

Global Research Trends on Motivation and Job Satisfaction: A Bibliometric Evaluation of Herzberg's Two-Factor Theory

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Abstract

The paper looks at the current trends in research concerning the Two-Factor Theory of Herzberg, particularly job satisfaction, by doing a bibliometric analysis of 2,174 articles that were accessed in the Scopus database. Following the PRISMA guidelines, 1,423 articles related to the topic were chosen for analysis. This paper points to an increase in academic production, particularly among nations such as the United States and China. The highest number of citing papers was in 2016/2017 and had more than 20 citations on average, but since 2018, it has decreased steadily by an average of 810 percent per year. Thematic analysis indicates a very high concentration on job satisfaction, workforce dynamics, and psychological issues, with healthcare representing the top sector (most of the publications are related to it, over 40%). The research also singles out the areas that have not been fully explored, such as manufacturing and education. Some of the important things that have been found are that intrinsic factors like recognition and career development are important in enhancing job satisfaction. The challenge to apply Herzberg in future research should be on areas that are not represented in the present literature, and especially on manufacturing and education, to expand the use of the Herzberg framework. Altogether, this paper contributes to the important bibliometric understanding of the development of research on employee motivation and its application in various organizational settings.

Keywords: Herzberg's Two-Factor Theory, Job Satisfaction, Employee Motivation, Bibliometric Analysis, Employee Retention.

Introduction

Maintaining and retaining a talented workforce has become a notable competitive advantage in recent years. Companies focusing more on their technical competence rather than human capital are struggling to survive. Intellectual capital is often undervalued and not adequately recognized as a value-generating asset (Bontis, 1998). When a pool of competent employees is willing to quit an organization, it poses a potential threat to the foundation of the firm. Hence, organizations need to investigate the reasons behind employee turnover intention. Past studies have pointed out that employee job satisfaction is the major reason that influences retention (Wardiansyah et al., 2024). That not only impacts employee turnover but also influences employee performance, organizational commitment, and several other critical aspects (Knezović & Neimarlija, 2023). The study of the factors affecting employee satisfaction has become critical, considering that it is a key factor in organizational success (Derby-Davis, 2014). In the organizational context, employee satisfaction refers to the degree of happiness and fulfillment with their job roles, working environment, and overall organizational environment. It encompasses work, pay, career development, good working conditions, appreciation, and personal values congruency (Chen, 2006). Provision of these factors in an organization typically leads to improved performance and retention, while dissatisfaction can result in stress, low productivity, and high turnover (Beugelsdijk, 2008). Although extensive research exists on employee job satisfaction, the exact reasons behind employees' satisfaction and dissatisfaction toward their jobs remain inconclusive (Wardiansyah et al., 2024; Derby-Davis, 2014). This paper aims to explore and identify research trends and publication growth between 2014 to 2024 on job satisfaction; evaluate the productivity and performance of authors, institutions, and countries; analyse collaboration patterns among researchers and enterprises; map the pattern and growth of knowledge within the research arena; assess the impact and influence of publications, authors, and journals through citation evaluation; and discover research gaps and underexplored areas for future investigation. Uncovering these patterns and identifying neglected areas will provide valuable insights into the area of management that can enhance employee motivation, well-being, and retention (Chen, 2006; Alshmemri et al., 2017).

By conducting a comprehensive bibliometric analysis, the study has attempted to answer the following research questions:

1. What are the publication trends and growth patterns in the research field related to?
2. Which authors, institutions, and countries have made the most significant contributions?
3. What are the patterns of collaboration among researchers, institutions, and countries in this domain?
4. Which publications, authors, or journals have had the greatest impact based on citation analysis?
5. Which are the key themes and keywords of research that appear in the literature?
6. Which are the gaps in the existing literature, and what areas are under-explained as regards future research?

Key Contribution

1. The overall bibliometric analysis of the Two-Factor Theory introduced by Herzberg shows that there is growing interest in the research and that there are under-researched industries such as manufacturing and education.
2. Themes that have emerged, like burnout and work-life balance, demonstrate the necessity to incorporate the psychological factors in the framework by Herzberg.
3. The research output indicates a lack of sectoral and geographical balance, as the data is mainly concentrated on healthcare, and the largest share belongs to the US and China.

Research Background

Herzberg's Two-Factor Theory and Employee Job Satisfaction

The Two-Factor Theory, which is one of the most powerful theories of employee motivation and job satisfaction in organizations, was proposed in 1959 by Herzberg. The theory explains two categories of workplace factors: motivational factors and hygiene factors. The theory mentions achievement, recognition, responsibility, and opportunities for growth, which are considered intrinsic elements that motivate employees and provide higher levels of job satisfaction. In contrast, factors such as salary, organizational policies, supervision, and working conditions are the hygiene factors that do not necessarily increase satisfaction but help prevent dissatisfaction when they are properly addressed (Alshmemri et al., 2017). Several studies have applied Herzberg's framework to examine the determinants of employee job satisfaction across different sectors. For instance, research by (Alrawahi et al., 2020) highlighted the

