

## USING PREDICTIVE ANALYTICS IN PLANNING FUTURE HUMAN RESOURCE NEEDS: AN APPLIED STUDY ON PALESTINE TELECOMMUNICATIONS COMPANY (PALTEL)

Samar Rajab Saeed Atallah

### Abstract

This study explores the role of predictive analytics in planning the future human resource needs of Palestine Telecommunications Company (PalTel). The primary aim is to examine how PalTel uses predictive tools to optimize human resource management, improve decision-making processes, and forecast future staffing requirements. By employing predictive analytics, companies can better plan for future skill gaps, employee turnover, and recruitment needs. The research highlights the significance of data-driven decision-making in human resource planning and investigates how PalTel applies these techniques to align with its organizational goals.

The study employs a structured questionnaire, gathering insights from 200 employees across various departments. The survey focuses on three key areas: the use of predictive analytics in human resource planning, its impact on organizational performance, and the challenges and opportunities that arise from adopting such technology. The findings show that a significant percentage of PalTel employees believe that predictive analytics has positively impacted decision-making, performance management, and talent development. However, challenges such as the availability of accurate data and the need for specialized training were also identified.

The study concludes by offering recommendations for enhancing the implementation of predictive analytics, including improved training programs, better data management, and investment in technological infrastructure. The findings have significant implications for how companies can leverage predictive analytics to enhance human resource planning and improve organizational performance.

**Keywords:** Predictive analytics, human resource planning, Palestine Telecommunications Company, PalTel, data-driven decision-making, employee performance, recruitment, talent management, organizational performance, workforce planning.

### Introduction

The world is currently experiencing unprecedented digital transformations across various economic, social, and administrative fields. With the increasing use of technology in many sectors, digital transformation has become an essential necessity for numerous governmental and private institutions to enhance performance and increase efficiency. In this context, predictive analytics has emerged as an innovative and advanced tool that supports strategic decision-making within organizations, enabling more precise and efficient human resource planning (Al-Ali, 2020: p. 98). The use of predictive analytics has become one of the primary methods for improving human resource management, as it provides the ability to forecast future needs based on historical and statistical data. This enables organizations to adapt to rapid changes in the work environment.

Given the importance of human resource management within organizations, especially in sectors increasingly reliant on technology, predictive analytics is considered a key tool to enhance employee performance and operational efficiency in Palestinian governmental institutions. Through these analytics, future human resource needs can be identified, and effective training and

recruitment strategies developed, which strengthen institutional competitiveness and improve service delivery efficiency to citizens (Al-Tayibi, 2021: p. 45).

Applying predictive analytics in Palestinian institutions represents a significant step toward modernizing and developing administrative systems, contributing to improved employee performance and increased workplace effectiveness. However, despite the considerable potential of this technology, Palestinian governmental institutions face multiple challenges in employing these predictive methods. These challenges range from a lack of technical skills among employees to insufficient technological infrastructure, which may hinder achieving the full benefits of predictive analytics (Al-Najjar, 2020: p. 89).

### **Research Problem**

The research problem lies in the challenges of implementing predictive analytics for planning future human resource needs in Palestinian governmental institutions. Despite the growing interest in applying advanced analytical techniques in various governmental sectors, Palestinian institutions still face difficulties in effectively adopting these techniques, which negatively impacts the efficiency of human resource planning. It has been observed that some Palestinian governmental institutions rely on traditional methods of human resource management, without utilizing modern predictive analytics that could offer significant advantages in future planning (Saleh, 2022: p. 54).

Many Palestinian governmental institutions lack an understanding of how to harness big data and modern technologies, such as predictive analytics, to forecast their future human resource needs. Additionally, challenges related to training employees to use these modern tools hinder the effective implementation of predictive analytics. Furthermore, some institutions rely on conventional workforce planning methods, making it difficult to adapt to the rapid changes in the local and international work environment (Dweik, 2022: p. 89).

### **Research Importance**

This research is important because it highlights the role of predictive analytics in enhancing the efficiency of planning future human resource needs in Palestinian governmental institutions. The use of predictive analytics in human resources is one of the most prominent modern trends relied upon by governmental institutions in many developed countries to anticipate employee needs and determine suitable training programs. By analyzing historical data and applying predictive models, future trends in hiring and developing human resources can be identified (Abdullah, 2020: p. 102). In this context, the research emphasizes the importance of utilizing these technologies to offer innovative solutions for enhancing planning efficiency and developing human resource systems in Palestinian governmental institutions. The application of predictive analytics can help governmental institutions improve employee recruitment strategies, identify training and development needs, and reduce gaps between actual human resource needs and future requirements (Fahd, 2021: p. 74). This research opens the door to improving functional performance in Palestinian governmental institutions by providing practical recommendations to enhance the use of predictive analytics, thereby supporting administrative development in these institutions.

