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ORIGINAL

Optimizing HR Performance and Strategy through Business Intelligence Talent Systems: A Focus on Workforce Analytics and Project Decision-Making

Optimizando el Rendimiento y la Estrategia de Recursos Humanos a través de Sistemas de Talento con Inteligencia de Negocios: Enfoque en la Analítica de la Fuerza Laboral y la Toma de Decisiones en Proyectos

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ABSTRACT

Introduction: the main objective is to study the effects of applying business intelligence talent systems to human resource performance through taking the mediating role workforce analytics and project decision making in SAP firm in German. The research conducted in SAP firm in is an IT consulting firm specialized in giving solutions based on BI and IT, this research designed and distributed a survey on biotech managerial and technical staffs and collected 219 valid questionnaires for data analysis process through the usage of structural equation modeling program method SEM.
Method: the research chose specific indicators for the independent and dependent variables as follows, for business intelligence talent system this research chose AI-driven HR tools adoption, HR data integration capabilities, Predictive analytics utilization, for HR performance the following indicators were chosen employee productivity levels, talent retention rate, and training effectiveness, for workforce variable this research chose real-time workforce monitoring, turnover prediction accuracy, and employee engagement analytics. And for the decision-making variable the indicators which have been chose are the speed of Project decision making, data-driven decision implementation rate, and accuracy of workforce forecasting.
Results: the research arrived to the result that applying business intelligence talent system in human resource department has a positive and effective impact on enhancing human resource department and this effect enhanced through illustrate the role of workforce and project decision making effectiveness.
Conclusions: this study has relied on previous research in the same field, which focused on understanding the importance of improving advanced human resources practices and enhancing employee satisfaction and the importance of the results of these studies in continuing to work in a complex communications sector while maintaining employee satisfaction and high performance that always leads to providing high-quality and efficient products and services to customers.

Keywords: Business Intelligence; Talent System; Human Resource Performance; Workforce Analytics; Decision Making.

RESUMEN

Introducción: el objetivo principal de este estudio es analizar los efectos de aplicar sistemas de inteligencia de negocios en la gestión del talento en el rendimiento de recursos humanos, considerando el rol mediador de la analítica de fuerza laboral y la toma de decisiones en proyectos en la empresa SAP en Alemania. La investigación se llevó a cabo en SAP, una empresa consultora de TI, especializada en proporcionar soluciones basadas en inteligencia de negocios y TI. La investigación diseñó y distribuyó una encuesta al personal gerencial y técnico de la empresa, recogiendo así 219 cuestionarios válidos para el análisis de datos, utilizando para ello el método de modelos de ecuaciones estructurales (SEM).
Método: esta investigación selección determinados indicadores específicos tanto para las variables independientes como para las dependientes. Así, para el sistema de inteligencia de negocios en la gestión del talento se eligieron como indicadores la adopción de herramientas de recursos humanos basadas en IA, las habilidades de integración de datos de recursos humanos y el uso de análisis predictivo. Por otro lado, para el desempeño de recursos humanos se consideraron como indicadores el nivel de productividad de los trabajadores, la tasa de retención de talento y la eficacia de la capacitación. En el caso de la fuerza laboral, se utilizaron como parámetros la monitorización en tiempo real, la precisión en la predicción de rotaciones y el análisis del compromiso de los trabajadores. Finalmente, para la toma de decisiones en los proyectos, los indicadores usados fueron la rapidez en la toma de decisiones de los proyectos, la tasa de ejecución de decisiones basadas en datos, y la precisión en la previsión de fuerza laboral.
Resultados: la investigación encontró que aplicar un sistema de inteligencia de negocios en la gestión del talento tiene un impacto positivo y efectivo en el fortalecimiento del departamento de recursos humanos, y que dicho efecto se potencia al considerar el rol de la fuerza laboral y la toma de decisiones en los proyectos.
Conclusiones: este estudio se ha basado en trabajos anteriores en el mismo campo, los cuales muestran la importancia de perfeccionar la práctica avanzada de recursos humanos y de elevar la satisfacción de los trabajadores. Además, pone en evidencia la importancia de aplicar estos resultados en el sector de las comunicaciones, complejo pero dinámico, para así mantener tanto la satisfacción de los trabajadores como el alto rendimiento, lo cual lleva, en última instancia, a proporcionar productos y servicios de alta calidad y eficientes a los clientes.