relevance of Herzberg's theory in understanding employee motivation, specifically in healthcare environments. Similarly, It has explained that intrinsic factors such as professional development opportunities and recognition strongly influence job satisfaction and employee performance (Sobaih & Hasanein, 2020). It also predicts that intrinsic factors play a prominent role in employee retention compared to hygiene factors. The studies of also reaffirm Herzberg's claim on motivational and hygiene factors (Mitsakis & Galanakis, 2022; Lee et al., 2022). Conversely, a study in the developing economies found that extrinsic conditions like job security in terms of salary are still significant determinants of job satisfaction due to the economic market and labor market. The works of clarified that other extraneous variables like organizational culture, industry, and native culture are also expected to affect the degree of satisfaction as well as the motivational and hygiene variables (Ewen, 1964; Alias et al., 2018; Naseer et al., 2024).

Despite these disagreements, the Two-Factor Theory of Herzberg remains one of the seminal theories in the study of employee motivation and job satisfaction. Recent research has begun to combine the Herzberg model with more contemporary models of organizational motivation, like the Job Demands Resources model and employee engagement models, in order to understand better the concept of motivation and employee well-being within contemporary organizations (Alrawahi et al., 2020).

Bibliometric Studies on Job Satisfaction and Motivation Research

Bibliometric analysis has become more and more popular to research the development and intellectual organization of research fields in terms of publication tendencies, the impactful authors, and the new areas of themes. These techniques allow researchers to map the knowledge in science in a systematic fashion and assess how research in the field has evolved (Donthu et al., 2021). The majority of recent bibliometric papers were more concerned with motivation, job satisfaction, and workplace well-being instead of directly discussing the factors that lead to satisfaction and dissatisfaction. Hence, a systematic bibliometric analysis of the Herzberg-related studies has not been done yet, which means that new research is necessary.

Research Gap

Although there is a lot of literature on employee motivation and job satisfaction, there are still a number of gaps that have not been filled. Numerous empirical studies based on Herzberg's Two-Factor Theory are centered around certain industries like healthcare and hospitality; this constrains the applicability of the results to the organizational contexts (Sobaih & Hasanein, 2020; Lee et al., 2022). In addition, even though bibliometric analysis has become an increasingly popular approach for mapping research trends, only a considerable number of research have specifically examined the bibliometric development of Herzberg's Two-Factor Theory (Alshmemri et al., 2017). Therefore, there is no exploration of the nature of publication patterns, networks of collaboration, and research clusters on the Herzberg theory. To overcome these shortcomings, the current paper will perform a bibliometric review of the world research on the Two-Factor Theory of Herzberg in 2014-2024, through the Scopus database. The study will aim at providing a systematic review of the patterns of publication, citation patterns, and developments in the theme of employee motivation and job satisfaction, with the aim of setting new directions in which the research can be done on the same.

Research Methodology

Data Sourcing

During the sourcing of documents, 2174 documents were obtained with the help of Elsevier Scopus using Boolean operators. Bibliographic information on this research was only accessed through the Scopus database because Scopus has a wide coverage and is also reliable in conducting bibliometric research. A systematic search method with keywords associated with Herzberg's Two-Factor Theory, motivation, and job satisfaction was used to find the relevant publications. The detailed search query used for data retrieval is presented in table 1.

Table 1: Search Query Used for Bibliometric Analysis

Boolean keyword used in the Scopus advanced search	
Component	Terms
Herzberg's Two Factor theory	"Herzberg" OR "two-factor theory" OR "motivation-hygiene theory" OR "job satisfaction" OR "employee motivation" OR "hygiene factors" OR "motivators"
Job Satisfaction	"Company policies" OR "supervision" OR "working conditions" OR "salary" OR "pay" OR "compensation" OR "interpersonal relationships" OR "job security" OR "work environment" OR "work-life balance" OR "job autonomy" OR "career development" "employee retention" OR "staff retention" OR "turnover" OR "job satisfaction" OR "work engagement" OR "employee loyalty" OR "employee commitment" OR "employee performance"
Source: Author's own work	

Data Cleaning Process

A systematic data cleaning and filtering process was done after the collection of the raw dataset of 2,174 documents on the Scopus database to guarantee the accuracy of the analysis. Initially, duplicate records and records with incomplete data were removed. Further, non-article document types such as reviews, book chapters, and conference papers were taken out to retain only peer-reviewed research articles relevant to Herzberg's Two-Factor Theory and Job Satisfaction. A final dataset of 1,423 valid records was obtained after this screening process to be used in bibliometric analysis.

Software and Parameters Used

R Studio (version 4.x) was used to perform the bibliometric analysis. The tools make it possible to quantitatively analyze patterns of publications and research field development, including who makes an impact (authors, institutions, countries) (Aria & Cuccurullo, 2017). Co-word, co-citation, and thematic network mapping were also visualized using VOS viewer (1.6. x) (Chen, 2006).