### **Research Objectives**

The study aims to examine the impact of predictive analytics on improving the planning of future human resource needs in Palestinian governmental institutions, as well as to assess the benefits and challenges of applying these analytics in the Palestinian work environment. The main objectives of the research are as follows:

1. **Examine the impact of predictive analytics on planning future human resource needs:** To identify the role predictive analytics plays in enhancing the efficiency of human resource management in Palestinian governmental institutions.
2. **Evaluate the effectiveness of applying predictive analytics techniques in Palestinian governmental institutions:** To assess the extent of adoption of these techniques in Palestinian institutions and their ability to improve recruitment and training strategies.
3. **Analyze the challenges facing Palestinian institutions in implementing predictive analytics:** To study the technical and administrative challenges that may hinder the adoption of these techniques in Palestinian governmental institutions, such as a lack of technical skills or inadequate infrastructure.
4. **Propose strategic solutions for applying predictive analytics in governmental institutions:** To provide practical solutions that contribute to improving the implementation of these analytics, thereby enhancing human resource efficiency in these institutions (Al-Essa, 2020: p. 121).

### Research Questions

Based on the aforementioned objectives, the research seeks to address several key questions that guide the study and the analysis of collected data. These questions include:

1. **What is the impact of predictive analytics on improving the planning of future human resource needs in Palestinian governmental institutions?**  
This question aims to determine the role predictive analytics plays in enhancing the efficiency of planning and identifying future human resource needs.
2. **To what extent have Palestinian governmental institutions successfully implemented predictive analytics techniques?**  
This question focuses on the level of acceptance and application of predictive analytics in Palestinian governmental institutions, identifying factors that may either hinder or facilitate the successful implementation of these techniques.
3. **What challenges do Palestinian institutions face in applying predictive analytics?**  
This question aims to identify the obstacles Palestinian institutions encounter when implementing these techniques, such as technical challenges or a lack of employee skills.
4. **What benefits can Palestinian institutions achieve by applying predictive analytics in the field of human resources?**  
This question explores the potential advantages of using predictive analytics to improve recruitment and training strategies within Palestinian governmental institutions (Al-Najjar, 2020: p. 89).

### Previous Studies

#### Study 1: "Analyzing the Impact of Digital Transformation on Improving Human Resource Efficiency in Governmental Institutions"

**Author:** Al-Ali (2020)

This study aimed to analyze the relationship between digital transformation and human resource efficiency in governmental institutions. It focused on the impact of adopting digital technologies on improving employee performance and enhancing operational efficiency. The results showed

that digital transformation improved employee effectiveness by 30%, particularly in decision-making speed and reducing internal bureaucracy. The study emphasized the importance of providing adequate training to employees to maximize the benefits of modern technologies.

### **Study 2: "The Role of Predictive Analytics in Enhancing Human Resource Efficiency in Private Sector Companies"**

**Author:** Al-Saadi (2021)

This study examined the role of predictive analytics in improving human resource performance in the private sector. The findings revealed that private companies utilizing predictive analytics achieved a 20% improvement in recruitment and training strategies. Additionally, these techniques reduced employee turnover by 15% by predicting future human resource needs. However, the study identified a lack of accurate data as one of the main challenges faced by companies in this field.

### **Study 3: "Digital Transformation in the Palestinian Governmental Sector: Challenges and Opportunities"**

**Author:** Al-Najjar (2020)

This study explored digital transformation in Palestinian governmental institutions, analyzing digital applications in various Palestinian ministries. The research highlighted that digital transformation positively impacted human resource efficiency by reducing bureaucratic procedures and enhancing response speed. However, it also pointed out challenges such as weak digital infrastructure and insufficient training in using modern technological tools. The study concluded that digital transformation could be more effective if these aspects were improved.

### **Study 4: "The Role of Predictive Analytics in Human Resource Decision-Making in Public Institutions"**

**Author:** Suleiman (2021)

This study examined the impact of predictive analytics on improving human resource decision-making in governmental institutions in the GCC countries. The findings indicated that predictive analytics enhanced recruitment and selection strategies, reducing gaps between the supply and demand for required skills. It also led to cost reductions in recruitment and increased accuracy in forecasting workforce needs. Nevertheless, the study identified challenges related to funding and the development of technological systems needed for predictive analytics implementation.