Palabras clave: Inteligencia de Negocios; Sistema de Talento; Desempeño de Recursos Humanos; Analítica de Fuerza Laboral; Toma de Decisiones.

INTRODUCTION

In todays the huge development in technological field forced most of organizations to change the way of making effective decisions through integrate digital solutions into their operations to improve efficiency, streamline decision-making, and enhance performance. In the field of human resource management, the adoption of business intelligence systems has gained traction, with organizations seeking to leverage data-driven decisions and strategies stored within databases to develop strategic plans for workforce management, talent acquisition, and performance evaluation.[1] They also aim to predict employee needs, increase job satisfaction, and improve management decision-making processes. Business intelligence systems for talent enable human resource management professionals to shift from traditional administrative tasks to more strategic roles through the use of real-time workforce analytics and predictive modeling.[1] Most of organizations are trying to identify main issues related to employee capabilities and skills in performing their work, enhancing talent retention strategies, and improving the overall output of the workforce. Integrating business intelligence-based analytics with HR decision-making enables companies to monitor key performance indicators such as employee engagement, turnover rates, and training effectiveness, enabling HR to adopt a proactive rather than reactive approach. Most of firms started to search for applying new advanced technology in order to support managers and employees to achieve and carry out their tasks and businesses well, and they started the implement of BI talent system give organizations the ability to achieve objectives, and improve employee experience.[2] Most of HR departments in most of firms are trying to focus on workforce issues and demands, and ensure to make an effective decision based on the data which came from customers through the organizational levels. Compliance with data-driven decision-making and fostering trust and transparency in the workplace. Ethical data practices in HR analytics protect employee information, and promote fairness in the talent management process.[3] most of organizations started to focus on the usage of AI and advanced analytics technologies into HR functions, increasing creativity and innovation, and improving and differentiating employees' creative skills and capabilities, has become important to competitiveness in front of competitors in highly competitive market that requires continuous business development to address the complexities and challenges present in it, and

to maintain fairness, accountability, and effectiveness in decision-making within organizations. The number of adopting business intelligence-based talent management systems remains scarce and there is a research gap that measures the direct impact on HR management and decision-making processes. There is the direct effect on HR leadership and decision-making processes, and the number of businesses implementing business intelligence-based human management systems is still need more deeply study. Few studies how firm business intelligence-based talent employees support employee analysis and operational efficiency, even that many studies addressed the more general effects of data-driven HR policies. This research seeks to attempt to clarify and explore this relationship.[4] Finally, in highly competitive sectors such as technology, HR departments face increasing challenges related to workforce flexibility, skill development, and talent retention. This study aims to bridge the current gap by evaluating the impact of business intelligence-based talent management systems on HR management, focusing on how workforce analytics and data-driven decision-making can improve talent management practices and drive organizational success.

The aims of this study are to evaluate the impact of implementing business intelligence-based talent management systems on human resource decision-making processes, focusing on the role of real-time workforce analytics and predictive modeling in enhancing employee performance, talent retention, and strategic planning within SAP Germany. And to develop a conceptual framework that integrates AI-driven HR tools, advanced analytics, and ethical data practices into human resource management. The study seeks to explore how such integration influences organizational decision-making, improves employee experience, and strengthens competitiveness in highly dynamic and complex industries.

LITERATURE REVIEW

Business Intelligence Talent Systems (BITS)

Digital systems include artificial intelligence, machine learning, and big data analytics tools to help HR departments improve employee performance, with the goal of repurposing them through business intelligence systems for talent management.[5] These solutions have enabled companies to make effective and strategic decisions within the HR department and provided managers with the tools and means to define recruitment methods and improve employee performance. These systems have provided the ability to track, monitor, and measure employee performance, especially given the increasing complexity of the dynamic work environment.[6] Organizations have benefited from the use of business intelligence systems for talent management by increasing efficiency, implementing fairness, and recruiting highly qualified employees. At a time when systems such as Business Intelligence and Talent Management helped in performing most of the operations and functions of the Human Resources Department, such as talent management, data analytics management, workforce analytics management, performance management, monitoring and measurement, and providing the Human Resources Department with strategic plans to attract talent and competencies to ensure the alignment and compatibility of the Human Resources Department strategy with the overall organization's goal.[7] By using Takaful Oman's talent management systems, organizations can develop overall and strategic strategies based on the use of critical customer data to improve workforce performance and enhance overall organizational results.[8] In addition, the integration of the digital platform and internal knowledge management capabilities has enhanced HR responsiveness in addressing changing and evolving workforce requirements.[9]

