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**THE ROLE OF INFORMATION AND COMMUNICATION  
TECHNOLOGY IN EFFECTIVE HUMAN RESOURCE  
MANAGEMENT**

**A study of Shopnoferi**

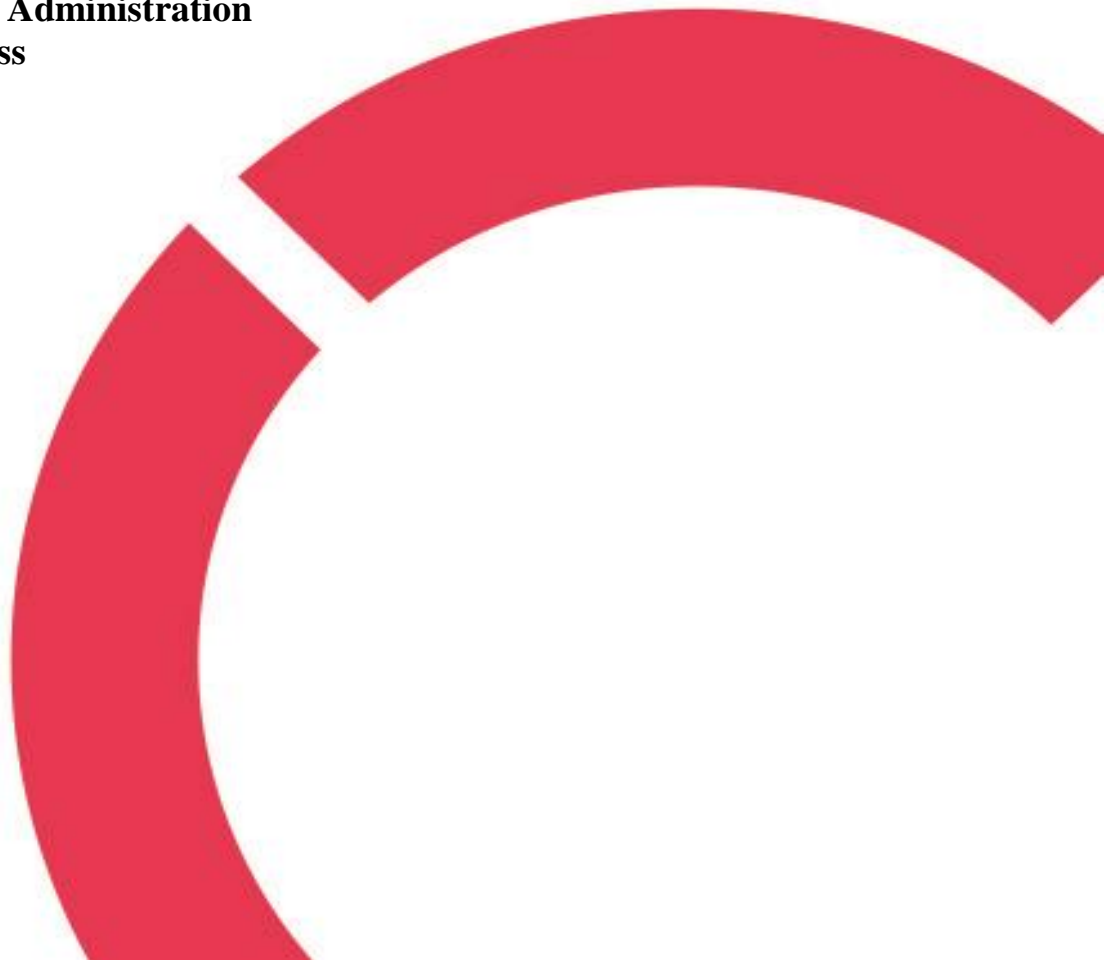
**Thesis**

**CENTRIA UNIVERSITY OF APPLIED SCIENCES**

**Bachelor of Business Administration**

**International Business**

**December 2023**



## ABSTRACT

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<b>Degree programme</b> Bachelor of Business Administration, International Business		
<b>Name of thesis</b> THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN EFFECTIVE HUMAN RESOURCE MANAGEMENT. A Study of Shopnoferi		
<b>Centria supervisor</b> Sara Åhman	<b>Pages</b> 41+2	
<b>Instructor representing commissioning institution or company</b> Ahsan Ahmed		
<p>In this thesis, I examined the transformative effect of Information and Communication Technology (ICT) on Human Resource Management (HRM) practices using the well-known retailer Shopnoferi as a case study in the dynamic business climate of Bangladesh. The goal of the study was to close a knowledge gap on how ICT might improve HRM effectiveness in businesses, with a particular emphasis on Shopnoferi's mission to empower home chefs. The study was commissioned by Mr. Ahsan Ahmed, the manager of Shopnoferi. Shopnoferi aims to promote culinary excellence and shared eating experiences by making high-quality cookware publicly available. The foundation of Shopnoferi is equitable access to high-end cookware, driven by a goal of offering superior items and customer support, with the ultimate goal of being the go-to online destination for cookware aficionados. A structured research questionnaire was used to gather numerical data from existing Shopnoferi employees and management representatives as part of a quantitative research procedure. The goal of the study was to determine how ICT affects HRM effectiveness in the setting of the organization and to provide guidance on how other comparable firms might use technology to improve worker performance and HRM practices. The Shopnoferi study findings are discussed in the thesis, with a focus on the benefits of digital transformation for HRM procedures. The advantages of ICT adoption are recognized, such as higher administrative quality, better customer service, and increased productivity. Nonetheless, the research reveals complicated perspectives, underlining issues with internet hiring, security concerns, and the need for continual ICT policy evaluation and change. Based on the research findings, it is recommended that more research on gender-related elements of HRM, enhanced training and communication strategies, and targeted solutions for specific difficulties in digital operations.</p>		

<b>Key words</b> Human Resource Information System (HRIS), Human Resource Management (HRM), Information and Communication Technology (ICT).
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**ABSTRACT**

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## 1 INTRODUCTION

Information and Communication Technology (ICT) has emerged as a revolutionary force in the present landscape of business sectors in Bangladesh, changing the parameters of Human Resource Management (HRM) practises. This paradigm shift highlights how important ICT is to the optimisation of HR-related activities inside businesses. The well-known retail firm Shopnoferi serves as a great study to highlight the significant impact of ICT on HRM practises and results.

