

## HR ANALYTICS IN PREDICTIVE DECISION MAKING IN APPAREL INDUSTRY, KATUNAYAKE EXPORT PROCESSING ZONE

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### *Abstract*

*With the advent of new technologies and the way people engage with each other in businesses, huge amounts of data are generated, and the speed and variety of data is increasing without any limit in every day. HR analytics plays a vital role in predictive decision-making in organizations. This research study is conducted to analyze HR analytics in predictive decision making among managerial level employees of HR department in Apparel Industry, Katunayake Export Processing Zone. This research is conducted as a qualitative research and semi-structured questionnaires were used for the sample of 20 respondents and used purposive sampling method. The findings were derived through using the thematic analysis method using the manual coding. This study was mainly focused on HR analytical tools, need for the HR analytics, expertise in the HR analytics, predictive decisions and timely decisions and also how HR analytics supports predictive decision making. The findings revealed that HR analytics has emerged as the crucial factor in the apparel industry and managerial level employees were clearly revealed the importance of the HR analytics. The study demonstrated that they are getting more advantages in using HR analytics for their predictive decision making in the apparel industry.*

**Keywords:** *HR Analytics, HR Analytical Tools, Predictive Decision making, Apparel Industry*

### **Introduction**

HR analytics is an application of research designs and advanced statistical tools for evaluating HR statistics to find solutions or to make sustainable decisions regarding HR problems based on evidence. HR analytics is the utilization of employee related elements to reinforce the organization's outcomes. HR analytics is an incorporated procedure that improves the individual and organizational overall performance through supporting to enhance the pleasant of humans related decisions. The HR department is evolving and has transformed itself from a conventional assist feature to a greater strategic and statistics-driven one. HR analytics is an included system that enhances

individual and organizational performance with the useful resource of supporting to enhance the exceptional of humans related decisions. If organizations undertake the HR analytics, they'll expand a competitive advantage for them and as a result, it's going to allow them to create the strategies for the long-term advantage of the organizations.

HR analytics applies statistical models to get insights into employee data and this makes managers possible to predict employee behavioral patterns like attrition rates, training costs, and employee contribution. Mohammed (2019) explains, "a typical HR Analytics system collects employee information from HRIS (Human Resources Information System), organizational

performance records, mobile applications, and social media merges into a data warehouse, applies big data, statistical evaluation and data mining strategies to provide a knowledge of hidden data patterns, relations, possibilities, and forecasting. A data warehousing system deals with the data collection, analysis, and transformation and storing of data on various databases".

HR analytics help to analyze and collect workforce information in a company to recognize their capability and decide how they can be optimized to acquire higher outcomes and attain organizational goals. HR predictive analytics is being used by HR managers in organizations to expect human behavior and optimize performances and also convey a higher return on investment for businesses via decision make based totally on predictive analysis tools. Over the past years, human resource specialists spend lots of effort and time to generate the document and handling the organizational planning process, however now the emergence of the analytical tools facilitated the tasks and resolve complicated issues inside the case of decision making, and made organizational management is more capable and effective. Organizations are using different kind of HR analytical tools which is match with their requirements. SAP, IBM, Oracle, Microsoft are vendors in Business Intelligence. BI software programs have HR modules with BI and data analytics capabilities (Kapoor & Sherif, 2012).

There is a huge number of employees working in the apparel industry. Apparel companies have to use proper system which is match with their requirements for keeping all the records related with employees. They should have to get correct and accurate decisions based on their collected data. HR analytical tools have a vital role in the apparel organizations for their predictive decision-making process. HR analytics has become a potential study area in apparel industry because of significant amount of data generated in a short time period.

### *Problem Statement*

It has been discovered that most of the time HR managers cope with a lot of statistics via diverse business intelligence tools at their disposal however, what's occurring is they're more coping with statistics in isolation and generating information about beyond or what they get in hindsight. Kiran et al (2018) found that HR Analytics means providing a data-driven framework for solving business problems using existing information to drive new insights.

HR analytics supports to predictive decision-making for most organizations in Sri Lanka, especially for the apparel industry, because apparel companies are more data-driven-oriented organizations. HR analytics is helpful for apparel companies to get correct decisions regarding employees.

According to Opatha (2020) in Sri Lanka, only several types of research have been done on HR analytics. Thus, there is a contextual gap regarding the HR analytics literature in Sri Lanka and also there is an intellectual curiosity to know about HR analytics. People have a lack of knowledge regarding HR analytics for predictive decision-making. Human resource analytics has emerged as a new trend and challenge within the business context emphasizing the strategic value of the decision-making procedure of HRM.

