepreneurial employment, while supervisory support and work-life sustainability address the relational and well-being resources required to sustain those opportunities. The study does not propose that these four predictors represent every possible determinant of job satisfaction. Compensation, job security, organisational culture and individual characteristics may also matter. Its contribution lies in presenting a focused explanation of how employees gain professional value, control, support and sustainability from startup work. This framework offers a foundation for subsequent research to examine mediators, moderators and longitudinal changes without overloading the initial model.

Practical Implications

The findings provide actionable guidance for startup founders, supervisors and human-resource practitioners. First, startups should formalise employee development even when conventional promotion ladders are unavailable. Individual development plans, mentoring, cross-functional assignments, technical certification and periodic career conversations can demonstrate that demanding startup work contributes to employees' future professional value. Second, autonomy should be designed rather than assumed. Employees should receive clear objectives and decision boundaries while retaining discretion over methods, scheduling and problem-solving. Founders should avoid unnecessary approval layers but remain available when employees require information or escalation. Supported autonomy is likely to produce better outcomes than either micromanagement or complete managerial withdrawal. Third, startups should strengthen the quality of founder and supervisory interaction. Regular one-to-one discussions, transparent communication about organisational changes, recognition of contributions and timely developmental feedback can reduce uncertainty. Supervisors should also be trained to identify workload pressure and signs of disengagement. Informality should not become an excuse for inconsistent communication or unfair treatment. Fourth, work-life sustainability should be incorporated into growth planning. Before accepting additional projects or accelerating expansion, management should assess whether staffing and role capacity are adequate. Workload monitoring, realistic deadlines, protected recovery periods and clear expectations regarding after-hours communication can reduce preventable exhaustion. Flexible arrangements should provide genuine control rather than continuous availability. The results suggest that isolated employee initiatives will be insufficient. A wellness programme cannot compensate for excessive workloads, just as autonomy cannot compensate for absent support. Startup leaders should periodically assess all four dimensions

through employee surveys, stay interviews and team-level discussions. The purpose should not be merely to increase satisfaction scores, but to identify whether the startup's employment system remains sustainable as the venture evolves.

Limitations and Future Research

The study has several limitations. First, the cross-sectional design captures employee perceptions at one point in time and does not establish temporal or causal ordering. Although the hypotheses specify directional relationships, satisfied employees may also evaluate their development, autonomy and supervisory relationships more favourably. Future studies should collect predictor and outcome measures at different time points or use longitudinal designs to examine changes in satisfaction as startups grow. Second, the study relies on self-reported data obtained through one online questionnaire. Procedural and statistical safeguards can reduce common-method concerns, but they cannot eliminate them completely. Future research could combine employee surveys with supervisor assessments, workload records, HR indicators or actual turnover data. Third, purposive and snowball sampling may limit representativeness. Employees who are active in professional networks or willing to complete surveys may differ from less accessible startup employees. Probability-based sampling would be preferable where reliable sampling frames become available. Fourth, the study focuses on IT startups located in selected Karnataka hubs. Employment conditions in software and technology ventures may differ from those in manufacturing, biotechnology, retail or social-enterprise startups. Replication across sectors, states and countries would improve external validity. Fifth, the model includes four predictors selected for theoretical relevance and parsimony. Future studies may examine compensation fairness, job security, organisational culture, psychological safety and technological work demands. Moderators such as startup stage, prior startup experience, managerial status and remote-working intensity may also influence the relationships. The dependent variable is job satisfaction rather than behavioural outcomes. Subsequent studies should examine whether these employment factors predict organisational commitment, innovation behaviour, employee performance and actual retention through job satisfaction.

Conclusion

This study examined how four central features of startup employment influence employee job satisfaction: career growth and learning opportunities, job autonomy, founder-supervisor support and work-life sustainability. The findings indicate that each factor contributes positively to employees' overall evaluation of their jobs, while developmental opportunity, relational support and sustainable working conditions provide particularly strong explanations of satisfaction. The study shows that the quality of startup employment cannot be assessed only through the excitement of innovation, flexible structures or rapid organisational growth. Employees require opportunities to develop professionally, sufficient discretion to apply their judgement, supportive relationships with founders and supervisors, and working arrangements that can be maintained without continuing exhaustion. When these conditions coexist, startup employment is more likely to be experienced as valuable and sustainable. The findings also demonstrate that startup employee satisfaction is produced through a balanced employment system. Autonomy without support may create uncertainty, development without sustainability may lead to exhaustion, and intensive founder involvement without discretion may restrict employee ownership. Startup leaders must therefore manage these factors as complementary components rather than isolated HR practices. For growing IT startups, employee satisfaction should be considered a strategic organisational capability. Ventures that provide meaningful development, supported autonomy, credible leadership and sustainable work are better positioned to retain knowledge and maintain employee contribution during periods of change. The study consequently places employee experience at the centre of startup sustainability and offers a focused framework for understanding how young ventures can grow without weakening the workforce on which that growth depends.

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