Information technology (IT) is becoming a strategic facilitator in contemporary company operations, going beyond simple technological improvements. A new era in human resource management has been brought about by the swift advancement of technology. ICT tools provide several benefits, such as reduced costs, enhanced customer service, data management and analysis, effective administration, optimised recruiting, and streamlined supervision. These solutions boost customer happiness and employee performance while also aligning HR activities with organisational goals. In today's globalised world, information technology (IT) is critical to implementing HR strategies, meeting KPIs, and increasing an organization's quality and competitiveness. (Sutrisno 2023, 1317.) IT helps HR goals in a moderate but significant way, especially when a clear HR information system backs it.

The aim of this thesis is to investigate and analyse the profound impact and significance of Information and Communication Technology in augmenting the efficacy of HRM practices. This thesis will try to fill this research gap by identifying the role of information and communication technology in effective human resource management using the study of Shopnoferi. The objective of the thesis is to identify the impact of information and communication technology in increasing the effectiveness of human resource management from an organisational context using Shopnoferi as the study.

The commissioner of the research is Shopnoferi, an organization that aims to inspire and encourage home cooks of all skill levels. The primary purpose of Shopnoferi is to make high-quality cookware more widely available, therefore improving culinary experiences and encouraging a passion of cooking. Through the selection of premium kitchen supplies, the delivery of top-notch customer service, and the setting of benchmarks within the food business, the company aims to increase the delight of shared eating experiences. Shopnoferi aspires to become the preeminent online destination for cookware enthusiasts and develop long-lasting client ties by concentrating on product excellence and continual innovation. (Shopnoferi 2023.)

In order to conduct a thorough examination, this thesis will utilize the quantitative research method. This strategy was chosen with a specific goal in mind: to rely on numerical data gathered from a carefully selected pool of study participants. Present Shopnoferi employees and management representatives are the two primary groups of stakeholders whose information will be gathered within the context of this study using the quantitative technique. A structured research questionnaire will be the major data-gathering instrument for this study. The purpose of this questionnaire is to get valuable views and suggestions from research participants regarding the successful use of information and communication technology inside organisations. The quantitative study approach was chosen to get a comprehensive picture of the extent to which various ICT tools and technologies are adopted and used by Shopnoferi workers. By obtaining feedback from the chosen research participants, this strategy allows for the systematic collection of data pertinent to the actual usage of ICT inside the company, offering a nuanced view on its role in enhancing human resource management practises.