Validation Approach

In order to achieve methodological rigor, more than one validation method was used. Consistency between the Bibliometrix and VOSviewer outputs was performed as an internal validation to ensure that it is reproducible. Cluster robustness was tested by conducting a sensitivity analysis by changing the frequency of keys (≥ 3 and ≥ 5). External validation was achieved through a comparison of the results with other related bibliometric studies, which ensured that it was in line with the established research themes.

Inclusion and Exclusion Criteria

The search strategy was used to guarantee the extensive retrieval of the relevant studies with the help of predefined keywords. The inclusion and exclusion criteria were clear, with the dataset comprising peer-reviewed journal articles on the Two-Factor Theory of Herzberg that are written in English and published between 2014 and 2024. Non-relevant articles such as reviews, case studies, theoretical papers, and conference proceedings were filtered out, and the final dataset was 1,423 articles. Fig. 1 depicts that the whole selection process was done according to the PRISMA framework (Page et al., 2021).

PRISMA Framework

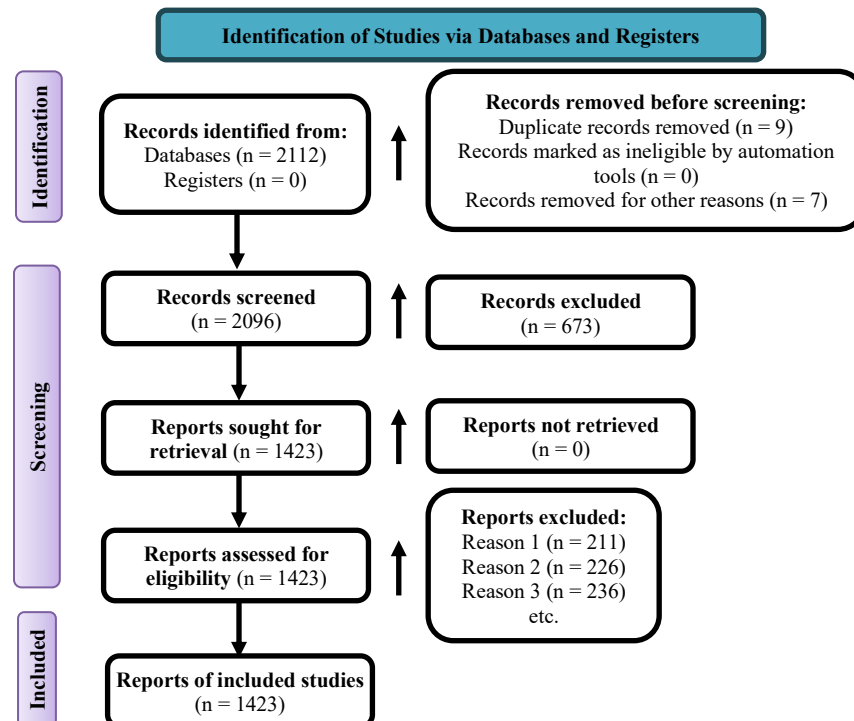


Fig. 1: PRISMA Chart Visualizing the Scopus Record Screening and Filtering Process

Source: Adapted from Page et al., (2021)

Analysis & Discussion

Annual Scientific Production

In fig. 2 shows how the production of scientific works was from 2014 to 2024. It depicts a general growth rate of 12.33 per annum, and this reflects a consistent increase in interest in research. The two most productive years of the decade were 2016 and 2023, which were the highest output years. The short-term decrease following 2016 (–15) reflects a slight slowdown, which will be followed by a recovery period over 2018-2021 with an annual growth of 10-11 on average. The slight decline in 2024 indicates incomplete indexation and not a decline in productivity. The general trend represents a non-linear, but positive trend.