Human Resource Performance (HRP)

Enhancing employee's capabilities and skills to perform and achieve organization goals, increasing internal employee's satisfaction and loyalty, and improving employee's skills through global training and sessions is considered the definition of human resource management.[10] Organizations use performance metrics including staff engagement, staff turnover, training efficacy, and overall output to assess the performance of their workforce and human resources. Human resource department aims to improve employee's skills to be able to understand and carry out tasks based on the organizational strategic plan and goals and maintain a culture of excellence has become essential for gaining competitive advantages in a highly competitive labor market characterized by rapid technological and environmental development.[11] HR performance currently reflects the ability of employees to integrate technological systems and tools such as artificial intelligence (AI) and business intelligence (BI) in analyzing employee behavior, developing strategic workforce plans, and anticipating the organization's future need for talented employees.[12] Implementing a system like Business Intelligence for Talent Management in the HR department enables managers to make data-driven decisions and increase and enhance the accuracy and impact of HR strategies. Additionally, AI systems in Oman give HR managers the ability to improve quality, enhance organizational responsiveness, achieve sustainable performance results, and play a pivotal role in helping organizations recruit, attract, develop, and retain talented workforces, while instilling a culture of innovation, continuous improvement, and organizational loyalty in their minds.[13]

Workforce Analytics (WA)

Workforce analytics is defined as an approach used in the human resources department to analyze data

related to employee performance and prepare reports on employee behavior, operational performance, and productivity rates.[14] human resource department started to use AI, Big data analytics tools, and BI System to support decision making processes better than making decisions with focusing on opinions and experience of managers which effect on giving organizations the ability to hire talents and innovators workers.[15] Workforce and employee analytics are performed using analytical techniques such as predictive models, performance tracking tools, and productivity measurement, which in turn enhances HR decision-making related to workforce management in a thoughtful and effective manner.[16] Organizations that utilize workforce analytics systems are able to identify, define, and address gaps and problems related to employee skills and capabilities.[17] They also facilitate the more flexible performance and management of HR functions by addressing challenges such as employee turnover, engagement, and development needs.[18] Challenges and the acceleration of digital development and transformation mean that the role of human resource analysis in strategic human resource planning is becoming increasingly important for achieving business excellence and has become a fundamental pillar in defining and achieving the organization's goals as a whole.[19]

Decision Making (DM)

Decision Making (DM) in HR involves a structured process of evaluating data, analyzing workforce trends, and making informed choices to improve human resource management practices. With the rise of digital transformation, HR decision-making has developed from managerial view in managing to become based on data analysis approach in supporting HR decision making process.[20] The usage of data analysis in supporting HR decisions and develop the accuracy, decrease preferences, and ensure achieving goals.[21] Organizations that embrace data-driven decision-making benefit from more effective talent acquisition strategies, precise workforce planning, and improved employee performance evaluations.[22] Human resources analytics has become a critical tool, especially in public and large-scale organizations, for optimizing personnel management and enhancing the efficiency of HR interventions.[23] In addition, the convergence of digital leadership, social media, and HR technologies supports a more robust workforce, which enhances and develops the country's strategic approach to data-driven decisions in performing and improving HR functions.[24] Finally, data-driven decision-making is not only effective in performing the human capital assurance process, but it also helps in bringing the organization to long-term sustainability, possessing more competitive advantages, and a highly talented workforce.[25]