HR analytics is supporting to the predictive decision making process in the apparel industry, Sri Lanka and also apparel industry is a major component in Sri Lankan economy. Even HR analytics generate benefits for the apparel industry why most of the organization haven't thorough knowledge regarding that. And also there is a major contextual gap regarding the HR analytics for predictive decision making in apparel industry in Sri Lanka. So researcher tried to address for that major problem though this research.

### *Research questions*

What are the tools applied in HR analytics?

- How the HR analytics contribute to predictive decision-making?
- Why is HR analytics needed in the apparel industry?

### *Research objectives*

- To identify the tools applied in HR analytics.
- To find out the contribution of HR analytics to predictive decision-making.
- To identify the need for HR analytics in the apparel industry.

## **Literature Review**

### *HR Analytics (HRA)*

HR analytics is an effective tool that has the opportunity of adding effective value to the capabilities of the HR department and enhancing the effectiveness and efficiency of each related component of it via logical and numerical factors. The use of statistics in HR is referred to as "workforce analytics," "human capital analytics" or "HR analytics". With the assistance of HR analytics, HR specialists make decisions that enable to attract, retain and enhance the employee performance and an organization can preserve its' achievement in the long run only if it maintains itself updated with the modern trends going on in the field of HR analytics (Reena et al., 2019).

Boudreau and Ramstad (2004) in Levenson (2005) define HR Analytics as about data and research design, but it is going beyond them, to consist of identifying and articulating meaningful questions, collecting and using suitable data from within and outside the HR characteristic, setting the correct standards for rigor and relevance, and improving the analytical skills of HR throughout the organization. HR analytics is nowadays an increasingly established area with a proven impact on organizational outcome and a strong impact on operational and strategic decision-making, and pervasive integration with information and IT

infrastructures throughout organizational boundaries (Van den Heuvel & Bondarouk, 2017). Analytics can increase the power of information allowing HR specialists to combine their knowledge with this information to take appropriate actions while supporting them in making predictions about the future (Bhattacharyya, 2017). Furthermore, analytics ensures that insights from HR statistics provide valid and reliable foundations for intelligent human capital decisions emphasizing that analytics is an important addition to deep and rigorous logic for an effective measurement system (Reddy and Lakshmi keerthi, 2017).

HR Analytics aids an organization to perceive, measure and analyze how effective are the HR practices and policies in terms of organizational overall performance and how they are able to impact the business strategy. It is a completely sturdy tool in the hands of HR management in order to add value to the organization (Levenson, 2005). Rasmussen and Ulrich (2015) examined that character of the claim that HR analytics is said to bring additional value to managerial and HR decision-making by way of providing statistical backed and verified statistics.

### *HR analytical tools*

Organizations are using different kind of HR analytical tools which is match with their requirements. SAP, IBM, Oracle, Microsoft are vendors in Business Intelligence. BI software programs have HR modules with BI and data analytics capabilities (Kapoor & Sherif, 2012). Minitab is a special analytics software developed at the Pennsylvania State University in 1972, easy to use, enables users to do most analysis procedures without having to understand the syntax, it offers a reliable calculations and produce a valuable drawings and graphs, allows the user to focus more on the interpretation of results, uses to helps businesses increase efficiency and improve business quality through smart data analysis (Feinberg M, Siekpe J., 2003). SAS (Statistical Analysis System) is an advanced analytics software, developed by SAS Institute for advanced analytics, its

development started in 1976, it is an efficient solution mine, alter, manage and retrieve data from several sources, it includes a graphical user interface facilitating the manipulation (Mike G, Rowan C., 2013).

#### *Predictive decision making*

Predictive decisions are implemented to make forecasts about unknown events using statistical data analysis, modeling, system learning, data mining, and AI (Artificial Intelligence) to analyze past and present data to predict future statistics. Predictive analysis in HR is a rapidly developing and demanded area. HR predictive analytics is being used by HR managers in companies to predict human behavior and optimize performances and bring a better return on investment for organizations via decision-making based on predictive analysis tools (Mohammed, 2019).

Researchers such as Bersin et al., (2012) define the significance of using predictive analytics to assist organizations to predict and recognize the performance of a person (or indeed a group of people) based on available historical statistics. Once enough people-associated information has been gathered over time, it is then possible to analyze patterns and trends based on this historic information. In 2014 Huselid argued that those analytics present an excellent opportunity to assist companies to understand what they don't yet know by identifying trends and patterns, HR specialists and management teams can make better strategic decisions about the employees' challenges that they will soon face. According to Fitz-enz & Mattox II, (2014), predictive analytics is about data-derived insights and decisions and consists of statistical strategies, data mining, and advanced algorithms in a position to investigate procedure or workflow information and make predictions and scenarios. Predictive analytics have then caused a generation of prescriptive analytics, based on the availability of massive and varied HR data, where HR gets decision options to optimize overall performance and

reshape entirely the HRM decision-making procedure.