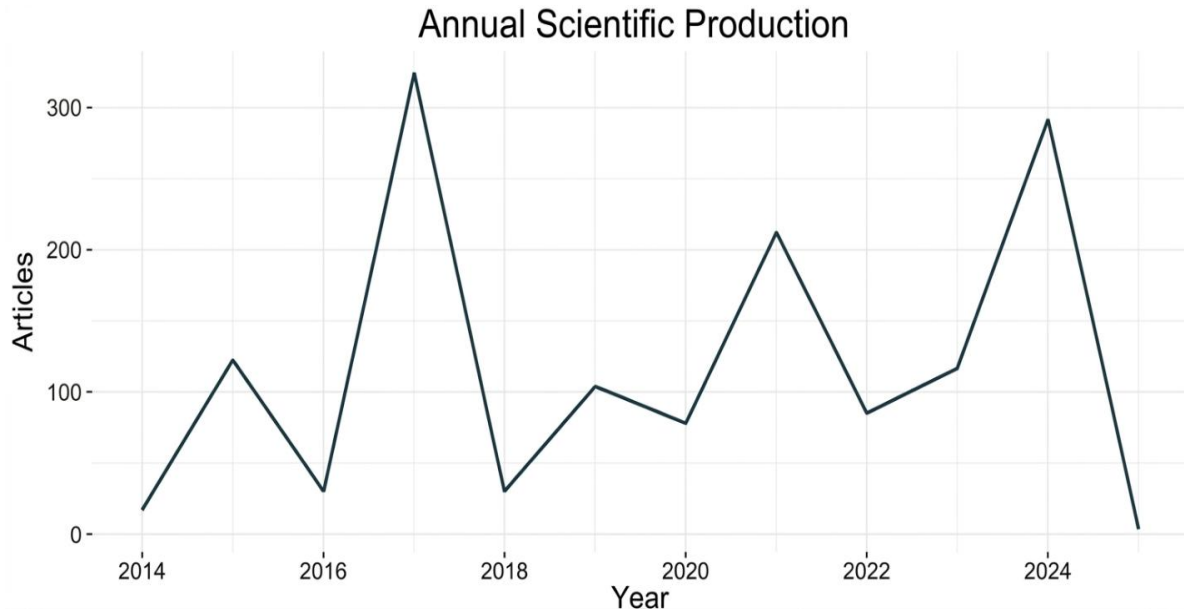


Fig. 2: Annual Scientific Production of Articles on the Two Factor Theory

Source: Authors' work

Average Citation Per Year

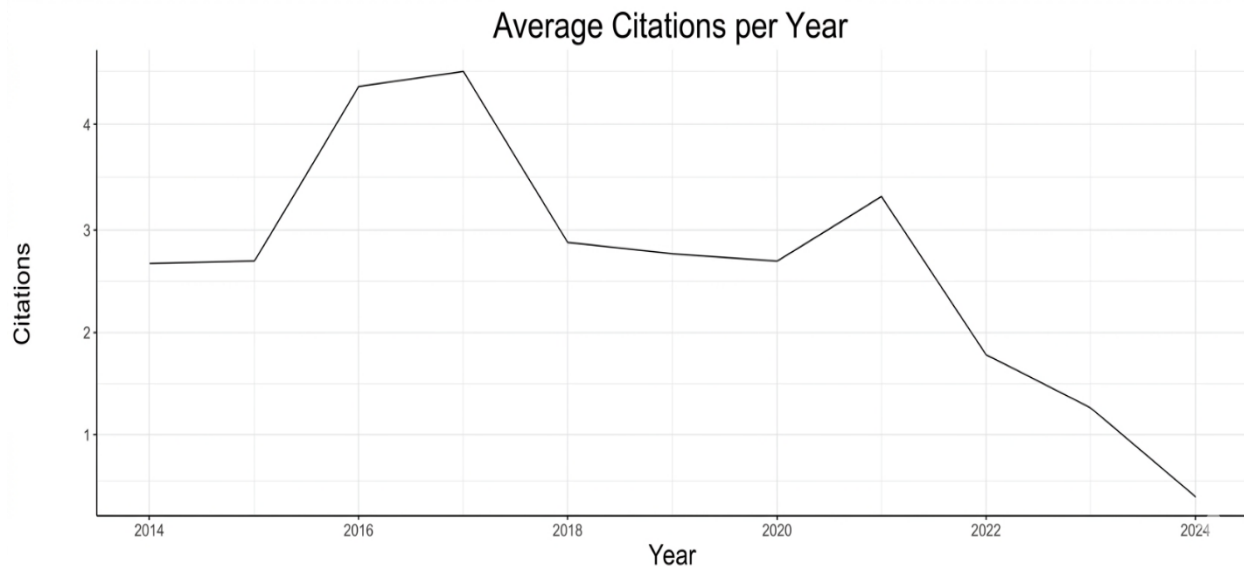


Fig. 3: Annual Average Citations

Source: Authors' Work

In fig. 3 is the mean of citations; the trend between 2014 and 2024 is fluctuating. The highest citation impact was observed in 2016-2017, where more than 20 citations per paper were observed, which is a good representation of scholarly interest. Nevertheless, starting in 2018, the average citation rate decreased steadily at a rate of 810% per year, reaching its minimum in 2024. This is a common phenomenon in bibliometrics, with recent articles lacking time to gain citations.

Most Relevant Sources

In fig. 4 explains the most relevant sources of publication. Among the top publishing sources, the journal titled “International Journal of Environmental Research and Public Health” leads with 61 publications, contributing nearly 4.3% of the total output on the two-factor theory between 2014 and 2024. The next in line are the BMC Health Services Research (35 papers) and the Journal of Nursing Management (31 papers). The top five journals have a combined share of more than 13 percent of the total publications, which is a good indication of the research concentration in the healthcare fields. This dominance denotes a sectoral bias in the literature, with workplace motivation and employee job fulfillment literature mainly investigated in hospital and service-oriented sectors, and other sectors underrepresented.