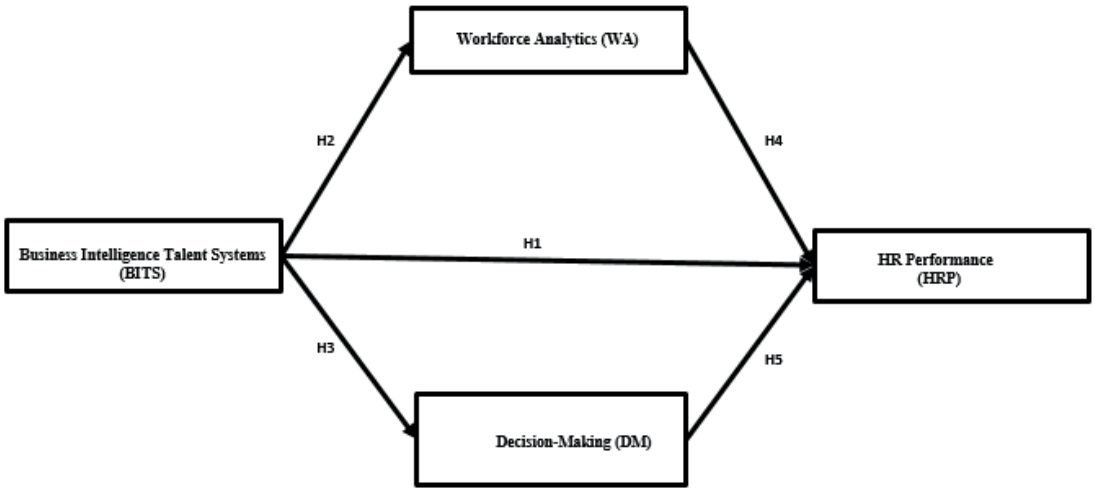

Figure 1. Research Model

METHOD

Most studies focus on the development and application of business intelligence systems to improve workforce analytics and improve human resource management. This study emphasizes the importance of utilizing data-driven approaches to improve human resource performance and employee satisfaction. The need for more researches in this subject this research has been collected data through a validated questionnaire designed to evaluate the impact of business intelligence systems on workforce analytics and human resource decision-making. The research reliability lies on using a research questionnaire which distributed to a representative sample that included human resource experts and specialists in organizational strategy. Factor analysis and correlation analysis were conducted to study the relationship between the desire of business intelligence systems and the effectiveness of workforce analytics and collections in human resource decision-making processes. The results of this study provide valuable insights into how human resource systems and performance can be

impacted by enabling data-driven talent management strategies to improve workforce planning and improve decision accuracy by utilizing advanced statistical techniques. This study provided a high level of from music to dead institutions, the ability to enhance human resource performance through automated data analysis, integration of technological systems and strategic decision making.

Research Design

The research questionnaire was designed based on research main objective and was distributed via email to specialists at SAP. The research questionnaire included four main sections with a total of 20 questions reflecting the study's independent variable, namely, the talent management business intelligence systems, and the dependent variable, human resource performance, by measuring the impact of workforce analytics and decision-making process. The research questionnaire used in this research in the goal of measuring the impact of business intelligence talent system on human performance through measuring the effect on workforce analytics and decision making. Smart PLS model methodology assured that all statistical tools and techniques have been used to measure main effects and relations through research independent and dependent dimensions. Research survey used 5 choices likert scale to give respondents ability to give accurate and specific answers. The privacy, security, and dependability of the information supplied were guaranteed to each respondent. In order to investigate the effect of talents business intelligence applications on HR performance, the study questionnaire was utilized to describe the procedure for processing and evaluating data collecting. A thorough grasp of how workforce analytics, data-driven decision-making, and recruiting and hiring business intelligence platforms may enhance HR operations and performance was made possible by the research's conclusions. Organizations looking to develop, enhance, and revolutionize their HR department management as well as those trying to incorporate and apply advanced data analysis into making choices and assistance, as thoroughly as in overseeing strategies pertaining towards staff structure and skill and capability enhancement, will find these findings to be a useful resource.