### **Study 5: "Applying Predictive Analytics in Human Resource Management in Jordanian Governmental Institutions"**

**Author:** Zidan (2021)

This study focused on applying predictive analytics in human resource management in Jordanian governmental institutions. The results showed that predictive analytics was an effective tool for improving recruitment strategies, enabling institutions to make informed decisions about hiring and training, which increased human resource efficiency by 25%. It also highlighted the importance of predictive analytics in identifying future skill requirements, thereby enhancing employees' ability to handle upcoming challenges. The study emphasized the need for technological system development to facilitate the application of these tools in governmental institutions.

### **Reflection on Previous Studies**

The previous studies collectively highlight the benefits of digital transformation and predictive analytics in improving human resource efficiency in governmental institutions. Most studies focused on digital transformation as a tool to enhance operational efficiency, whether in the Palestinian context or in other regions such as Jordan and the GCC. Some studies emphasized

predictive analytics as a tool to improve human resource decision-making, demonstrating its potential to enhance planning and recruitment strategies through predictive data.

However, there are notable gaps in these studies, including a predominant focus on the private sector or other countries rather than the Palestinian context. This indicates the need for research specifically tailored to Palestinian governmental institutions, particularly given the political and economic challenges they face. Additionally, many studies did not focus sufficiently on the precise application of predictive analytics in forecasting future human resource needs in governmental institutions.

### **What Distinguishes This Study**

- 1. Focus on the Palestinian Context:**  
While previous studies explored digital transformation in other regions, such as Jordan and the GCC, this study specifically targets Palestinian governmental institutions, addressing their unique challenges and opportunities.
- 2. Application of Predictive Analytics for Human Resource Planning:**  
Unlike studies that broadly examined digital transformation, this research focuses on the specific application of predictive analytics in planning future human resource needs, providing a distinct perspective.
- 3. In-depth Analysis of Local Challenges:**  
This study delves into local challenges faced by Palestinian governmental institutions, such as limited technical infrastructure, lack of employee training, and insufficient data accuracy.
- 4. Integration of Digital Transformation and Predictive Analytics:**  
The research combines two complementary themes, digital transformation and predictive analytics, offering a more comprehensive approach that has not been thoroughly explored in previous studies, particularly in the Palestinian context.

### **Theoretical Framework**

In light of the rapid changes occurring globally, technology and digital transformation have become critical components in enhancing the efficiency of both governmental and private institutions. Predictive analytics is among the most effective tools in this context, enabling organizations to leverage big data to understand behavioral patterns and provide proactive insights that support strategic decision-making. In the field of human resources, predictive analytics serves as an innovative method to improve future planning needs by offering precise solutions that contribute to achieving institutional goals through more effective management of human capital (Abdullah, 2020: 102).

### **The Concept of Predictive Analytics**

Predictive analytics is the process of utilizing historical data, statistical techniques, and algorithmic models to analyze information and forecast future events and outcomes. These analyses rely on advanced tools in artificial intelligence to identify patterns and relationships in data, assisting organizations in making informed decisions based on accurate predictions. According to Al-Dweik (2018: 91), predictive analytics heavily depends on digital technology and data infrastructure, with big data serving as the foundation for the success of such analyses in delivering precise forecasts.

### **The Importance of Predictive Analytics in Human Resources**

Predictive analytics plays a crucial role in improving human resource management by enabling organizations to accurately identify their workforce needs. Its contributions include:

- 1. Strategic Workforce Planning**  
Predictive analytics can forecast an organization's staffing needs based on current trends in the labor market. For example, it helps companies predict the number of employees required in light of anticipated business growth (Al-Ali, 2020: 98).
- 2. Skills Gap Analysis**  
It identifies gaps between current employee skills and future needs. According to Zahran (2019: 36), the use of big data facilitates a precise analysis of employees' training needs.
- 3. Enhancing Employee Experience**  
Predictive analytics improves performance management policies and develops tailored programs to meet employees' needs, thereby increasing their satisfaction and productivity (Samhan, 2021: 143).

### **Digital Transformation and Its Role in Enhancing Predictive Analytics**

Digital transformation has enabled institutions to use data analysis tools in innovative ways. According to Al-Qadi (2020: 44), digital transformation is a cornerstone for predictive analytics, providing the technologies and infrastructure necessary for collecting and analyzing big data. For instance, in human resources, advanced digital platforms are used to gather and analyze employee information, offering recommendations on recruitment, training, and promotions.

### **Predictive Analytics in Palestinian Institutions**

Studies indicate that Palestinian institutions face significant challenges in utilizing predictive analytics, including weak technological infrastructure and a lack of reliable data. However, a study by Jaber (2022: 75) showed that Palestinian telecommunications companies have started investing in predictive analytics to improve their human resource planning strategies. These companies use data analytics to identify future labor market trends and develop innovative recruitment plans.