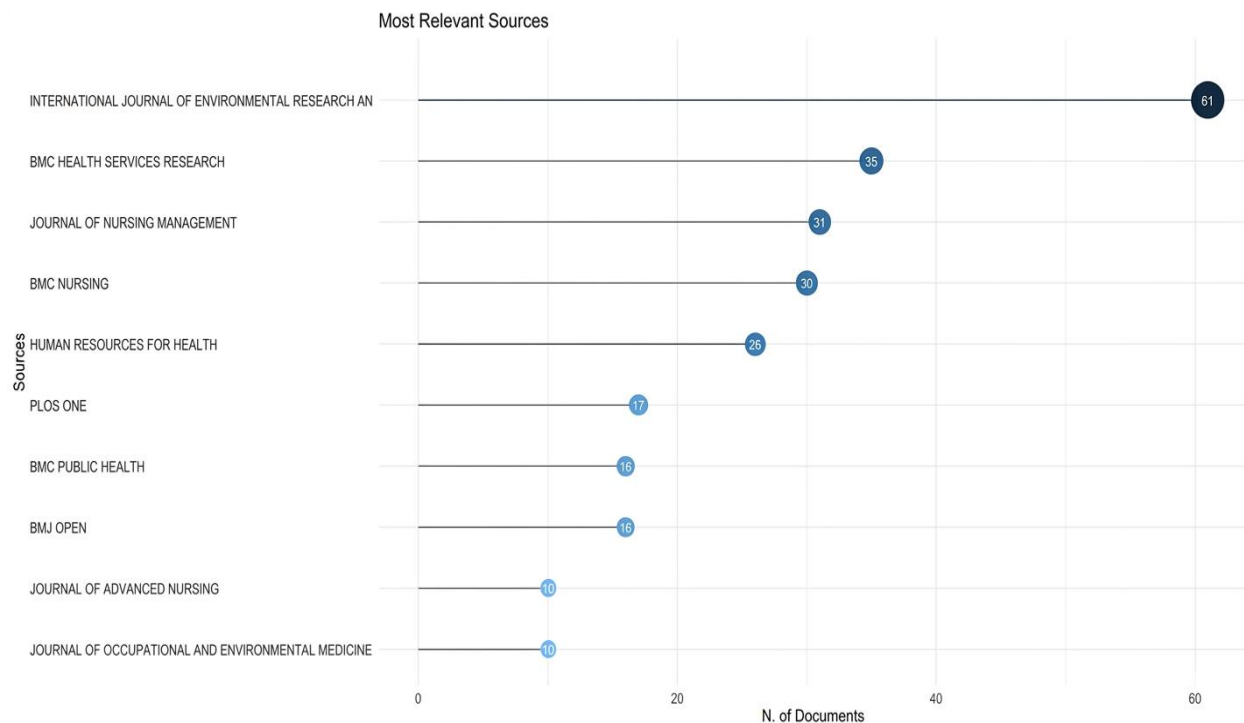


Fig. 4: Most Relevant Sources of Publication

Source: Authors' Work

Most Relevant Affiliations Based on the Number of Articles Contributed

In fig. 5 points out the most prolific institutions that have contributed to research on Herzberg Theory and the employee job fulfillment between 2014 and 2024. The first one is the University of Gondar with 29 publications, the second is Monash University with 28, and lastly Jilin University with 27 publications. In general, it can be seen that a small number of universities have a significant concentration of research output, with good representation by Asia, Australia, and the United States. The availability of the University of Gondar as one of the major contributors' underscores increasing research activity in the developing regions.

