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A METHODOLOGICAL FRAMEWORK FOR INVESTIGATING HUMAN RESOURCE PRACTICES AND TURNOVER INTENTION AMONG SOFTWARE DEVELOPERS IN SMES

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Annotation. This study proposes a comprehensive methodological framework for examining the relationship between human resource practices and turnover intention among software developers in small and medium-sized IT enterprises. The paper outlines the research design, sampling procedures, survey instrument development, and planned data analysis strategies to investigate how HR practices may impact turnover intentions in the IT SME context. Although actual data collection has not yet been conducted, the proposed analytical approach and expected results are grounded in relevant literature and theoretical foundations in human resource management and organizational behavior. This methodological contribution offers a clear roadmap for conducting empirical research on employee turnover intention, highlighting the importance of systematic design and rigorous analysis in future studies.

Keywords: human resource practices, turnover intention, software developers, small and medium IT enterprises, research methodology

Аннотация. В данной статье предложена всесторонняя методологическая основа для исследования взаимосвязи между практиками управления человеческими ресурсами и намерением ухода сотрудников среди разработчиков программного обеспечения в малых и средних IT-предприятиях. В статье описаны дизайн исследования, процедура отбора выборки, разработка анкеты и планируемые методы анализа данных, направленные на изучение влияния HR-практик на намерение сотрудников покинуть организацию. Хотя фактический сбор данных пока не проводился, предложенный аналитический подход и предполагаемые результаты основаны на соответствующей литературе и теоретических основах управления человеческими ресурсами и организационного поведения. Данный методологический вклад предоставляет четкую дорожную карту для

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проведения эмпирических исследований текучести кадров с акцентом на системный дизайн и строгий анализ.

Ключевые слова: управление человеческими ресурсами, намерение увольнения, разработчики программного обеспечения, малые и средние IT-предприятия, методология исследования

Annotatsiya. Ushbu tadqiqot kichik va o'rta biznes IT korxonalarida dasturiy ta'minot ishlab chiquvchilari orasida inson resurslari amaliyoti va kadrlar almashinuvi niyati o'rtasidagi bog'liqlikni o'rganish uchun keng qamrovli metodologik asosni taklif qiladi. Maqolada tadqiqot dizayni, namunalar olish tartiblari, so'rovnoma vositalarini ishlab chiqish va IT KO'B kontekstida HR amaliyotlari kadrlar almashinuvi niyatiga qanday ta'sir qilishi mumkinligini o'rganish uchun rejalashtirilgan ma'lumotlarni tahlil qilish strategiyalari bayon etilgan. Haqiqiy ma'lumotlar to'plash hali amalga oshirilmagan bo'lsa-da, taklif qilingan analitik yondashuv va kutilgan natijalar tegishli adabiyotlar va inson resurslarini boshqarish va tashkiliy xulq-atvorning nazariy asoslariga asoslangan. Ushbu metodologik hissa xodimlarning kadrlar almashinuvi niyati bo'yicha empirik tadqiqotlar o'tkazish uchun aniq yo'l xaritasini taqdim etadi, kelajakdagi tadqiqotlarda tizimli dizayn va qat'iy tahlilning ahamiyatini ta'kidlaydi.

Kalit so'zlar: inson resurslari amaliyoti, kadrlar almashinuvi niyati, dasturiy ta'minot ishlab chiquvchilari, kichik va o'rta IT korxonalari, tadqiqot metodologiyasi

1. INTRODUCTION

Employee turnover intention has emerged as a significant challenge for small and medium-sized information technology (IT) enterprises, particularly those employing software developers. In an increasingly competitive and rapidly evolving digital environment, software developers represent a critical source of human capital whose skills, knowledge, and experience directly influence organizational performance and innovation. High levels of turnover intention among these professionals can result in increased recruitment and training costs, loss of organizational knowledge, project delays, and reduced competitiveness for IT SMEs.