Data Analysis

The evaluation of the research model carried out as a part of the data analysis process, through evaluating the impact on employee analytics and decision-making, the findings about the influence of company intelligence systems utilized in recruiting and selection on worker efficiency were condensed and verified. Before starting the process of data analysis and through using SPSS Mahalanobis distance analysis this research made a test on a set of data to discover the data deviation and dealing with that has been found and correct in the aim of improving and correcting research collected data to give the best possible analysis. The results' validity and strength were confirmed by the use of the chi-square (χ^2) test performed at a statistically significant level of $p < 0,001$. The study's $\chi 2$ score of 14,36 established a cutoff point for detecting outliers. In the end, 219 valid surveys were kept for further examination.

Measurement Model Assessment

Twenty-five questions were designed to measure the impact of the independent variables in this study on the dependent variables. The measurement model was evaluated, and the quality and consistency of the collected data were verified before beginning any statistical analysis. The reliability and validity of the study model were assessed, and a high degree of consistency between the study variables was confirmed, enhancing the comparability of the reliability of the research model.[26] This approach provided precision in measurement, providing the study with a strong foundation and basis for subsequent statistical analysis and discussion of the hypotheses and study results. By ensuring the use of valid data, this study demonstrated high effectiveness and validity among relationships, particularly between business intelligence systems for talent management, workforce analytics, and decision-making, and their impact on human resource performance management.

Table 1. Reliability and Validity Test

Variable	Factor's Loading	VIF	Cronbach's Alpha	CR	AVE
Business Intelligence Talent Systems (BITS)			0,81	0,76	0,50
Predictive Analytics	0,45	1,25			
Talent Acquisitions Optimization	0,50	1,33			
Performance Monitoring	0,43	1,22			
Workforce Planning	0,52	1,37			
Strategic HR Integration	0,37	1,15			
HR Performance (HRP)			0,78	0,73	0,53
Recruitment Efficiency	0,46	1,21			
Employee Retention	0,58	1,26			

Productivity Metrics	0,44	1,29			
Training and Development	0,52	1,25			
Compliance and Risk Management	0,36	1,36			
Workforce Analytics (WA)			0,74	0,74	0,52
Employee Turnover Rate	0,61	1,17			
Training Effectiveness	0,59	1,21			
Absenteeism Rate	0,39	1,34			
Performance Metrics	0,42	1,15			
Talent Acquisition Efficiency	0,47	1,22			
Decision-Making (DM)			0,73	0,70	0,51
Speed of Decision	0,44	1,21			
Quality of Information Used	0,45	1,36			
Risk Assessment	0,56	1,25			
Stakeholder Involvement	0,47	1,29			
Implementation Effectiveness	0,56	1,12			

The table above shows the factor loadings, Cronbach's Alpha, Composite Reliable (CR), and the calculated average variance. Since it supposes that research hypotheses cover over one-half of the variability of its indicator an important need for convergent validity an AVE score of greater than 0,50 is typically regarded as acceptable. Convergent validity refers to how closely related items are that are supposed to measure the same construct. It is typically assessed by examining the AVE, which is a key component of construct validity. In most of researches the CR values and AVE are used to evaluate the internal consistency and reliability of the construct. Statistical techniques, such as factor analysis, are employed to assess the alignment between observed variables and their underlying latent constructs. It is crucial to consider any discrepancies or inconsistencies that may arise between measurement items when evaluating the validity of a measurement model. In summary, both Composite Reliability (CR) and Average Variance Extracted (AVE) play a critical role in confirming the convergent validity and overall authenticity of the construct being measured.

Research hypotheses Test

Testing the study theories and taking into account how the relationships pertaining to the separate variable impact the dependent variable constitutes the second phase after confirming the validity and reliability of the research. The direct effects on relationships between research variables which included within study hypotheses are shown in the following table.

Table 2. Path Coefficient Test Results

	Research Hypotheses Test	P Value	Results
H1	Business Intelligence Talent System (BITS) → Human Resource Performance (HRP)	0,002	Supported
H2	Business Intelligence Talent System (BITS) → Workforce Analytics (WA)	0,001	Supported
H3	Business Intelligence Talent System (BITS) → Decision Making (DM)	0,001	Supported
H4	Workforce Analytics (WF) → Human Resource Performance (HRP)	0,000	Supported
H5	Decision-Making (DM) → Human Resource Performance (HRP)	0,002	Supported
H6	Business Intelligence Talent System (BITS) → Workforce Analytics (WF) → Human Resource Performance (HRP)	0,001	Supported
H7	Business Intelligence Talent System (BITS) → Decision-Making (DM) → Human Resource Performance (HRP)	0,011	Supported