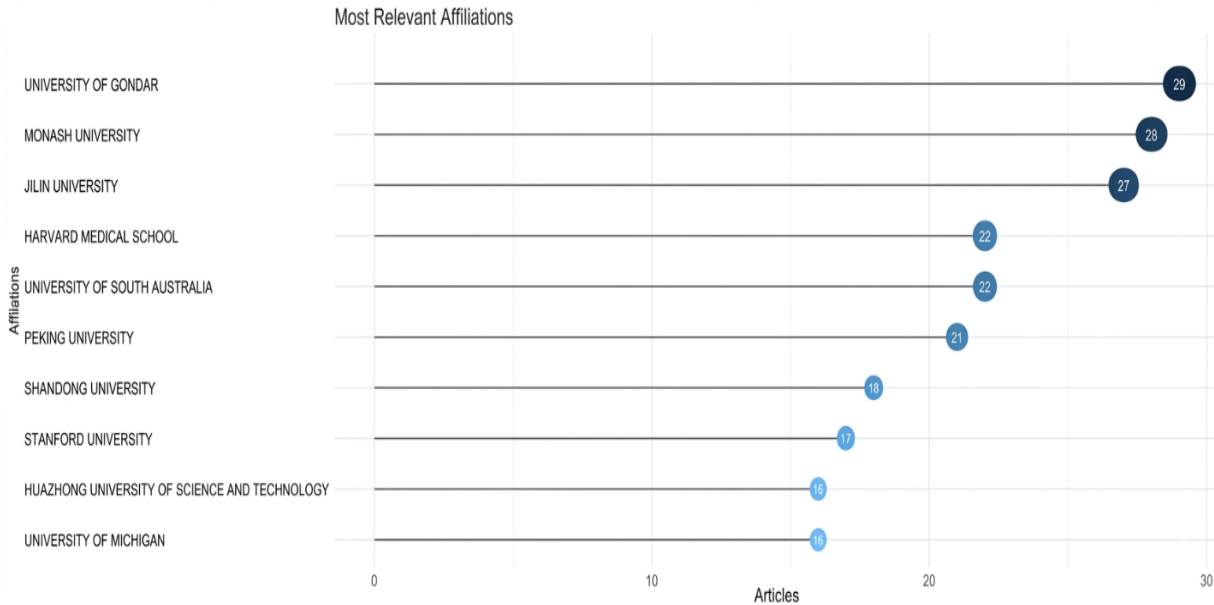


Fig. 5: Most Relevant Affiliations

Source: Authors' Work

Global Scientific Production

In fig. 6 shows the research on the Two-Factor Theory of Herzberg in the world over the period 2014 to 2024, and the trends in publications in different countries are shown. The United States and China are the largest contributors of overall research output, with the European countries of the United Kingdom, Germany, and the Netherlands coming in third, fourth, and fifth places, respectively, with approximately a quarter of the total. By comparison, Africa and South America are not above 5%, meaning that there is no extensive research work on that area. On the whole, the figure shows statistically uneven distribution; over 70 percent of publications were published in the top ten countries, showing unequal capacity to conduct research and international cooperation. The darker blue regions on the map represent countries with high production, indicating a greater number of research publications. Medium blue indicates moderate production of papers, reflecting countries that contribute a considerable volume of research, including India, the UK, and Germany. Light blue shows lower production of articles in the subject area, where countries have relatively fewer research publications. Grey or uncolored areas indicate either the absence of data or a negligible research contribution.

Country Scientific Production

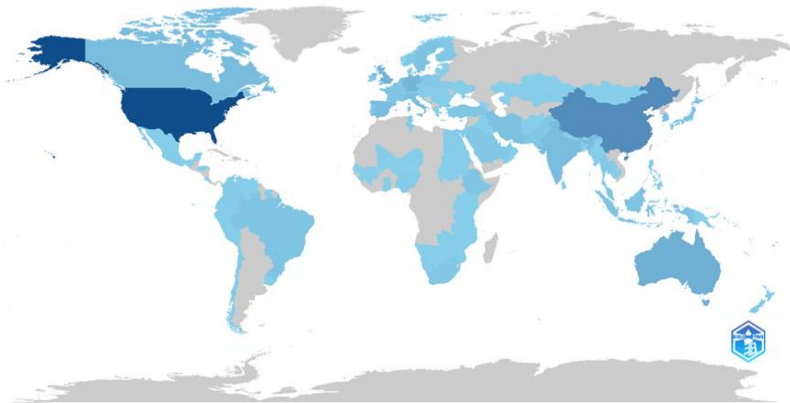


Fig. 6: Country-Wise Production

Source: Authors' Work

The visualization of keywords mentioned in fig. 10 has following clusters.

Table 2: Cluster of Keywords

Cluster	Theme	Key Keywords	Statistical Importance (% of Keyword Occurrences)	Trend Direction (1979–2025)
Cluster 1	Job Characteristics	Job engagement, Organizational support, Work characteristics, Employee performance, Job demands, Work resources, Transformational leadership	22%	↑ Increasing since 2010, peaking post-2020
Cluster 2	Workforce Dynamics	Leadership, Working conditions, Retention, Career development, Organizational commitment, Motivation, Supervision	18%	↑ Gradual growth from 1990s to 2020s
Cluster 3	Psychological Challenges	Stress, Job burnout, Mental health, Depression, Emotional labor, Occupational stress, Coping	16%	↑ Sharp rise post-2015; 45% increase post-pandemic
Cluster 4	Healthcare Settings	Nurses, Primary healthcare, Midwifery, Professional burnout, Quality of care, Healthcare workforce	14%	↓ Declining since 2020 (saturation in literature)
Cluster 5	External Influences	COVID-19, Risk factors, Economic volatility, Healthcare systems	12%	↑ Short-term spike (2020–2023)
Cluster 6	Workplace Discrimination	Gender diversity, Employee discrimination, Workplace culture, Ethics, Diversity, Human resources	8%	↑ Gradual growth since 2018; niche but expanding

Vos Viewer is the bibliometric mapping tool developed by Van Eck and Waltman (2010). The logical connection between keywords of Two Factor of Job satisfaction was presented in fig. 9. Table 2 shows the results of the keyword clustering. The discussion shows that there are six broad thematic groups that address job characteristics, workforce dynamics, psychological issues, healthcare setting, outside forces, and workplace discrimination. On the whole, the results demonstrate an increase in the focus on psychological well-being and changing workplace relationships in employee job fulfillment studies.

Findings

The bibliometric analysis of 2014-2024 publications indicates a lot of trends in the research on Herzberg Two-Factor Theory. The results are in line with the established fact that motivational theories like recognition, achievement, and professional development are closely related with increased job satisfaction among the employees and that hygiene factors like salary, supervision and organizational policies are the main factors that discourage dissatisfaction (Judge & Piccolo, 2004; Helaudho et al., 2024). The gradual rise in the number of publications indicates the growing scholarly interest in the motivation of employees and job satisfaction (Valk & Yousif, 2023). The sectoral analysis shows that there is a high level of concentration of research on the healthcare sector, which constitutes a considerable portion of publications, whereas such industries as manufacturing and education are under-researched which restricts the externalizable of the results (Olaniyan et al., 2025; Zamanan et al., 2020). The developed countries, especially the United States and China lead in terms of research output, which is minimal in the developing regions (Sanjeev & Surya, 2016). Thematic and co-word analyses reveal the increased significance of such psychological constructs as burnout, work-life balance, and emotional labor, particularly over the recent years (Van Eck & Waltman, 2010). Nevertheless, they have little empirical integration with the framework of Herzberg. Likewise, leadership is a significant theme but it is not explored adequately as mediating or modulating factor.