## 2 COMMISSIONER

The thesis project, titled "The Role of Information and Communication Technology in Effective Human Resource Management: A Study of Shopnoferi," was commissioned by Mr. Ahsan Ahmed who is the manager of Shopnoferi. Shopnoferi focuses on the retail of high-quality, inexpensive kitchenware. Shopnoferi's persistent commitment to providing outstanding cookware at affordable prices is inextricably linked to its devotion to culinary excellence. The headquarters are at Mirpur-12, Dhaka, Bangladesh. (Shopnoferi 2023.)

Shopnoferi's conceptual framework's central premise is a future in which everyone has equal access to high-quality cookware, which enhances group meals. This organisation is driven towards its objective by its vision, which acts as a light of guidance. The primary focus of Shopnoferi's mission is to provide a wide range of premium cookware that is known for its high quality, long lifespan, and practicality through careful curation and delivery. (Shopnoferi 2023.) The company is firm in its mission to provide seamless online shopping as well as excellent client service. Shopnoferi makes it easy for its consumers to locate the ideal kitchen utensils by doing so. Shopnoferi's major objective is to establish itself as the top online destination for cookware aficionados while also dictating industry standards. (Elhazzam 2015,36.) The company's unwavering dedication to building long-lasting connections with customers is demonstrated by the careful selection of products it offers, the knowledgeable advice it provides, and the way it consistently introduces new ideas into the cookware industry. (Shopnoferi 2023.)

Shopnoferi provides a wide range of products to meet the requirements of its customers, including electronics, clothing, cosmetics, toys, books, food, and health and beauty supplies. It's a comprehensive location with a large selection of goods, guaranteeing choice as well as convenience for customers looking for quality and variety in their purchases. (Elhazzam 2015,37.) Shopnoferi's dedication to innovation and flexibility in the ever-changing retail environment is shown by its quick growth. Ever since its establishment, the firm has been a pioneer in the rapidly changing retail landscape by promoting expansion as well as technical innovation (Shopnoferi 2023). A complete analysis is undertaken within the context of this thesis research to explore the influence of Information and Communication Technology (ICT) on Human Resource Management (HRM) practices within the dynamic organizational environment of Shopnoferi. According to the financial statement of Shopnoferi in 2022, the annual gross sale is 3 crores 60 lacs BDT and profit margin is around 40%. So, the gross

profit is 1 crore 44 lacs BDT. Shopnoferi is optimistic that the economic depression due to the Covid-19 pandemic would end soon and the gross sale of the company would increase. In that case, the company is planning to expand its business while its current employee number is 120. (Shopnoferi 2023.)

### **3 THE INTEGRATION OF ICT IN HUMAN RESOURCE MANAGEMENT**

The notion of Information and Communication Technology in Human Resource Management implies a paradigm change in how organisations approach workforce management. The art of humane management, as well as technology, is an ongoing challenge for executives, according to prominent management theorists of the twenty-first century. (Stone and Deadrick 2015, 140.) In the future, strategic advantage will be based on the capacity to recruit, develop, and retain outstanding personnel, making HR executives and managers key actors in this effort (Bhattacharyya, Shafique, Akhter, Rahman, Islam, Rahman and Anwar 2020). In this changing context, human resources are increasingly seen as a source of competitive advantage, necessitating highly trained human capital to acquire a competitive advantage (Stone and Deadrick 2015,141).

As technology advances, it not only improves the quality of employee information but also has a substantial impact on organisational effectiveness. Organisations have turned to specialised Human Resource Information System (HRIS) to automate and simplify HR activities in order to traverse the complicated environment of HR management and satisfy shifting expectations. (Stone and Deadrick, 2015, 143.) Technological improvements, particularly in information technology, have brought about substantial changes in the way businesses function. ICT offers opportunities to improve internal procedures, organisational structures, core competencies, and worldwide market presence. (Stone and Deadrick 2015, 144.) ICT encompasses mobile communication, the internet, new media, and personal computers. Computers have aided several HR operations, from payroll processing to record keeping, by simplifying data analysis. As IT becomes more integrated into HRM, demands for HR operations climb not just from managers and workers, but also from customers and suppliers (Stone and Deadrick 2015,144). ICT integration into HR practises presents a challenge as well as an opportunity as HRM evolves from a traditional maintenance function to a source of long-term competitive advantage. This shift in the information technology sphere requires strategic alignment between HRM and IT, with HR strategic plans being translated from IT strategic plans. (Stone and Deadrick 2015, 144.)