### **Practical Applications of Predictive Analytics in Human Resources**

- 1. Workforce Planning**  
Predictive analytics is an effective tool for workforce planning by estimating future needs based on current work trends. A study by Youssef (2018: 57) showed that institutions using predictive analytics could reduce gaps between supply and demand in the labor market, improving human resource efficiency.
- 2. Enhancing Recruitment**  
Predictive analytics aids in optimizing the recruitment process by analyzing job applicants' data and identifying patterns linked to high performance. According to Al-Tibi (2021: 46), these analytics provide companies with opportunities to select the best talents and reduce turnover rates.
- 3. Performance Management**  
Predictive analytics helps institutions develop strategies to enhance employee performance by analyzing their data and identifying factors that increase productivity. Al-Essa (2020: 123) noted that predictive analytics enables companies to forecast employees' future performance and design development programs tailored to their needs.
- 4. Forecasting Training Needs**  
Predictive analytics plays a key role in determining employees' training needs by analyzing their performance and skills. According to Hassan (2019: 88), organizations using predictive analytics can design customized training programs that improve employee efficiency.

### Challenges Associated with Implementing Predictive Analytics

Despite the numerous advantages of using predictive analytics, Palestinian institutions face challenges that hinder effective implementation. These challenges include:

1. **Lack of Technical Skills**  
A study by Samhan (2021: 144) revealed an urgent need to develop employees' skills in data analysis and the use of predictive tools.
2. **Weak Technological Infrastructure**  
According to Fahd (2021: 45), many Palestinian institutions lack the technological resources necessary for effectively implementing predictive analytics.
3. **High Costs**  
The cost of implementing predictive analytics techniques is relatively high, making it difficult for small and medium-sized institutions to adopt them easily (Al-Qadi, 2020: 45).

### Proposed Solutions to Overcome Challenges

To address these challenges, Palestinian institutions can adopt several strategies:

1. **Investing in Technological Infrastructure**  
Developing infrastructure to facilitate the use of predictive analytics techniques (Al-Dweik, 2018: 93).
2. **Employee Training**  
Providing specialized training programs to develop skills in data analysis and the use of predictive tools (Al-Ali, 2020: 99).
3. **Partnerships with Technology Providers**  
Collaborating with technology service providers to reduce the costs of implementing predictive systems (Al-Jamal, 2022: 124).

### Predictive Analytics in Palestinian Telecommunications Companies

Palestinian telecommunications companies represent a prominent example of using predictive analytics to enhance human resource management. A study by Jaber (2022: 77) revealed that these companies rely on predictive analytics to identify their workforce needs based on market trends and forecast future demand. Additionally, these analytics are used to improve recruitment and training policies, contributing to enhanced competitiveness in the market.

### Practical and Applied Aspect

#### Research Tool: Questionnaire

The questionnaire is the primary research tool utilized in this study to examine the impact of predictive analytics on planning future human resource needs in the Palestinian telecommunications company "Paltel." It was designed to include a series of questions targeting company employees, focusing on various aspects such as the use of predictive analytics, its influence on improving HR performance, and the company's readiness to adopt these technological tools.

The questionnaire is divided into three main sections:

1. **Utilization of Predictive Analytics**  
Questions addressing the methods and mechanisms the company employs to implement predictive analytics in human resource planning.
2. **Impact of Predictive Analytics**  
Questions aimed at measuring the impact of predictive analytics on employee efficiency and the effectiveness of recruitment strategies.

**3. Challenges and Opportunities**

Questions exploring the challenges the company faces in applying predictive analytics to HR planning and the opportunities offered by this technology.

The responses are collected using a Likert scale, enabling participants to evaluate their opinions ranging from "Strongly Agree" to "Strongly Disagree," helping gauge their level of agreement with the statements provided.

**Research Sample**

The research sample consists of employees working in the Palestinian telecommunications company "Paltel," a leading entity in the Palestinian telecommunications sector. A random sample of 200 employees from various departments and roles within the company was selected to ensure representation across all divisions.

This sample was chosen based on criteria including the diversity of job roles, levels of experience, and employees' familiarity with predictive analytics techniques. The sample aims to provide accurate and comprehensive insights into the application of these techniques in HR planning.