The figure shows the PLS-SEM Analysis results, the data driven decision making construct was represented by five indicators with factor loadings ranging from 0,58 to 0,70. This value indicates a moderate level of reliability where 0,70 is related to evidence-based strategies which are the strongest contributors and play a significant but not comprehensive role in influencing HR performance and employee satisfaction. The analysis also indicates and shows that real-time business analytics now has factor loadings ranging from 0,58 to 0,74 and the highest factor performance index was shown for system responsiveness which confirms its strong contribution, reliability and ability to improve HR performance and increase employee satisfaction. The results of the structural equation ant analysis showed that ethical data practices had fixed factor loadings ranging from 0,56 to 0,71 and the highest factor loadings indicated compliance with data privacy which played an important role in improving HR performance and increasing employee satisfaction. The results also showed that improving human resource performance and employee satisfaction is statistically significant as shown by the probability values for example (0,001, 0,000, 0,002, and 0,011). These results indicate that the structure of data-driven

decision making, real-time business analytics, and ethical data practices collectively contribute to improving human resource performance and employee engagement. The results show that second independent variable the real-time data analytics have a more significant impact based on its strong loading factors. Each of the independent variables plays a prominent and fully related role in improving the dependent variables, and the focus on them is highlighted as influential factors in achieving organizational excellence.