#### **3.1 Information and Communication Technology**

The term information and communication technology (ICT) is wide and includes the use of different devices and technologies for digital information processing, transmission, storage, and reception. It

consists of a wide range of hardware and software technologies that aid in data processing, transmission, and user communication. (Mamoudou and Joshi 2014, 34.) While information technology and information communication technologies are occasionally used synonymously, ICT usually refers to a wider range of digital and computer-related technologies (Elhazzam 2015, 37). ICT components are continually growing and changing; some, like phones and computers, have been around for decades, while more recent additions include cell phones, digital TVs, and robotics. The essential power of ICT rests in its application, which transforms how people work, communicate, learn, and live. It has transformed many parts of human life, with computers and robots taking over work formerly undertaken by people. For instance, robots are currently capable of handling phone conversations well, demonstrating the transformative potential of ICT. (Mamoudou and Joshi 2014, 34.)

ICT has had such a significant influence on economic development and commercial expansion that it is sometimes equated with the Fourth Industrial Revolution. ICT has also impacted societal processes by bringing in the Digital Age by relocating interpersonal interactions from the physical world to the digital one. Global ICT access is not uniform, though. (Elhazzam 2015, 37.) There are differences in access, with wealthy countries and people enjoying more access and opportunities made available by ICT. The World Bank and other government representatives have called for policies and projects to reduce the digital gap, making it a hot subject these days. Economically, ICT has increased market cost reductions and opportunities, making technology development and delivery more inexpensive. ICT has enabled businesses to automate, reduce costs, get data-driven insights, and conduct more convenient transactions, such as online shopping and telemedicine. (Mamoudou and Joshi 2014, 40.)

Rapid information access and transmission brought about by the development of ICT has opened up new avenues for efficiency, cooperation, and communication in a variety of spheres related to human existence. The era of technology has significantly altered many facets of life, including business and human resource management. (Elhazzam 2015.) However, ICT has brought with it negatives such as cybersecurity issues, job displacement due to automation, and concerns about a reduction in human touch. (Stone and Deadrick 2015, 143.).

### 3.2 Human Resource Management

The multidimensional area of human resource management includes both science and art in the administration of people inside organisations. HRM is frequently associated with effective managers in contemporary organisations, but the reality is more nuanced and encompasses more. (Stone, Deadrick, Lukaszewski and Johnson 2015, 222.) There are two main ways that HRM is defined. According to the first, human resource management is the systematic and complete management of people inside firms, including staffing, retention, performance management, pay management, and employee terminations. Many people regard this term as a modern interpretation of personnel management. (Stone et al. 2015, 220.) The second definition approaches HRM from a broad standpoint, emphasising the managerial-employee interaction. It places a strong emphasis on empowering people, developing their potential, and creating a rewarding work environment for both management and employees. This concept distinguishes between resource-cantered HRM, which focuses on planning, monitoring, and control, and workforce-cantered Personnel Management. (Stone et al. 2015, 223.)

Human resource management is essentially the management of people inside firms. It is essential to achieving management goals and ensuring employee satisfaction. Human resource managers are frequently referred to as People Managers or People Enablers, highlighting their role in connecting employee expectations with management objectives. (Stone et al. 2015, 223.) HRM is no longer limited to more conventional tasks like payroll and personnel in the modern business environment. Rather, its focus is in managing staff expectations and aligning them with organisational objectives. Organisations must continually develop and implement successful business practises and strategies to flourish in today's competitive and dynamic business climate. By connecting HR strategies with overall company goals, HRM plays a critical role in attaining organisational success. (Mathis, Jackson, Valentine and Meglich 2016.)