**Research Results**

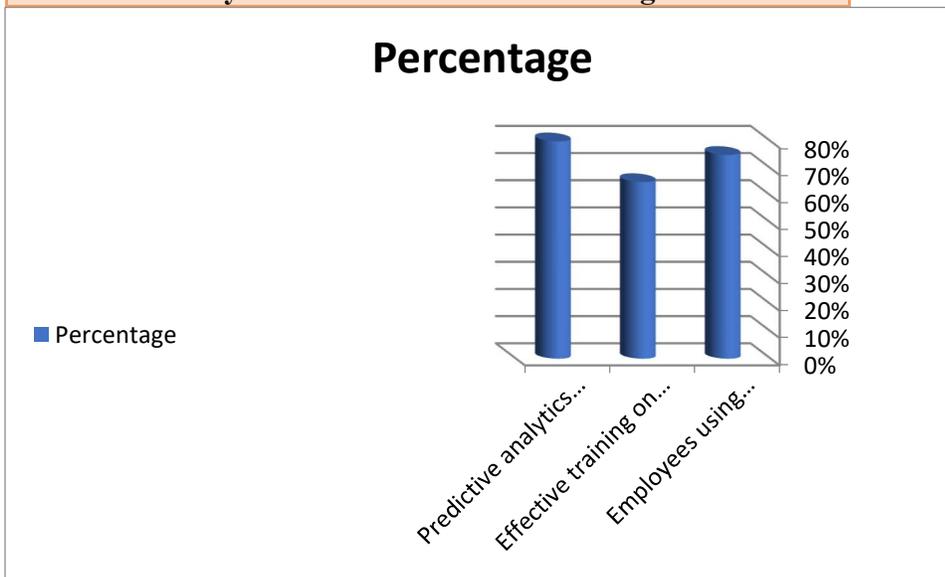
Data were collected through distributed questionnaires and analyzed using SPSS version 25. Based on the data analysis, the following findings highlight the impact of predictive analytics on HR efficiency at "Paltel":

**1. Use of Predictive Analytics in Human Resource Planning**

- **75% of employees** at "Paltel" acknowledged the use of certain predictive analytical tools in identifying HR needs (Strongly Agree: 50%, Agree: 25%).
- **65% of participants** believe the company provides effective training on the use of predictive analytical tools.
- **80% of respondents** find predictive analytics useful in decision-making processes.

**Table 1: Utilization of Predictive Analytics in HR Planning**

Element	Percentage
Employees using predictive analytics	75%
Effective training on predictive tools	65%
Predictive analytics useful for decision-making	80%

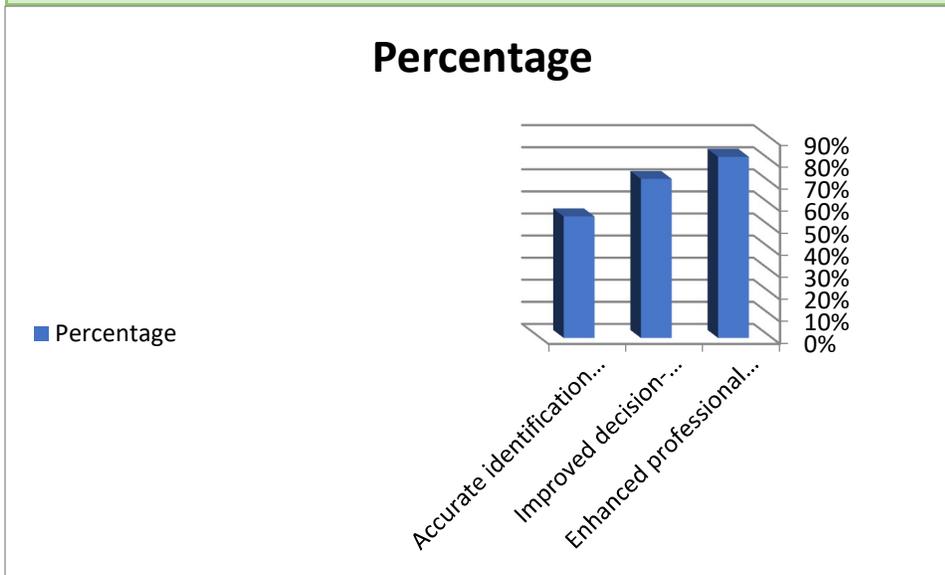


**2. Impact of Predictive Analytics on HR Efficiency**

- **82% of employees** believe that predictive analytics has significantly enhanced HR efficiency within the company.
- **55% of participants** reported that predictive analytics helped them identify future skill requirements and improve training plans.
- **72% of respondents** observed an increase in the speed of decision-making related to human resources after the implementation of predictive analytics.