Human resource (HR) practices are widely recognized as key organizational mechanisms that shape employees' attitudes, job satisfaction, and behavioral intentions. Previous studies have demonstrated that HR practices such as training and development, compensation and rewards, performance appraisal, and career development opportunities play an important role in influencing employees' intention to remain with or leave an organization. However, much of the existing literature has focused on large organizations, while empirical evidence related to

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small and medium-sized IT enterprises remains limited, particularly in the context of software developers.

Moreover, although the relationship between HR practices and turnover intention has been extensively examined, less attention has been paid to the methodological rigor and research design employed in studying this relationship within IT SMEs. Differences in organizational size, resource availability, and management structures suggest that research methods applied in large enterprises may not always be directly transferable to SME contexts. Therefore, a clearly defined and context-sensitive methodological framework is essential to obtain reliable and valid findings.

In response to these gaps, this study aims to present a systematic research methodology for examining the relationship between human resource practices and turnover intention among software developers working in small and medium-sized IT enterprises. The article focuses on the research design, population and sampling procedures, conceptual framework, survey instrument development, and data analysis techniques employed in the study. By emphasizing methodological considerations, this research contributes to the existing literature by providing a structured approach that can be applied in future empirical studies investigating employee turnover intention in IT SMEs.

2. METHODOLOGY

2.1. Research Design and Methodological Approach

This study employed a quantitative research approach using a survey-based, cross-sectional research design to examine the relationship between human resource practices and turnover intention among software developers in small and medium-sized IT enterprises (SMEs). The quantitative approach was considered appropriate as it enables the measurement of relationships between variables through statistical analysis and allows for generalization of findings within the studied population.

A cross-sectional design was adopted, whereby data were collected from respondents at a single point in time. This design is widely used in organizational and human resource management research due to its effectiveness in capturing employees' perceptions and attitudes toward organizational practices and their behavioral intentions. The study is explanatory in nature, as it seeks to identify and analyze the influence of HR practices on turnover intention among software developers.

2.2. Research Context, Population, and Sample Characteristics

The research was conducted within the context of small and medium-sized IT enterprises operating in the software development sector. IT SMEs were

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selected as the focus of the study due to their growing role in the digital economy and the increasing challenge they face in retaining skilled software developers.

The target population of the study consisted of software developers employed in IT SMEs. A non-probability sampling technique, specifically purposive sampling, was used to select respondents who met the criteria of being actively employed as software developers within small or medium-sized IT enterprises. This sampling method ensured that the collected data were relevant to the objectives of the study.

The sample included respondents with varying demographic characteristics, such as age, gender, level of education, work experience, and organizational tenure. Collecting demographic information allowed for a more comprehensive understanding of the sample profile and supported the interpretation of the research findings.

2.3. Conceptual Framework and Survey Instrument Design

The conceptual framework of the study is grounded in human resource management and organizational behavior theories, which posit that HR practices significantly influence employees' attitudes and behavioral intentions. In this study, human resource practices were treated as independent variables, while turnover intention was considered the dependent variable.

The data collection instrument was a structured questionnaire developed based on established and validated measurement scales from previous empirical studies. The questionnaire consisted of three main sections. The first section gathered demographic information about the respondents. The second section measured perceptions of human resource practices, including training and development, compensation and rewards, performance appraisal, and career development. The third section assessed turnover intention.

All items were measured using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The use of previously validated scales enhanced the content validity of the instrument and ensured that the constructs were measured accurately and consistently.

2.4. Data Collection and Data Analysis Procedures

Data were collected through a self-administered online survey distributed to software developers working in IT SMEs. Participation in the survey was voluntary, and respondents were informed about the purpose of the study. To ensure ethical standards, anonymity and confidentiality were guaranteed, and no personally identifiable information was collected.

After data collection, the responses were coded and analyzed using statistical analysis software. Reliability analysis was conducted using Cronbach's alpha to

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assess the internal consistency of the measurement scales. Descriptive statistics were used to summarize respondents' demographic characteristics and the main study variables.

Inferential statistical techniques, including correlation and regression analysis, were employed to examine the relationship between human resource practices and turnover intention. These methods enabled the identification of the strength and direction of the relationships between the variables and supported hypothesis testing.