Keeping staff members engaged and productive is essential in the current business paradigm, where information and services are valued highly. Businesses across a range of industries understand the value of HRM and how it contributes to their success and competitiveness. (Mathis et al. 2016.) HRM and strategic management are inextricably linked. People policies assist management goals when HR strategies and organisational goals are aligned. HRM is today seen as equally crucial to an organization's success as marketing and manufacturing. It is no longer only an administrative position. The integration of HRM with the whole organisational strategy is crucial to guarantee optimal utilisation of people and a high return on investment. (Mathis et al. 2016.) With this integration, HRM

is guaranteed to be seen as an essential element of attaining organisational success rather than as a stand-alone concept. It emphasises the need of taking focused, contemporary methods to things like worker training in order to maximise the benefits for the organisation. (Mathis et al. 2016.)

### **3.3 Human Resource Information System**

A Human Resource Information System (HRIS) is a specialised management system that provides critical information to managers for making HR-related decisions. It works as a bridge between HRM and information technology that is often accomplished through a database or a network of interconnected databases. It is a storehouse for a wide variety of data. (Boateng 2007.)

HRIS is made up of three main functional parts. While the Maintenance function enables database additions and modifications, the Input function allows personnel information to be added into the system. In order to deliver relevant findings, HRIS conducts the necessary computations and prepares the data for interpretation. (Boateng 2007.) It is critical to emphasise that the basic capability of HRIS is its ability to efficiently manage information, prioritising information above automation or the hardware and software used. HRIS also has three dimensions: tactical, strategic, and operational. HR choices that are repeated and regular, including managing the staff and adhering to legal requirements, are supported by the operational component. Data for resource allocation choices, such as hiring, job analysis, training, development, and pay schemes, are provided by the tactical dimension. Finally, the strategic dimension gives information for long-term strategic decision-making in human resource planning. (Boateng 2007.)

Workers, functional managers, and HR professionals are the three categories of HRIS users. HRIS is utilised by HR professionals for several purposes, including as application tracking, payroll analysis, benefits administration, and basic reporting and compliance. Functional managers anticipate that HRIS will give data that is relevant to their goals, such as performance evaluation, team and project management, recruiting, retention, and training. Employees utilise HRIS tools as well, especially for self-service, benefit options, career planning, training, and development. (Chakraborty and Mansor 2013, 474.)

The benefits and drawbacks of deploying HRIS must be considered. Better accuracy, quicker information access, cost savings, effective HR operations, heightened competitiveness, enhanced

efficiency, a wider range of HR operations, a move towards strategic HRM, employee involvement in HRIS, and the capacity to re-engineer HR processes are just a few of the benefits. However, there are accompanying expenses, such as the requirement for employees to have computer and internet connection, potential slowdowns or mistakes, technology and time expenditures, and potential job-related concerns such as task changes, training demands, and people transitions. (Chakraborty and Mansor 2013, 475.)

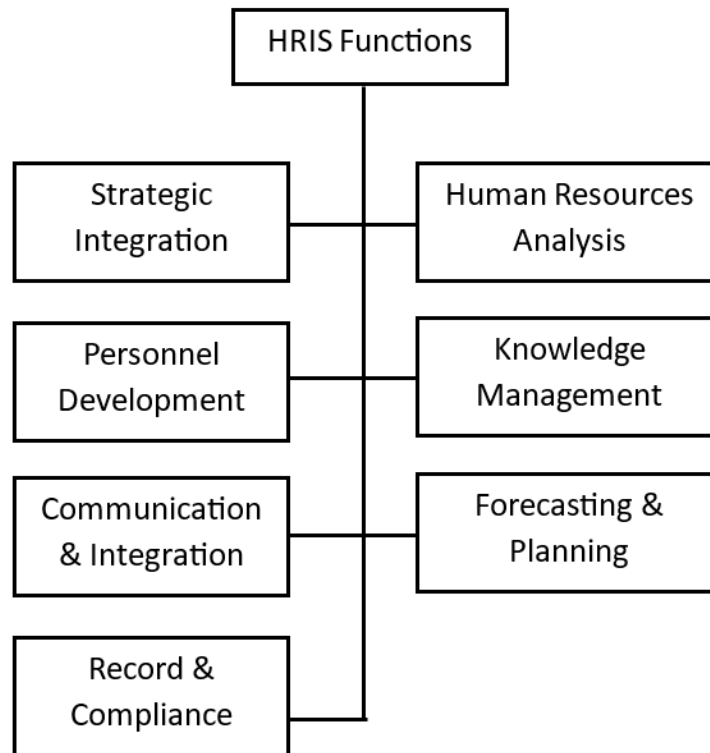


FIGURE 1. The Relationship between HRIS Functions and HRM (Adapted from Chakraborty and Mansor 2013, 476)