#### *HR Analytics in Predictive Decision Making*

According to Levenson (2018), information associated with each factor of employees in the company needs to be properly assessed, evaluated, and analyzed to make appropriate decisions regarding employees' issues. According to Mosavi (2015), The purpose of decision-support systems is to empower companies going through complicated and large-scale issues. Decision-support systems function based on decision analysis which means comparing the alternatives' characteristics on some of the criteria or attributes to rank, sort, or select among the alternatives. The complexity of real-lifestyle decision-making issues originates from the presence of more than one decision criteria. Generally, there does not exist a uniquely ideal solution for real-life issues. Therefore, it is important to use alternatives to differentiate between solutions. Structuring complicated problems in the context of multiple decision criteria explicitly ends in more informed and better decisions. But there is not a unique ideal strategy for a multiple standards decision problem that can be obtained without incorporating decision records.

Managerial responsibilities and decision-making on crucial problems form a vital part of the work, which falls below the scope of the HRM of a company. Decision-making has been identified as one of the most crucial organizational procedures such as employee behavior, work performance, stages of motivation and the amount of stress levied on employees (Griffin and Moorland, 2011). According to Mohammed (2019), HR for predictive decision making explains that HR information relating to employee performance, attrition, recruitment, training, etc. are analyzed by using HR analytics tools or statistical tools. As a result, based on the analyzed information predictive decisions can be made regarding employee performance, attrition, recruitment, training, etc. This model was designed considering the

relevance of effective decision-making for organizational achievement and the development of success.

### *Significance of the HR Analytics in Apparel Industry*

Sri Lanka's apparel and textile manufacturing industry is the most giant and dynamic contributor to Sri Lanka's economy. It is privately owned and operated. Sri Lankan apparel and textile manufacturers have effectively utilized the opportunities in the global market to evolve beyond traditional exports. In Sri Lanka, the apparel industry is known to be among the biggest contributors to economic growth with a contribution of over \$5 billion to gross domestic production which also accompanies a labor force of over 500,000 (Bolonne & Wijewardene, 2020).

HR Analytics has become a potential research area in the apparel industry due to the large amount of data generated in a short period of time. But, the incapability to evolve to the challenging and digital environment has pulled out the weaker from the industry even as developing the adopters more and more powerful players.

HR Analytics is an emerging area that allows HR to fulfill the promise of becoming a true strategic partner (Levenson, 2005). Analytics can enhance the strength of data enabling HR experts to integrate their knowledge with that information to take appropriate actions while assisting them in making predictions about the future (Bhattacharyya, 2017).

Analytics ensures that insights from HR data provide valid and reliable foundations for intelligent human capital decisions emphasizing that analytics is an important addition to deep and rigorous logic for an effective measurement system (Reddy and Lakshmikeerthi, 2017). HR analytics gives a statistics-driven framework for solving

workforce issues through analyzing data with a combination of software and methodologies that applies statistical models and derives new insights for smarter decision making that allow organization leaders to optimize human resource management while improving the strategic value of HRM.

### **Methods**

Qualitative research technique was selected by the researcher under the nature of the study.

#### *Population and sample*

The researcher used purposive sampling method to select the sample size of 20 managerial level employees in the HR departments of, Smart Shirts (Lanka) Ltd, Crystal Martin Garments, MAS Active Nirmana, Brandix Essential, and Hirdramani Garments in the Katunayake Export Processing Zone, among the population of managerial level employees in HR departments of those companies.

#### *Data collection method and tools*

In-depth interviews were conducted to collect data from the respondents from 15-20 minutes to this research. In-depth interviewing is a qualitative research method that includes conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program, or situation. The questions were formulated to conduct the interviews to gather the relevant information to fulfill the objectives of the research. The researcher conducted the interviews using both Sinhala and English languages.

### **Data Analysis**

The researcher selected the thematic analysis method for the data analysis in this research. Approaches of manual coding and constructing into five themes.