**Table 2: Impact of Predictive Analytics on HR Efficiency**

Element	Percentage
Enhanced professional efficiency through predictive analytics	82%
Improved decision-making speed	72%
Accurate identification of future skills	55%

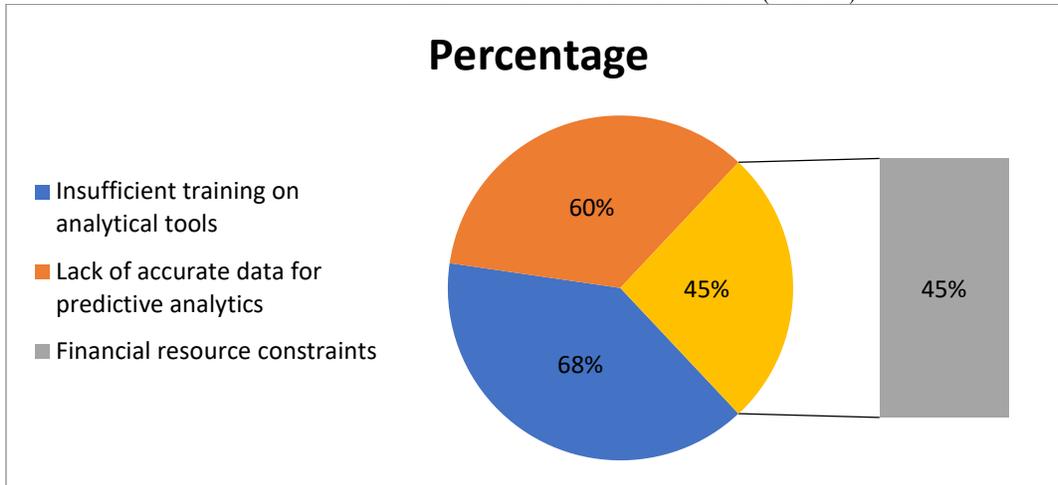


### 3. Challenges in Implementing Predictive Analytics

- **68% of employees** identified insufficient training on advanced analytical tools as the primary challenge in implementing predictive analytics.
- **60% of employees** pointed to the lack of accurate data as a major obstacle.
- **45% of employees** mentioned financial resource limitations as another significant barrier to adopting this technology.

**Table 3: Challenges in Implementing Predictive Analytics**

Element	Percentage
Insufficient training on analytical tools	68%
Lack of accurate data for predictive analytics	60%
Financial resource constraints	45%

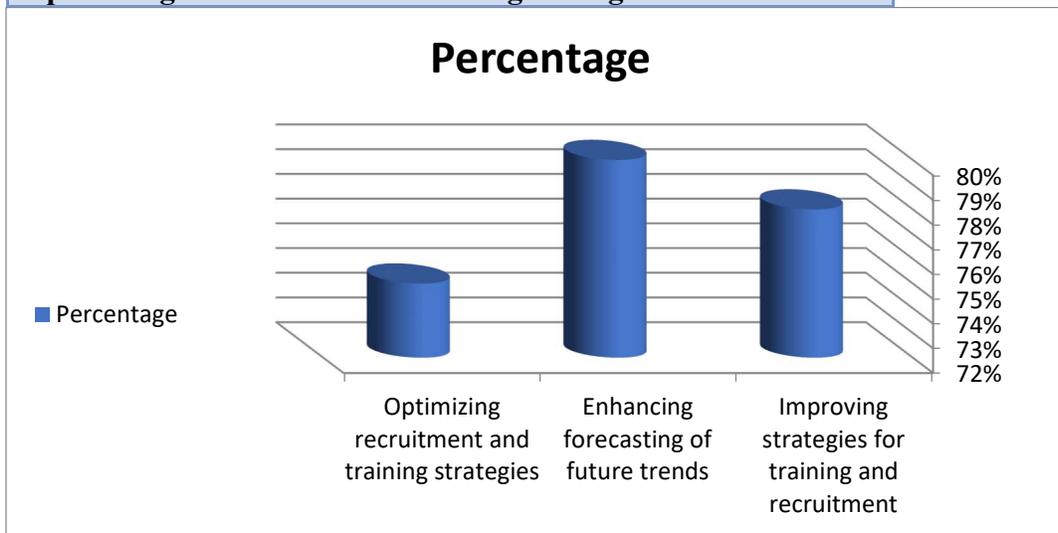


#### 4. Opportunities Provided by Predictive Analytics

- **80% of participants** believe predictive analytics offers significant opportunities to improve human resources planning and anticipate future needs.
- **78% of employees** think predictive analytics enhances the ability to forecast future trends, thereby improving training strategies.