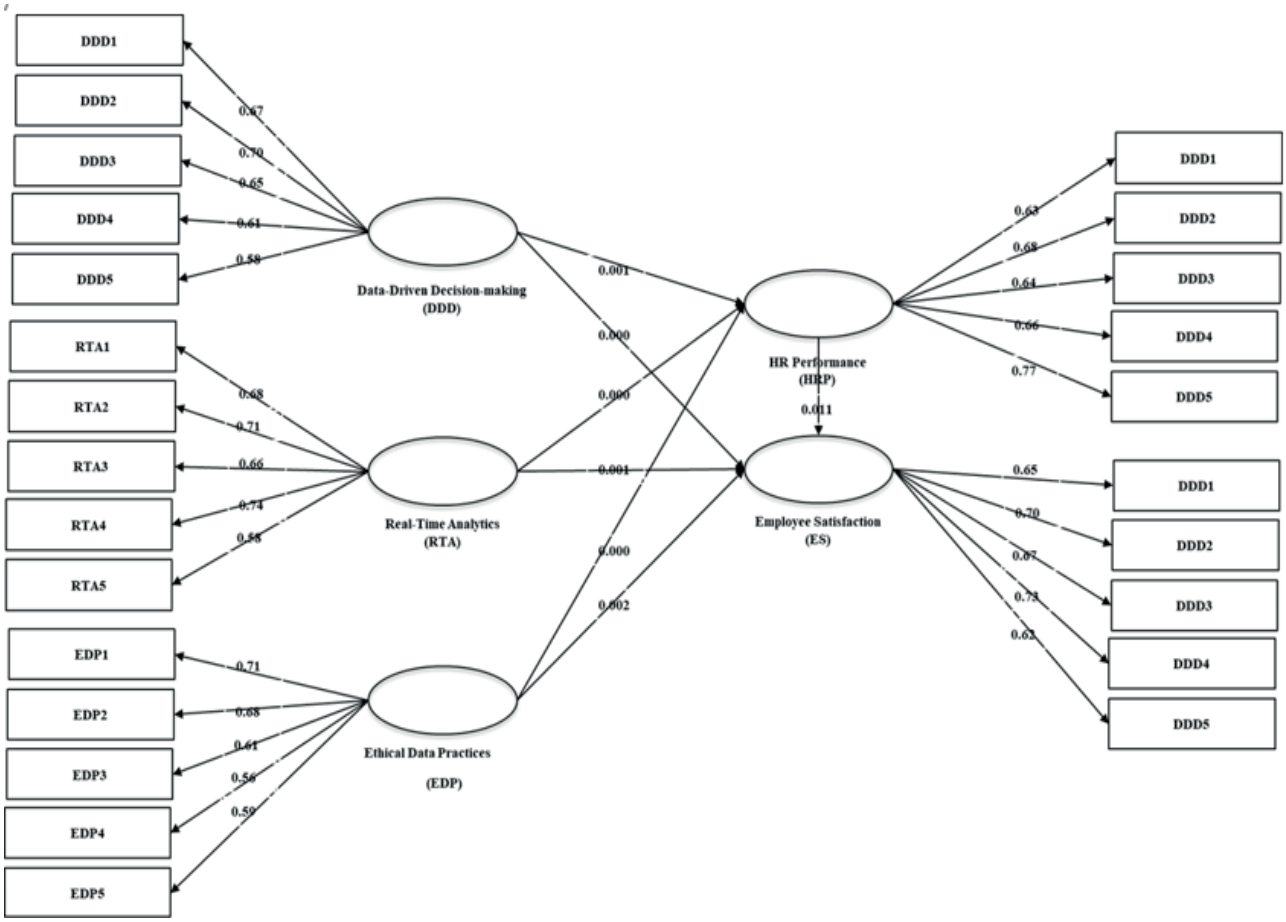

Figure 2. PLS-SEM Path Analysis Results

DISCUSSION

The study was carried out in SAP Company in German, which is important for it to understand the impact of Business Intelligence Talent Systems on human resource performance through taking the mediating role of workforce analytics, and decision-making to adapt and deal with the rapidly evolving commercial and competitive market. Many institutions and organizations are trying to keep pace with technological progress and rapid and tremendous development. Therefore, understanding how these variables affect improving human resource performance has become one of the basic components and modules for sustainable growth and maintaining competitive advantages. The main objective of the study is to measure the impact of Business Intelligence Talent Systems and analysis of actual data and the application of workforce analytics and decision-making approaches and practices to improve human resource efficiency and satisfaction within SAP. By taking advantage of Business Intelligence Talent Systems, organizations can implement, choose, and make creative and distinctive decisions that are consistent with the organization's strategic goals. Workforce analytics enhances decision-making through suggesting new ideas and plans that can be implemented by employees. Additionally, applying decision-making practices helps in activating concepts such as intelligence, design, choice, and implement creative solutions for solving complicated issues and unstructured problems, which are essential for employee engagement and building a fair work environment that leads organizations to lasting success. The study measured the control of these three variables on raising human resources performance. The results exposed that applying the three practices helps improve and raise human resources performance, and leads organizations to the goal of matching organizational strategies with employee needs. The results included that the three variables helped improve the systems and laws applied within the human resources department and increase the satisfaction of the organization's management and achieve long-term strategic goals because these variables link and help employees perform their work in a new and distinctive creative

way. These three variables help create a supportive and helpful work environment for employees to perform their work in a creative and distinguished manner. The human resources department in organizations can use key performance indicators such as employee retention rates, job satisfaction rates, and employee productivity as methods that can give the organization indicators of the impact of Business Intelligence Talent Systems and analysis of actual and current business data and the application of creative strategies in dealing with data as methods to expand human resources practices and businesses, increase employee satisfaction, achieve organizational goals, and keep competitive advantages. In addition, the results and recommendations of this study will be sent to SAP and its decision and policy makers, which can support the company to understand the importance of integrating and changing the decision-making system to come to be based on Business Intelligence Talent Systems, workforce analytics, and decision-making as a means that enables the company to enhance innovation, continuous improvement, employee confidence, possess competitive advantages, and achieve success in the German technology sector.