Table 1: Main themes, components of the themes and codes

<b>Main themes</b>	<b>Components of the themes</b>	<b>Codes</b>
<b>Theme 1:</b> HR analytics	Type of tools	Technology
	Implementation of the tool	Internally developing or outsourcing
<b>Theme 2:</b> Need for HR analytics	A large proportion of data	Data availability
	Importance for HRM	Advantages
<b>Theme 3:</b> The expertise of HR analytics	Expertise	Years of experience
	Training	Knowledge and skills development
	Preference	Familiarity
	User friendly	Usage
<b>Theme 4:</b> Predictive decisions Vs Timely decisions	Predictive decisions or timely decisions	Differentiation
	Selection of decisions	Situations
<b>Theme 5:</b> HR analytics in predictive decision making	Type of decisions	Predictions
	Focusing on data	Dependency
	Supportive tool	Success

## Discussion and Findings

Table 2: Details of the respondents

<b>Name of the Company</b>	<b>Position</b>
<b>Smart Shirts (Lanka) Ltd</b>	Senior Executive (SE1)
	Junior Executive (JE1)
	Staff Officer (SO1)
	Staff Officer (SO2)
<b>Crystal Martin Garments</b>	Assistant Manager (AM1)
	Senior Executive (SE2)
	Staff Officer (SO3)
	HR Assistant (HRA1)
<b>MAS Active Nirmana</b>	Senior Executive (SE3)
	Staff Officer (SO4)
	Staff Officer (SO5)
	Staff Officer (SO6)
<b>Brandix Essential</b>	Staff Officer (SO7)
	Staff Officer (SO8)
	Staff Officer (SO9)
	Staff Officer (SO10)
<b>Hirdramani Garments</b>	Senior Executive (SE4)
	Junior Executive (JE2)
	Staff Officer (SO11)
	HR Assistant (HRA2)

### *Theme 1: HR analytics*

The first theme aimed to identify which kind of HR analytical tool is used in the apparel industry in the Katunayake Export Processing Zone.

"We are mainly using HR empower system as HR analytical tool in our company. We are generating all the reports through this system. This system is a customized system based on our requirements and it is only specified for us." – **SO3**

"I'm happy to say that we are using the system which is internally developed with the support of our IT department and it is called HRMS (Human Resource Management System) Other than HRMS, we are using Microsoft Excel for gathering and manipulating the data which is helpful for our decisions" – **SE1**

"The Oracle is our main HR analytical tool, and everything is interconnected through this system. Microsoft Excel is also used but we are giving priority to our system of Oracle" – **SE3**

"We are using the HR enterprise system for managing HR-related functions in our company. This system is most supportive of generating relevant reports. Other than that system we are using Microsoft Excel to collect, analyze, and interpret the data using formulas, pivot tables, and graph tools." – **SO8**

"We are using HRIS (Human Resource Information System) and also Microsoft Excel-based master sheets for collect, manipulate, store and represent the data in our organization. All the reports were generated through the HRIS and we are using Excels as the inputs of the HRIS also" – **HRA2**

Based on the statements of the respondents most organizations are using HRIS systems and also Microsoft Excel as HR analytical tools in their organizations. Some organizations are using internally developed own systems and other organizations are

using outsourced or purchased systems by the software companies.

### *Theme 2: Need for HR analytics*

The second theme pointed out, that interviewees recognized and emphasized the need and importance of HR analytics for the apparel industry to manage its human resource management functions. As the managerial level employees in the HR departments of the apparel companies, respondents were demonstrating their opinions regarding that.

"As a large-scale organization, we have to collect, manipulate, analyze and interpret the employee-related data. But it is very difficult to manage more than 2000 employees' related data manually. If we are managing large-scale data in a manual process, there is a high risk to occur errors and also mistakes. It can directly affect our performance. Because we are always depending on our data and figures. We are getting predictive decisions related to the HR functions based on our data. We are using HR analytical tools to get support to predict the correct, accurate, and timely decisions. So, HR analytics are playing a vital role in the decision-making process of our company" – **JE1**

"We are conducting KPI (Key Performance Indicators) meetings in the monthly wise to observe our progress based on our previous decisions. We are getting the data through HRIS and Excel, which are the data related to the key performance indicators of our company. Turnover is a crucial problem for us as an apparel company. So, we can categorize the turnover as the percentage based on age and service period and also find out the reasons for that with the support of HR analytics. Because of that, we are able to get corrective and also preventive decisions for manage the employee turnover in our company" – **SO7**

"As the Department of HRM, we have a vital role in the company. Because we have to manage all the employee-related functions

and also provide effective service for the employees. We have the obligation to contribute to the organization's success. So, without the support from HR analytics, we are unable to achieve those things. Because HR analytics is the reason behind our predictive decisions” – **HRA1**