### 3.4 Digital Transformation in HRM

HRM is no exception to how digital transformation has transformed how businesses work in a variety of industries. This section explores the substantial effects of the digital shift on HRM practises, outlining its essential features and how it affects workforce management in an organisation. (Manuti & Davide 2018)

A key component of HRM's digital transformation is the incorporation of different technologies into HR procedures. This involves using cloud-based systems, data analytics tools, and HR software to

improve and simplify HR processes. The automation of administrative operations that are performed often is one of the important effects of HRM's digital transformation. This includes automating benefit administration, attendance monitoring, and payroll processing. HR personnel are freed from time-consuming activities by automation, which enables them to concentrate on HR's more important facets. (Manuti & Davide 2018). HR departments now can make data-driven choices because of the accessibility of data as well as analytics solutions. Organisations are able to spot patterns, foresee staffing requirements, and boost worker productivity by analysing personnel data. Collaboration technologies have made it simpler for HR to handle a distributed workforce thanks to digital transformation, which has also promoted remote work. Communication tools, project management software, and video conferencing have all become essential components of HR's arsenal. (Ahmad 2017.)

HRM aims to improve employee satisfaction in addition to managing people. HR is now able to personalise interactions, provide workers access to self-service portals, and provide flexible benefits and working conditions. The recruiting and onboarding procedures have been digitised, which has expedited talent acquisition. Technology has sped up the recruiting process via the use of online job listings, video interviews, and digital onboarding. HR divisions have made use of technological resources for staff training and advancement. Employee skill and competency development currently depends heavily on education management systems (LMS), online education programmes, and microlearning modules. (Chowdhry, Verma and Mathur 2020.)

The use of digital technologies in HRM entails more than simply a change in technology; it also signifies a culture shift inside organisations. To truly reap the rewards of digitization, HR must establish a culture of ongoing learning and adaptability in addition to embracing technology. (Chowdhry et al. 2020.)

### **3.5 HRM Strategies and ICT Alignment**

Achieving organisational objectives depend on the collaboration between ICT (information and communication technology) and human resource management (HRM) methods. This section explores the relationship between HRM tactics and ICT and how that relationship affects how successful HRM practices are.

ICT is important for strategic recruiting. The hiring process is streamlined by online job boards, tracking systems for applicants, and artificial intelligence-powered technologies, which aid HR teams in locating and luring the best candidates. Organisations may decrease hiring wait times and boost hire quality by integrating ICT with their recruiting methods. (Moomal & Masrom 2015, 345.) Successful HRM systems work to promote satisfaction and engagement among staff members. Internal social networks, feedback platforms, and employee engagement surveys are a few examples of ICT technologies that provide useful perceptions of employee attitudes. These tools may assist in identifying areas for development and making changes that improve the general client experience when they are coordinated with HR strategy (Kittivaraporn, Chokdeeanan, Yaophrukchai and Sunetnanta 2014). The ongoing improvement of personnel is a common emphasis of HRM methods. Personalised training modules, competence evaluations, and e-learning platforms are some of the ways that ICT supports these techniques. This coordination guarantees that training and development programmes are customised to suit certain organisational objectives and worker demands. ICT solutions have the potential to significantly improve performance management processes. HR is helped with real-time feedback, goal-setting tools, and performance analytics to match performance management with organisational goals. These technologies make it possible for performance reviews and feedback to be more data driven. (Moomal & Masrom 2015, 345)

HR is helped by ICT in workforce planning since it gives access to information and analysis that helps with improved forecasting of manpower requirements. By ensuring that HR policies are founded on correct workforce forecasts, this alignment lowers the possibility of overstaffing or understaffing (Chowdhry et al. 2020). Employees may autonomously handle a variety of HR-related activities, from updating individual information to obtaining benefits information, thanks to self-service websites and mobile applications. It encourages increased empowerment of staff and frees HR personnel to concentrate on strategic duties thanks to the alignment between human resources tactics as well as self-service ICT solutions. (Kittivaraporn et al. 2014, 184.) HRM approaches that place a strong emphasis on data-driven decision-making gain a lot from ICT. HR may assess the efficacy of plans and make appropriate modifications using the information provided by analytics and reporting technologies (Swann & Fenner 2016, 12).