Comprehensively, even though the Two-Factor Theory by Herzberg can still be one of the most promising foundations of the research on employee motivation, the analysis finds some crucial gaps, such as the lack of sectoral imbalance, the absence of cross-cultural validation, and the inability to combine psychological and leadership variables. The problems that will be identified will assist in enhancing the relevance of the model in contemporary organizations.

Discussion Summary

The general bibliometric review shows the changing scholarly concern in the Two-Factor Theory of Herzberg within the organizational and management research. The results indicate that the number of publications has been steadily rising over the last ten years, which implies that the growing interest in employee motivation and job satisfaction as an academic problem is becoming more and more prominent. Some of the key contributing authors, institutions and

countries that have significantly contributed to the research landscape are also mentioned in the analysis. Furthermore, the appearance of keywords and thematic mapping indicate that the contemporary research is getting increasingly unified to implement the theory advanced by Herzberg in the recent spheres of concern, which are the organizational performance, employee engagement, and workplace satisfaction. All this demonstrates that the Herzberg motivational model even today can be of use in the research of the employee behavior and organizational performance in the modern management environment.

Research Implications

The bibliometrical review points out some of the research gaps that are important and need to be filled in with another research. To start with, existing literature is biased towards healthcare sector, and there is very little empirical studies in the manufacturing, education and technology-based sectors (Judge & Piccolo, 2004; Helaudho et al., 2024). Second, the cross-cultural validation of the Two-Factor Theory of Herzberg is deficient, although the studies have shown that factors like power distance and individualism have a considerable impact on the results of job satisfaction in relation to culture (Valk & Yousif, 2023). Third, psychological constructs such as burnout and stress are recurring themes that are not empirically combined with Herzberg motivators and hygiene constructs (Lee et al., 2022). Lastly, the moderating/mediating effect of leadership styles has not been well studied (Chen, 2006; Beugelsdijk, 2008). These gaps will enhance and deepen the theoretical elaboration of the Herzberg framework, create a more context-specific understanding of the role of motivation in workforce, and inform organizations to employ sector- and culture-sensitive workforce engagement approaches.

Conclusion

This bibliometric analysis will provide an overarching picture of research on the Two-Factor Theory of Herzberg conducted in the world in 2014-2024. It concludes that job satisfaction is closely associated with motivational factors such as recognition, achievement and career development and that hygienic factors such as salary, supervision and working conditions are necessary to avoid dissatisfaction. The analysis indicates that there is a strong bias in research in the healthcare sector, as more than 40% of the publications are related to the healthcare sector, whereas other sectors such as manufacturing and education are underrepresented. The global output of research is unevenly distributed as the United States and China produce more than one-third of research. Also, the psychological issues, including the work-life balance and burnout, are becoming a significant research topic that is yet to be integrated into the framework of Herzberg. Although leadership has been observed to be a key factor, its mediating or moderating aspect has not been well investigated. The study also reveals that cross-sectoral and cross-cultural studies are necessary in order to increase the applicability of the Herzberg theory. Future studies need to fill these gaps by looking into the areas that have not been well covered, prove the Herzberg theory through other cultures and include psychological and leadership variables in the theory to make it remain relevant in the modern organizational setting.

Scope for Further Research

1. The existing research is largely concentrated in the healthcare sector. There is a clear need to extend empirical studies to other industries such as education, manufacturing, retail, and information technology.
2. There is a lack of in-depth analysis of cultural influences. The effect of cultural norms and values, as well as expectations on the applicability and effectiveness of Herzberg factors, should be studied in future.
3. Psychological variables like stress, burnout, and emotional exhaustion were notable in the analysis of keywords, but were not empirically evaluated with motivational and hygiene variables.

References

- Bontis, N. (1998). Intellectual capital: an exploratory study that develops measures and models. *Management decision*, 36(2), 63-76. <https://doi.org/10.1108/00251749810204142>
- Wardiansyah, D. R., Indrawati, N. K., & Kurniawati, D. T. (2024). The effect of employee motivation and employee engagement on job performance mediated by job satisfaction. *International Journal of Research in Business & Social Science*, 13(1). <https://doi.org/10.20525/ijrbs.v13i1.3133>
- Knezović, E., & Neimarlija, I. (2023, February). Organizational justice and employees' intention to stay: the mediating role of job satisfaction. In *Evidence-based HRM: A Global Forum for Empirical Scholarship* (Vol. 11, No. 1, pp. 1-18). Emerald Publishing Limited. <https://doi.org/10.1108/EBHRM-07-2021-0156>