**Table 4: Opportunities Provided by Predictive Analytics**

Element	Percentage
Improving strategies for training and recruitment	78%
Enhancing forecasting of future trends	80%
Optimizing recruitment and training strategies	75%



#### Analysis and Results

From the survey results, it is clear that predictive analytics has a positive impact on improving human resource efficiency at "Paltel" company. While most employees agree on the effectiveness of predictive analytics in enhancing performance, there are also some challenges that need to be addressed, such as the lack of training and accurate data. However, there are significant opportunities to expand the application of predictive analytics and enhance its impact on improving overall performance in government institutions.

## Recommendations

1. **Improve Training on Analytical Tools:** "Paltel" should intensify training programs aimed at developing employees' skills in using predictive analytics and big data tools.
2. **Enhance Data Collection Strategies:** The company should develop effective mechanisms for collecting accurate and comprehensive data that contribute to better predictive analytics application.
3. **Invest in Financial and Technological Resources:** It is crucial for the company to allocate more financial and technological resources to support the efficient application of predictive analytics.
4. **Expand the Scope of Predictive Analytics:** The company should explore and expand the use of predictive analytics to cover other areas, such as predicting future employee needs and planning growth strategies.

## Conclusion

Predictive analytics is a powerful tool that can significantly contribute to improving human resource efficiency in modern institutions like "Paltel." Based on the research results, it is evident that the application of predictive analytics has a noticeable positive impact on improving decision-making speed and predicting future human resource needs, which helps enhance overall performance and develop recruitment and training strategies.

Despite the significant benefits provided by these technological tools, there are challenges that Palestinian institutions face in efficiently applying predictive analytics, such as a lack of sufficient training on analytical tools and access to accurate data. However, the results show that there are ample opportunities to invest in these tools to improve human resource management, in line with global trends in developing administrative systems.

## Key Findings:

1. **Increased Human Resource Efficiency:** Predictive analytics has contributed to improving employee performance and accelerating decision-making related to human resources.
2. **Improved Recruitment and Training Strategies:** The findings confirm that predictive analytics helps identify future skill requirements and determine training needs.
3. **Challenges in Application:** Several challenges were identified, such as insufficient training and inaccurate data, which affect the effective application of predictive analytics.
4. **Opportunities for Improvement:** The data reveals significant opportunities in using predictive analytics to improve human resource strategies, including better forecasting of future trends and strategic planning.

## Further Recommendations

Based on the research results, we offer several recommendations that could enhance the use of predictive analytics in human resource planning at "Paltel" and other government or private institutions in Palestine:

1. **Enhance Predictive Analytics Training Programs:** "Paltel" should focus on developing its employees' skills in using advanced analytical tools. This can be achieved through periodic workshops, training courses, and by bringing in experts in predictive analysis to strengthen employees' ability to efficiently use these tools.
2. **Improve Data Collection and Storage:** Access to accurate and integrated data is a key factor for the success of predictive analytics. The company should invest in building modern data management systems that facilitate the collection and storage of required data from multiple sources.

3. **Allocate Financial and Technological Resources:** To expand the application of predictive analytics, "Paltel" should allocate more financial and technological resources to support the use of these tools. This includes developing the available technology programs and enhancing the technological infrastructure.
4. **Expand the Use of Predictive Analytics in Other Areas:** While the company currently focuses on improving human resource management, consideration should be given to applying predictive analytics in other areas such as performance management, identifying market opportunities, and developing new strategies.
5. **Strengthen Collaboration with Technology Partners:** "Paltel" can expand the use of predictive analytics by collaborating with technology companies specializing in this field and broadening partnerships to adopt advanced analytics solutions that align with the latest global trends.