Research Limitations

The big Companies focusing on adopt and have business intelligence talent systems, workforce analytics, and data-driven HR decision-making on human resource performance and organizational outcomes within SAP Company in German. However, the results may not be always applicable to other sectors and firms. SAP operates as a unique and distinctive technology-driven organizational environment and it is important to clarify that the results of the study organizational processes, innovation, and data culture of SAP Company in German. Therefore, the large differences between natural companies change the reflection of the large differences in the expectations of employees and respondents to the research questionnaire. The results are also affected by the time in which they were conducted in the studies and therefore with the emergence of a quick application of a creative person like the creative person who is accredited in BI systems and HR data analytics in reality and ethical practices failure can fail its importance with the record of time and because rapid progress and changing workforce dynamics and shifts in organizational priorities highlight the need for continuous evaluation to survive the results of the studies are updated and developed first. How studies began that there are some multiple pluralities in questionnaires and the method began such as civilization social desire that we can rely on the documented and validity of the data that was collected and we advise these scientific studies and future practitioners to further in their battles these mechanisms until the accuracy and found their conclusions and results of their studies. These studies recommend focusing future research on the external environment such as market conditions which can also participate in HR performance and decision-making such as internal factors. Due to these reasons, the scientific study and practitioners concluded the necessity of basing with the results with an understanding of the scientific community in which the research was conducted and to reach the presence of the results, several researches must be done related to the external environment and BI adoption strategies and in other organizations and other sectors to reach a comprehensive knowledge base that includes the impact of continents qualified on BI-driven workforce analytics and HR decision-making practices on organizations.

Research Conclusions

The study studied the effect of business intelligence talent systems, workforce analytics, and ethical data practices on improving human resource performance and employee satisfaction. The study suggested 7 hypotheses. The first, third, and fifth hypotheses focused on the impact of business intelligence systems in talent management, workforce analytics, and ethical data practices on improving human resource management (HRM) performance and practices. Additionally, the second, fourth, and sixth hypotheses focused on the impact of business intelligence systems in talent management, workforce analytics, and ethical data practices on increasing employee satisfaction. Finally, the seventh hypothesis focused on studying the impact of developing human resource management (HRM) performance and practices on improving and increasing employee satisfaction. The primary objective of this study was to examine the impact of implementing business intelligence systems in talent management, workforce analytics, and big data management, as well as applying ethical data practices to data handling and activities within the HR department. Based on this, this study focused on understanding how these variables impacted HR performance and employee satisfaction. This study also aimed to present findings, conclusions, and recommendations to enable organizations to adapt to the introduction of information technology systems and tools into the business sector. The company within which the information was collected is considered one of those companies that always strives to develop its capabilities, employee skills, competitive advantages, and added value. This is consistent with many studies, such as [27] and [28]. This study is considered one of the studies that provided a comprehensive understanding of the main topic due to its in-depth study of the relationship between the use of business intelligence systems for talent management, ethical practices, and human resources effectiveness, and its impact on improving human resource performance and employee satisfaction. It also provides the study community with a strategic

vision for continuous improvement and creative development related to raising efficiency and fair treatment of employees within the human resources department. Research results could be helpful for the company to adapt to the continuous changes, the huge technological development, and the high competition in a turbulent and unstable competitive market. Finally, the following studies [29,30,31,32,33,34,35,36,37] have shown similar results and confirmed the importance of the three practices in developing and raising the performance of human resources and employee satisfaction. This study has relied on previous research in the same field, which focused on understanding the importance of improving advanced human resources practices and enhancing employee satisfaction and the importance of the results of these studies in continuing to work in a complex communications sector while maintaining employee satisfaction and high performance that always leads to providing high-quality and efficient products and services to customers.

Future Research Recommendations

This study opens several avenues for future research that could enhance the depth and applicability of its findings. First, expanding the scope and diversity of the sample by including organizations from various industries and regions would improve the generalizability of results and allow for a better understanding of how contextual factors affect the adoption and effectiveness of Business Intelligence (BI) tools such as Power BI. Future research could also explore the industry-specific applications of BI, particularly in areas like cost optimization, productivity enhancement, regulatory compliance, and employee skill development, offering more nuanced insights into its organizational impact. Additionally, further investigation is needed into the role of artificial intelligence (AI) in complementing BI systems, especially in supporting predictive analytics, data-driven decision-making, and digital transformation initiatives within human resources and strategic management functions. Longitudinal studies may be valuable in assessing the long-term impact of BI implementation, while comparative studies can evaluate the effectiveness of different BI platforms—such as Power BI, Tableau, and Qlik—across diverse organizational contexts. Lastly, integrating external environmental variables, including market volatility, technological trends, and regulatory changes, would provide a more holistic understanding of the factors influencing the success and sustainability of BI-driven decision-making processes.

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