- Derby-Davis, M. J. (2014). Predictors of nursing faculty's job satisfaction and intent to stay in academe. *Journal of Professional Nursing*, 30(1), 19-25. <https://doi.org/10.1016/j.profnurs.2013.04.001>
- Chen, C. (2006). CiteSpace II: Detecting and visualizing emerging trends and transient patterns in scientific literature. *Journal of the American Society for information Science and Technology*, 57(3), 359-377. <https://doi.org/10.1002/asi.20317>
- Beugelsdijk, S. (2008). Strategic human resource practices and product innovation. *Organization studies*, 29(6), 821-847. <https://doi.org/10.1177/0170840608090530>
- Alshmemri, M., Shahwan-Akl, L., & Maude, P. (2017). Herzberg's two-factor theory. *Life Science Journal*, 14(5), 12-16. <https://doi.org/10.7537/marslsj140517.03>
- Alrawahi, S., Sellgren, S. F., Altouby, S., Alwahaibi, N., & Brommels, M. (2020). The application of Herzberg's two-factor theory of motivation to job satisfaction in clinical laboratories in Omani hospitals. *Heliyon*, 6(9). <https://doi.org/10.1016/j.heliyon.2020.e04829>
- Sobaih, A. E. E., & Hasanein, A. M. (2020). Herzberg's theory of motivation and job satisfaction: does it work for hotel industry in developing countries?. *Journal of Human Resources in Hospitality & Tourism*, 19(3), 319-343. <https://doi.org/10.1080/15332845.2020.1737768>
- Mitsakis, M., & Galanakis, M. (2022). An empirical examination of Herzberg's theory in the 21st century workplace. Organizational psychology re-examined. *Psychology*, 13(2), 264-272. <https://doi.org/10.4236/psych.2022.132015>
- Lee, B., Lee, C., Choi, I., & Kim, J. (2022). Analyzing determinants of job satisfaction based on two-factor theory. *Sustainability*, 14(19), 12557. <https://doi.org/10.3390/su141912557>
- Ewen, R. B. (1964). Some determinants of job satisfaction: A study of the generality of Herzberg's theory. *Journal of applied psychology*, 48(3), 161. <https://psycnet.apa.org/doi/10.1037/h0048383>
- Alias, N. E., Nokman, F. N., Ismail, S., Koe, W. L., & Othman, R. (2018). The effect of payment, recognition, empowerment and work-life balance on job satisfaction in the Malaysia's oil and gas industry. *International Journal of Academic Research in Business and Social Sciences*, 8(9), 639-656. <http://dx.doi.org/10.6007/IJARBS/v8-i9/4645>
- Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of business research*, 133, 285-296. <https://doi.org/10.1016/j.jbusres.2021.04.070>
- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of informetrics*, 11(4), 959-975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Naseer, A., Shmoon, M., Shakeel, T., Rehman, S. U., Ahmad, A., & Gruhn, V. (2024). A systematic literature review of the IoT in agriculture—global adoption, innovations, security, and privacy challenges. *Ieee Access*, 12, 60986-61021. <https://doi.org/10.1109/ACCESS.2024.3394617>
- Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Mulrow, C.D., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *bmj*, 372. <https://doi.org/10.1136/bmj.n71>
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: a meta-analytic test of their relative validity. *Journal of applied psychology*, 89(5), 755. <https://psycnet.apa.org/doi/10.1037/0021-9010.89.5.755>
- Helaudho, B., Mukhtar, S., & Pahala, I. (2024). Optimizing Performance: The Role of Job Rotation in Employee Motivation and Satisfaction. *Pakistan Journal of Life & Social Sciences*, 22(1). <https://doi.org/10.57239/PJLSS-2024-22.1.00408>
- Valk, R., & Yousif, L. (2023). "Going beyond to deliver hip hospitality": exploring motivation and job satisfaction of hospitality workers in Dubai. *International Journal of Organizational Analysis*, 31(2), 293-316. <https://doi.org/10.1108/IJOA-12-2020-2517>
- Olaniyan, O. E., Akinyooye, F. E., Aransi, W. O., & Okafor, E. E. (2025). Effect of strategic management on job satisfaction among selected local government workers in Ibadan, Oyo State, Nigeria. *Journal of Arts, Humanities and Social Science*, 2(1), 127-140. <https://doi.org/10.69739/jahss.v2i1.391>
- Zamanan, M., Alkhalidi, M., Almajroub, A., Alajmi, A. D., Alshammari, J., & Aburumman, O. (2020). The influence of HRM practices and employees' satisfaction on intention to leave. *Management Science Letters*, 10(8), 1887-1894. <https://doi.org/10.5267/j.msl.2019.12.030>
- Sanjeev, M. A., & Surya, A. V. (2016). Two factor theory of motivation and satisfaction: An empirical verification. *Annals of Data Science*, 3(2), 155-173. <https://doi.org/10.1007/s40745-016-0077-9>
- Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523-538. <https://doi.org/10.1007/s11192-009-0146-3>