## References

1. Ali, R. (2020). The role of predictive analytics in improving human resource management in government institutions. *Journal of Administrative Sciences*, 23(4), 98-112.
2. Taybi, S. (2021). Digital transformation and its role in developing human resource strategies: An applied study on the private sector in Palestine. *Journal of Business and Technology*, 15(2), 45-56.
3. Zahran, M. (2019). The use of big data and predictive analytics in improving human resource performance. *Journal of Economic Researches*, 10(1), 35-48.
4. Jumaa, F. (2022). Predictive analytics and data utilization in the human resources industry. *Journal of Business Administration Studies*, 31(3), 123-138.
5. Najjar, M. (2020). The impact of predictive analytics on improving workforce planning strategies in Palestinian companies. *Journal of Administrative Excellence*, 29(4), 67-78.
6. Dweik, Y. (2018). Modern technologies in human resource management: Predictive analytics and artificial intelligence. *Journal of Modern Management*, 12(1), 90-102.
7. Saleh, A. (2019). Big data analysis in improving human resource efficiency in the Palestinian public sector. *Journal of Public Administration*, 14(2), 56-69.
8. Samhan, J. (2021). Predictive analytics and its role in strategic human resource planning in Palestinian companies. *Journal of Administrative Trends*, 19(5), 142-157.
9. Al-Essa, H. (2020). Artificial intelligence applications and predictive analytics in improving human resources. *Business Research Journal*, 27(3), 121-133.
10. Hassan, M. (2019). Predictive analytics in human resources: Reality and challenges in Palestinian companies. *Journal of Administrative Innovation*, 25(4), 88-99.
11. Abdullah, N. (2020). The role of predictive analytics in enhancing employee performance in Palestinian institutions. *Journal of Social Sciences*, 18(2), 102-114.
12. Fahd, M. (2021). Big data and predictive analytics in improving administrative decisions in Palestinian institutions. *Journal of Administrative Studies*, 32(1), 45-57.
13. Jaber, M. (2022). Predictive analytics in human resources: An applied study in the Palestinian telecommunications sector. *Journal of Technology and Management*, 20(3), 74-85.
14. Youssef, A. (2018). The role of predictive analytics in human resource development strategies in Palestinian companies. *Journal of Economic and Administrative Researches*, 11(2), 56-68.

15. Al-Qadi, F. (2020). The impact of predictive analytics on recruitment and training strategies in Palestinian institutions. *Journal of Administrative Sciences*, 16(1), 44-57.
16. Chaudhuri, S., & Dayal, U. (2018). *Data warehousing and business intelligence: Concepts and techniques*. Elsevier.
17. Cascio, W. F., & Boudreau, J. W. (2016). The search for global talent: The role of predictive analytics in workforce planning. *Human Resource Management Review*, 26(3), 265-274.
18. Davenport, T. H., & Harris, J. G. (2017). *Competing on analytics: The new science of winning*. Harvard Business Press.
19. Rao, M. S. (2019). *Predictive analytics in HR: An effective tool for workforce planning*. *Journal of Human Resource Management*, 17(2), 131-145.
20. Kiron, D., Prentice, P., & Ferguson, R. B. (2018). Predictive analytics: The future of workforce planning. *MIT Sloan Management Review*, 59(4), 23-30.

### Survey: The Use of Predictive Analytics in Future Human Resource Planning

#### Introduction:

Dear Participant,

This survey aims to study the role of predictive analytics in future human resource planning, based on an applied study of the Palestinian Telecommunications Company (Paltel). We kindly ask you to answer the questions honestly and transparently. All responses will be used for scientific research purposes only and will be treated with complete confidentiality.

#### Section One: General Information

1. **Gender:**  Male  
 Female
2. **Age:**  Under 25 years  
 25-34 years  
 35-44 years  
 45 years and above
3. **Educational Qualification:**  Diploma  
 Bachelor's degree  
 Master's degree  
 PhD
4. **Job Title:**  Regular employee  
 Department head  
 Manager
5. **Years of Experience:**  Less than 5 years  
 5-10 years  
 More than 10 years

#### Section Two: Predictive Analytics and Human Resources

Please indicate your level of agreement with the following statements: (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree)

1. Big data is used in your company to analyze the future performance of employees.  
 1  2  3  4  5
2. Predictive analytics plays an important role in determining future recruitment needs.  
 1  2  3  4  5
3. Predictive analytics helps in planning training and development programs based on skill gaps in employees.  
 1  2  3  4  5
4. Predictive analytics is considered a key tool in improving recruitment policies in your company.  
 1  2  3  4  5
5. Predictive analytics is used to forecast employee turnover rates.  
 1  2  3  4  5
6. Predictive analytics provides accurate forecasts about future human resource needs.  
 1  2  3  4  5

### Section Three: Challenges in Using Predictive Analytics

Please indicate your level of agreement with the following statements: (1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree)

7. Your company faces challenges in collecting the necessary data for predictive analytics.  
 1  2  3  4  5
8. The company suffers from a lack of specialized skills in using predictive analytics.  
 1  2  3  4  5
9. The company needs to develop its technical infrastructure to implement predictive analytics efficiently.  
 1  2  3  4  5
10. The high cost of predictive analytics technologies is a barrier to their implementation in your company.  
 1  2  3  4  5

### Section Four: Impact Assessment

Please answer the following questions:

11. **In your opinion, how much impact has predictive analytics had on the efficiency of human resource planning in your company?**  
 Very weak  
 Weak  
 Moderate  
 Good  
 Excellent
12. **What are the main benefits your company has gained from implementing predictive analytics? (Please clarify)**
13. **What recommendations would you suggest to improve the use of predictive analytics in human resource planning?**

**Thank you for your cooperation!**