HRM strategy and ICT integration is a continuous activity. As technology advances, HR departments must make sure that their strategy stays in line with the skills and opportunities that ICT presents (Chowdhry et al. 2020). Therefore, the HR department is better positioned to contribute to the overall success of an organisation. It is also more flexible and effective.

## **4 BENEFITS OF ICT TOOLS IN HRM**

An improved era of efficacy and efficiency has begun because of the integration of ICT technologies into HRM. A variety of advantages provided by these instruments improve HRM procedures and support organisational performance. (Ceric 2017, 202.) We examine the major benefits of ICT technologies in HRM in this section.

In addition to this, the use of ICT-based HRM solutions improves the flexibility and scalability of HR-related operations. When HR departments are confronted with organisational expansion or changes, digital solutions make it possible for them to alter their procedures swiftly and effortlessly, which ensures that HR assistance is in line with changing demands. ICT solutions give the flexibility necessary to sustain HR's performance in an ever-evolving setting. Whether it's extending the process of onboarding employees to accommodate a bigger workforce or installing new performance tracking and evaluation systems to meet changing organisational objectives, ICT tools provide what's needed to keep HR's effectiveness at a high level. This flexibility stretches to catering to the requirements and preferences of workers, enabling HR to customise services to individuals, promoting a more personalised employee experience, and strengthening engagement and retention in the process. (Chowdhry et al. 2020.)

### **4.1 Cost Reduction**

Cost reduction in HRM is significantly impacted by ICT technologies. Organisations may drastically save administrative expenses via the automation and digitalization of HR procedures. As an example, payroll and benefits administration automation lessens the need for human data input and eliminates the possibility of mistakes. By storing personnel information digitally, physical paperwork is no longer necessary, which lowers storage and retrieval expenses. (Ceric 2017, 203.) Using online interaction and teamwork technologies may also cut down on travel costs and enable remote employment, saving both money and time.

In addition, the reduction of costs is not restricted to the performance of administrative duties. ICT technologies make it possible for human resources departments to execute training and development programmes at a lower cost. These programmes may be provided online, which eliminates the need for

expensive in-person training sessions. Additionally, the simplification of communication made possible by digital technologies results in improved decision-making and more effective project management, which contributes to an additional reduction in operating expenses. (Ruël 2020, 48.) This increased financial efficiency enables organisations to reallocate resources to more important areas of HRM, such as the development of talent and programmes to increase employee engagement. This eventually results in an increase in the value that HR offers to the organisation.

#### **4.2 Enhanced Customer Service**

HRM involves not just managing workers but also giving them excellent service. Utilising ICT solutions, HR departments may improve client service for both current workers and job candidates. Self-service portals, for instance, make it simple for workers to find data and request HR services, leading to speedier response times and more satisfaction. (Ceric 2017, 205.) Likewise, hiring managers may attract top talent by using recruiting platforms, which provide an additional user-friendly and effective experience for job seekers.

The use of information and communications technology (ICT) tools enables human resources to collect real-time input and conclusions from a variety of interactions, which in turn enables continual improvements to the quality of services provided to workers and candidates. Feedback systems, such as online polls and feedback forms, allow HR to improve their offerings while guaranteeing the needs and tastes of their staff are satisfied consistently. (West 2019, 19.) In other words, feedback mechanisms empower HR. The HR department is positioned as a proactive, customer-oriented institution within the organisation because of this dedication to feedback-driven changes, which further enhances the overall user experience for everyone involved. Not only does this commitment promote employee and applicant happiness, but it also improves the entire experience for all parties.

#### **4.3 Data Management and Analysis**

Making educated decisions in HRM requires efficient data management and analysis. The capacity to gather, store, and analyse enormous volumes of HR data is provided by ICT technologies. This makes it possible for HR managers to see trends, patterns, and outliers in areas including employee engagement, turnover, and performance. When HR has access to data-driven insights, it can make

smarter choices like optimising scheduling employees, identifying training requirements, and creating pay and benefits packages that are in line with employee preferences. (Chowdhry et al. 2020.)