"According to my knowledge, HR analytics is the guider of our decisions. Because we are unable to get correct decisions without any accurate data or figures. We measure the progress of previous decisions, whether those decisions are effective or not based on the present data. So, we are giving priority to HR analytics in our company. As a well-reputed apparel company, we have huge competition in our industry. We have to retain our employees for a long period, therefore we have to get correct decisions regarding salary rates, other allowances, and welfare facilities than other apparel companies" – **SO6**

“We have to do the forecasting, mainly about the number of recruitments and turnover within the next month or more than that. Recruitment and turnover are changing from time to time. Because most probably after the examinations (OL and AL) and also seasonal months we are able to recruit more employees than the other times. Turnover also depends on some reasons. Most probably female workers are resigning due to marriage or pregnancy. But as a new trend, most employees are resigning to move abroad due to the present crisis in the country. We are able to find out the reasons for the turnover and also patterns of recruitment with the support of HR analytics. Then we can get some strategies and also decisions to manage the recruitment and also turnover in the company” – **SO11**

Respondents explained their perceptions regarding the importance of HR analytics to their companies. They were revealed that HR analytics are providing a huge contribution to managing the employee-related functions of their companies. As apparel companies, they have to work with a large number of

employees, and they are gaining more benefits through HR analytics.

### *Theme 3: Expertise in HR analytics*

In this third theme, respondents explained their perceptions regarding their expertise in HR analytics based on their convenience, experience, and knowledge.

"We had a training program about the system when it was introduced to the company at very first. That program was most helpful for developing our knowledge and skills regarding the system. Now we are very familiar with the system and using it the very easy way. I had more than 8 years of experience with the system and I prefer to use the system for my work." – **AM1**

“Prior knowledge and experience regarding the HRIS have been an added advantage to me when I joined this organization. So, I was able to adapt to the present system and continue my work easily with the support of my previous experiences and knowledge. This system is very user friendly, so it is very easy to work with this system” – **SO5**

"I had experience with both manual and HRIS systems. Based on my view actually, HRIS is most supportive of work. Our organization has more than 1800 employees. It is very difficult to handle employee-related work manually. So, we can manage employee-related work and get correct decisions without any mistakes and errors with the support of HRIS" – **JE2**

“I had an on-the-job training about the HR analytical tools which were used in our company. My job duties are related to the system and I had a valuable opportunity to participate in a workshop which was conducted by the software development company. It was a great opportunity to enhance my knowledge regarding the HR analytical tools" – **SO9**

“I hadn't any previous experience with the HRIS. But after joining this company I had an opportunity to work with the system. So, I



learned about the HRIS and get the support and assistance from my senior staff members to adapt to the system” – **SO2**

Every respondent positively comments about their expertise in HR analytical tools. Some of the respondents hadn't any previous experience or knowledge regarding HRIS, but gradually they have been developing their expertise with the HRIS and other HR analytical tools while working with those tools.

#### *Theme 4: Predictive decisions Vs Timely decisions*

Respondents explained how they are identifying differentiation between predictive decisions and timely decisions, the assistance of the HR analytics for both decisions, and also additional benefits of the predictive decisions according to their knowledge and experience in this fourth theme.

"As an apparel company, we have to focus on both timely and predictive decisions. Because according to the situations we have to change our decisions making patterns. That both decisions are important to us. We are predicting about HR aspects for minimizing future risks." – **SE1**

"We have to be reactive and also proactive according to the situations. We are planning and getting the decisions regarding HR aspects based on our previous data. But sometimes we have to face some unexpected challenges like, most of the young workers are trying to move abroad because of the present crisis. Actually, we didn't expect this before. Now it's like a trend among the employees. But we were predicting and recruited new employees before the crisis. Therefore, we are able to manage the high turnover rate. So, we have to get timely decisions and also predictive decisions to avoid the challenges that can be occurring in the future." – **SO4**

"I don't know about actual definitions about the predictive decisions and timely decisions. But based on my working experiences I

know both decisions are very important to our success. If we focus on predictive decisions, we are able to predict the future HR aspects. And also, we have to get timely decisions based on the present situation. Then we have to focus on present situations as well as future also." – **AM1**

"Decisions are the most crucial factor of our success. It can be predictive or timely decisions, but we focus on both decisions. We are using HR analytics to get accurate and correct decisions. According to my view, predictive decisions are mostly supported to overcome some unexpected challenges." – **HRA2**

"HR analytics assist both timely and predictive decisions, because if we have relevant data and information only, we can take correct decisions. It can be timely or predictive, but data is a must. As an apparel company, we need both timely and predictive decisions. Because we are focusing on ongoing business process and also future processes." – **SO9**

#### *Theme 5: HR analytics in predictive decision making*

Respondent's perception of HR analytics in predictive decision-making is determined by their convenience, perception, experience, and knowledge. According to their knowledge, they have different opinions about whether HR analytics are supporting the predictive decision-making process or not in their organizations.