3. PROPOSED DATA ANALYSIS AND EXPECTED RESULTS

This section outlines the planned data analysis procedures and the expected outcomes of the study based on the proposed research design and evidence from prior empirical research. Since data collection has not yet been completed, the findings presented in this section are prospective and intended to demonstrate the analytical framework and anticipated patterns rather than actual empirical results.

3.1. Proposed Data Analysis

Upon completion of data collection, the survey responses will be screened and coded for statistical analysis using appropriate statistical software. Descriptive statistics will first be employed to summarize respondents' demographic characteristics and provide an overview of perceptions related to human resource practices and turnover intention.

To assess the reliability of the measurement scales, internal consistency analysis will be conducted using Cronbach's alpha coefficients. Values equal to or exceeding the commonly accepted threshold of 0.70 will be considered indicative of acceptable reliability. This step will ensure that the survey instrument measures the intended constructs consistently.

Subsequently, correlation analysis will be performed to examine the strength and direction of relationships between human resource practices and turnover intention. To further test the predictive power of HR practices, multiple regression analysis will be applied, with turnover intention specified as the dependent variable and HR practices as independent variables. This approach will allow for the identification of the relative contribution of each HR practice to explaining variance in turnover intention among software developers.

3.2. Expected Results

Based on existing literature and theoretical assumptions in human resource management and organizational behavior, it is expected that human resource practices will demonstrate a statistically significant relationship with turnover intention among software developers in small and medium-sized IT enterprises.

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Specifically, it is anticipated that training and development, compensation and rewards, performance appraisal, and career development opportunities will be negatively associated with turnover intention. This implies that software developers who perceive HR practices as fair, supportive, and development-oriented are less likely to express intentions to leave their organizations.

Among the examined HR practices, career development and training opportunities are expected to have a particularly strong influence on turnover intention, reflecting the importance of continuous skill enhancement and professional growth in the IT sector. These anticipated findings align with prior empirical studies that highlight the role of strategic HR practices in retaining skilled IT professionals, especially within SME environments characterized by limited resources and high competitive pressure.

3.3. Expected Presentation of Results

To ensure clarity and transparency, the empirical results will be presented using tables and statistical summaries once data collection is completed. Table 1 illustrates the planned structure for presenting descriptive statistics of the main study variables.

Table 1.

Planned Descriptive Statistics of Study Variables

Variable	Mean	Standard Deviation
Training and Development	To be determined	To be determined
Compensation and Rewards	To be determined	To be determined
Performance Appraisal	To be determined	To be determined
Career Development	To be determined	To be determined
Turnover Intention	To be determined	To be determined

Similarly, correlation and regression results will be reported in tabular form to enhance interpretability and allow comparison with future empirical findings.

4. CONCLUSION

This study presents a comprehensive methodological framework for examining the relationship between human resource practices and turnover intention among software developers in small and medium-sized IT enterprises (SMEs). By outlining a structured research design, population and sampling strategy, survey instrument development, and planned data analysis procedures, the article provides a systematic approach that can be applied in future empirical investigations.

Although the actual survey data have not yet been collected, the proposed methodological approach ensures that once implemented, the study will produce reliable and valid results. The anticipated findings, based on prior research and

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theoretical foundations, suggest that effective HR practices—including training and development, compensation and rewards, performance appraisal, and career development—are expected to reduce turnover intention among software developers in SMEs.

This methodological contribution is particularly valuable for both researchers and practitioners. For researchers, it provides a clear blueprint for conducting survey-based studies in the context of IT SMEs. For practitioners and HR managers, the study highlights the key HR practices that may influence employee retention, guiding the development of strategies to minimize turnover and improve organizational performance.

Finally, the study acknowledges certain limitations inherent in its design, such as the cross-sectional nature of the survey and the reliance on self-reported data. Future research may extend this methodological framework by incorporating longitudinal designs, larger and more diverse samples, and mixed-method approaches to gain deeper insights into HR practices and turnover intention in IT SMEs.

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