"Yes of course. Our decisions are mainly based on our collected data and other information. We are giving priority to our HR analytical tools when we are getting predictive decisions as well as forecasting. Our systems are supporting to take correct decisions at the correct time" – **SO1**

"Exactly. Because we are getting all of the data for our future decisions through our system. As an apparel company, we need exact data and information for future forecasting and also predictive decisions. We can store the previous year's data (more than

10 years also) in our system. We are getting great support from our system to decision making process" – **SO4**

"Definitely. Because as the well-known and biggest apparel company, we are working with figures. We are getting all the decisions after analyzing the data which was collected. It is most helpful for us. For example, at the beginning of Covid-19, we had a big challenge in managing employees and providing welfare facilities to them. Because most of the employees were affected by Covid-19. But because of the usage of the system, we were able to get correct decisions at the correct time and effectively manage that situation" – **SE4**

"We can take correct decisions because of the using the systems. As an apparel company, we have more than 2000 employees in our plants. So, it is very difficult to handle and manage the employee-related data manually. We are using an HR analytical tool to overcome that issue. So now we are able to take correct, accurate and also timely decisions without any kind of mistakes or errors." – **SE2**

"We are giving priority to our systems. We upgrade our system based on the technological changes and advancements, so then we can take accurate decisions without any failures. As a reputed apparel company our success is depending on our correct and timely decisions. The business world is from time to time change, but we established our stability in the apparel industry because of the correct decisions. So, we can achieve that because of the support of our system" – **SO10**

Every respondent had a positive perception regarding their HR analytical tool in the predictive decision-making process of their companies. They believed that their success is depending on the correct and predictive decisions with the support of the HR analytical tools.

This research examined the HR analytics in predictive decision-making in the apparel industry in the Katunayake Export Processing Zone. Findings illustrated that organizations are adapting to HR analytics in an effective way for getting the predictive decisions related to HR functions and practices of their organizations.

There are several types of HR analytical tools are using in companies. SAP, IBM, Oracle, and Microsoft are vendors in Business Intelligence. Business intelligence software has HR modules with BI and data analytics capabilities (Kapoor & Sherif 2012). According to the respondent's answers, the researcher found that most of the apparel companies adapted to use mainly two HR analytical tools as Human Resource Information Systems (HRIS) and Microsoft Excel, other than considering other analytical tools.

There is a differentiation between predictive decisions and timely decisions. The researcher attempted to reveal how the respondents identified the differentiation between both decisions and how they were getting an advantage from those decisions. Timely decisions are important because it allows the decision maker to focus on present situations and coordinated with essential key points considered while making the decision (Eckerson, 2007). HR predictive decision is being used by HR managers in organizations to predict human behavior and optimize performances and produce a better return on investment for organizations through decision-making based on predictive analysis tools (Mohammed, 2019). The researcher found that respondents are able to identify differentiation of the timely and predictive decisions and also, they have sound knowledge regarding the importance of each decision. According to the respondent's answers, the researcher found that both timely and predictive decisions are used for their success and HR analytics are assisting to take correct and accurate decisions in their organizations.

Table 3: Overview of the research objectives, questions and findings

<b>Research objectives</b>	<b>Research questions</b>	<b>Research findings</b>
To identify the tools applied in HR analytics	What are the tools applied in HR analytics?	Apparel companies are mainly adapted to using HRIS and Microsoft Excel and only several companies are using another tools as the HR analytical tools in their companies.
To find out the contribution of HR analytics to predictive decision-making	How the HR analytics contribute to predictive decision-making?	HR analytics is data-driven approach and it allows more advanced decision making. It is able to identify patterns and trends in large amounts of data, providing organizations with perception that predict the future and get predictive decisions based on collected HR related data.
To identify the need for HR analytics in the apparel industry	Why is HR analytics needed in the apparel industry?	There is a huge number of employees working in the apparel industry. Apparel companies are more data-driven-oriented organizations. HR analytics is helpful for apparel companies to get predictive decisions regarding employees. Predictive decisions can be made regarding employee performance, staffing, recruitment, training, etc. Their success is depend on the correct and accurate decisions based on HR related data.

Predictive decisions enable more advanced decision making. The more data the software has available; organizations can get the better predictive decisions. It can identify patterns and trends in large amounts of data, providing organizations with insight that may not have been available before. Apparel companies are using predictive decisions to enable faster, and fact-based decision-making. In fact, research show that data-driven organizations, especially apparel industry that use predictive decisions not only make better strategic decisions, but also enjoy greater operational efficiency, effective human resource management, higher customer satisfaction, along with higher levels of profit and revenue. Apparel companies are able to anticipate employee turnover, employees' attendance forecast, predict employee performance levels, anticipate employee training needs and manage the future risks, while using the

predictive decisions than using the timely decisions in the organizations.

In assistance of Analytics ensures that insights from HR information provide valid and reliable foundations for intelligent human capital decisions emphasizing that analytics is an important addition to deep and rigorous logic for an effective measurement system (Reddy and Lakshmikeerthi, 2017), this study exposed that HR analytics is being utilized by managerial level employees of HR department in apparel companies to predict human behavior and optimize performances and produce a higher return on investment for organizations through decision making based on predictive analysis tools. Only past data of the particular company or its identical culture have the ability to offer proper decisions for HRM. Therefore, HR analytics becomes vital for the apparel industry which desires for bringing unique predictive decision policies.

Previous studies on HRM practices have focused only on a few strong variables such as; T&D, performance management; compensation and rewards; and staff participation (Khan, 2010). But the researcher focused on the different HR functions than the main HR functions and the impact of HR analytics on the predictive decisions regarding HR functions in this research.

The first function was **human resource planning and staffing** in the organization and respondents demonstrated that when they recruited employees 80% of employees hadn't the potential skills that they expect from employees. And also, most of the employees hadn't previous experience in the apparel industry. But they have to be concerned about all the employees at the same level. As an apparel company, its crucial strength is employees. So, they agreed that when they were doing the planning and staffing, they don't expect 100% potential skills from the employees.

The second function was **recruitment** and they have to change their recruitment methods based on the time period. According to the respondent's answers, the researcher found that some recruitment methods were not that effective in some periods, so they have to change their recruitment methods which are suitable for the relevant time. Most of the respondents agreed that the best recruitment method is that employee referral and they used a recruitment method called "Bring & Win" in their organizations.

**Training and development** is the third function and respondents demonstrated that they had to decide on the training programs based on the needs of employees. Because employee performance directly impacts the overall performance of the organizations. Identifying the training needs allows the HR management to enhance the productivity of the employees. After scrutinizing the performance of the employees, identifying the training needs is the next important step (Momin & Mishra, 2015). The researcher

found that they consider training and development as a crucial part of their organizations and they are upgrading their training programs according to the changes in their needs.

The fourth function is **remuneration** and there is huge competition among all of the respondents. Everyone introduced themselves as they are the top company that is providing a high rate of remuneration in the apparel industry. But all the respondents agreed that they have to change their decisions related to the salary scales based on the country's situation and also remuneration rates in the apparel industry. The fifth function is **performance appraisal** and respondents demonstrated that they are appraising employees' performance in the initial training program, and they select the employees for the production flow when the employees reach the expected capacity levels only. Out of all human resource (HR) practices, the performance appraisal (PA) system is seen as the most important, and performance evaluations create challenges for ethical decision-making in organizations. But the researcher found that respondents were not that familiar with the performance appraisal procedures for the operator level employees on an ongoing basis.

**Turnover management** is the sixth function and the researcher found that 75% - 80% of employees are female workers in their companies, therefore most probably female workers are resigning from the company. Respondents demonstrated that they can identify common reasons for the turnover by using HR analytics and it is supported to forecast the future turnover rates and also get preventive actions to minimize the turnover rate. High Employee turnover is a common problem in the apparel industry, and there are key factors affecting employee turnover such as the frustration of the employee, limited career development opportunities, for own betterment, and peer behaviors (Farooqui & Ahmed, 2013). But the researcher found that the reasons for the turnover are time to time change and most

probably female workers are resigning due to marriage or pregnancy. And also, the researcher found that there is a new trend in turnover. Because of the present crisis in the country, most young employees are trying to move abroad. It is a challenge for them and now they are planning to take preventive decisions to overcome it.

The seventh function is **grievance handling** and some of the respondents agreed that mainly employees have personnel-related grievances and other respondents agreed that mainly employees have work-related grievances in the organization. But according to the interviewee's answers, the researcher found that presently employees are most probably presenting grievances related to welfare facilities mainly about the transport issues because of the crisis. **Health and safety management** is the eighth function and according to their data respondents were explained that operator-level employees have the possibility to open for accidents because they are working with machines. But those accidents are also minor, and accidents may be reported once a month. Respondents demonstrate that they are getting preventive actions to avoid accidents and hazards in the workplace. But the researcher found that most of the respondents were not focusing on keeping the records regarding the accidents and they haven't proper data regarding that.

## Conclusion

The main objective of this research is to ascertain HR analytics in predictive decision-making in the apparel industry, Katunayake Export Processing Zone. The researcher has explored what kind of HR analytical tools are used, what is the need of HR analytics, expertise of HR analytics and also usage of HR analytics for predictive decision making in the apparel industry, Katunayake Export Processing Zone. According to the findings of the study, the researcher demonstrated that apparel companies are mainly adapted to using HRIS and Microsoft Excel as the HR analytical tools of the companies. Analytics can improve the strength of data enabling

HR specialists to integrate their expertise with those data to take appropriate actions while assisting them in making predictions about the future (Bhattacharyya, 2017). As managerial-level employees in the HR department, respondents had understood the importance of HR analytics for their human resource management functions, especially in the apparel industry. As apparel companies, they have to manage a large number of employees and it is a difficult task, but they are able to manage employees in an efficient and effective way with the support of HR analytics.

Furthermore, findings illustrated that respondents have a positive perspective regarding the HR analytical tools, and they have expertise in the usage of HR analytical tools, and they are familiar with those tools. They are upgrading their knowledge and skills related to the HR analytical tools and they identified the importance of the HR analytical tools for fulfilling their work in an easy way based on their experience with the HR analytical tools. This research found the relevant importance of predictive decisions. It desires to show how predictive decision making better than the existing timely decision-making procedure in organizations. It has to make managerial level employees understand that it has the ability to predict the future trends by answering the questions such as what's going to be employee trends in the future, will the existing HR policies retain and preserve existing employees or if there will be some exodus, if yes, then due to what elements and what should be the possible function of action to be taken.

The study has been able to expose that there is a strong relationship between HR analytics and HRM (human resource planning, recruitment, training and development, remuneration, performance management, turnover management, grievance handling, and health and safety management) through its findings, this study has been able to establish that most managerial level employees in HR departments of the apparel industry, Katunayake Export Processing

zone understood the importance of HR analytics in their HRM practices because they probably experienced advantages from HR analytics in HRM practice. The greatest thing that the findings of this study have plainly explained is the usefulness of HR analytics in predictive decision-making to managerial level employees and organizations. HR analytics are not only important for the apparel industry but also other industries able to use HR analytics for the predictive decisions and acquire the advantages from that. HR analytics is used in insurance, banking, marketing, financial services, telecommunications, retail, travel, healthcare, pharmaceuticals, and other industries for their predictive decisions in the Sri Lankan context. Other industries also able to gain advantages from the HR analytics and predictive decisions as understand customer and employee behavior, improve customer and employee service and experience, optimize business actions, save valuable time and costs, secure compliance performance improvement, identification of potential risks, improving efficiency, etc. Therefore, every industry is able to adapt and using HR analytics in predictive decision making for their success.

### **Recommendations**

Based on the findings acquired from the analyses, the following recommendations had been reached to improve the usage of HR analytics in predictive decision-making in the apparel industry, Katunayake Export Processing Zone.

- Overall, there is a significant relationship between HR analytics and HRM practices, therefore HR practitioners need to incorporate the usage of HR analytics in their HRM practice functions to get better outcomes.
- That improved and effective HRM practice outcomes can be executed with

### **References**

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the improved use of HR analytics in predictive decision-making through managerial level employees. Therefore, practitioners have to lay more emphasis on utilizing this level of analytics in their HRM practice functions, as doing so would assist them to achieve their HR goals of efficiency and effectiveness and ultimately earn them a strategic position in the organization.

- That an HRM practitioner has to understand the different levels of HR metrics they require to make better expertise decisions.
- Management of the HR department should have to hold learning sessions for the entire managerial level employees in the department on HR analytics for making them the importance of HR analytics.
- Management should focus on building data-driven culture since it has been observed that management and culture play a significant role in the adaption of HR analytics.
- Management should have to consider the newly developed HR analytical tools which match their needs, rather than use similar and traditional HR analytical tools.

### **Suggestions for Future Research**

- Future researchers have to consider and focus on case studies of HR analytics in predictive decision making in order to identify the models and roadmaps from different organizations than the apparel industry which have been tested, tried, and successful.
- The research should also focus on a more quantitative approach to the research with the purpose of observing HR analytics in predictive decision-making in an organizational setting.

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