In addition, handling and analysing data may be extended to include predictive analytics thanks to the tools provided by ICT. This enables human resources to anticipate future trends and possible issues. It is possible for Human Resources to make proactive choices that anticipate the demands of the workforce and react to shifting market dynamics by utilising the strength of machine learning and big data. This may help develop a competitive advantage in talent recruitment and retention. The Human Resources department may get useful insights from predictive analytics on topics such as employee turnover, which paves the way for the creation of retention plans and tailored interventions to retain top talent working for the organisation. In addition, HR's manpower planning efforts may be informed by the ability to foresee fluctuations in market demand; this helps to ensure that the appropriate talents are accessible at the appropriate moment. (Ceric 2017, 215.)

#### **4.4 Effective Administration**

Without the assistance of ICT technologies, the administrative pressure on HR workers may be too much to handle. HR staff may concentrate on more tactical and beneficial operations by automating typical administrative procedures, freeing up critical time and resources. Automation may be used to manage leave, monitor attendance, and report compliance, minimising human labour and the chance of mistakes. (West 2019, 17.)

In addition to reducing the amount of time spent on administrative tasks, the use of ICT tools in HRM improves both the accuracy and transparency of those tasks. Automation reduces the likelihood of mistakes occurring in essential HR activities like payroll, which in turn reduces the need for repairs that are both time-consuming and possibly expensive. In addition, HR is able to uphold an elevated standard of legal and moral conduct with the assistance of automated compliance inspections and reporting. (Chowdhry et al. 2020.) For instance, automated notifications and reminders may be used to guarantee that crucial compliance deadlines are fulfilled, hence lowering the risk of compliance-related difficulties arising from non-compliance. In the event that HR is subjected to an audit or review, these solutions may also give a comprehensive audit trail, which will assist them in demonstrating their dedication to adhering to legal and moral norms.

## **4.5 Optimized Recruiting**

ICT technologies have completely changed the recruitment process, which is a crucial component of HRM. The hiring process is sped up through video interviews, applicant tracking tools, and online job boards. Additionally, data analytics in recruiting tools aid businesses in locating the best sources for hiring people and raising the calibre of new workers. (Ceric 2017, 206.)

The use of ICT technologies in recruiting not only results in advantages in efficiency but also promotes diversity and inclusion. The Human Resources department may ensure that the organisation draws a broad talent pool as well as promote equitable chances for all applicants by employing data analytics to detect and remove prejudices in job posts, selection procedures, and recruiting tactics (Ruël 2020). This can be accomplished by identifying and eliminating biases in job advertisements, selection procedures, and recruitment methods. Additionally, data-driven recruiting tactics can assist in the identification of high-potential applicants that may have been missed during the conventional recruitment procedures. These tools give an approach to recruiting that is fair and impartial, aligning with contemporary aspirations for diversity and inclusion, and improving the organization's competitive edge in the search for top talent.

## **4.6 Streamlined Supervision**

Utilising ICT technologies make it easier to manage and supervise staff. Real-time goal setting, performance monitoring, and feedback are all made possible by digital technologies. (Ruël 2020, 49) This improved supervision promotes continual development, greater alignment with organisational goals, and more efficient performance management.

In addition to this, the use of information and communication technologies in supervision provides a platform for ongoing education and improvement. HR helps to cultivate a culture of continuous development by encouraging workers to hone their skills and competencies to meet the shifting requirements of the company. This is accomplished by providing personalised training modules as well as real-time feedback. since this, not only are individuals helped (Ceric 2017, 209), but the organization's competitiveness is improved since it now has a staff that is flexible and knowledgeable. Real-time feedback loops also provide dynamic management of the performance process, which enables HR to detect and solve problems as soon as they develop. This, in turn, results in improved

employee engagement, higher efficiency, and an organisation that is nimbler and more competitive. This adaptability in performance management has the potential to be a strategic advantage in business sectors that are characterised by a high pace of change and constantly shifting consumer expectations. (West 2019, 18.)

TABLE 1. The advantages that the use of ICT technologies may bring to HRM (Chowdhry et al. 2020)

<b>Benefit</b>	<b>Description</b>
Cost Reduction	Automation of tasks, reducing administrative costs.
Enhanced Customer Service	Self-service portals and improved responsiveness.
Data Management and Analysis	Utilization of data for decision-making and trend identification.
Effective Administration	Automation of HR administrative tasks, minimizing errors.
Optimized Recruiting	Improved recruitment processes, including online job postings.
Streamlined Supervision	Real-time feedback and digital tools for performance management.

From the Table 1 it is seen that, as a result of their demonstrable contributions to cost savings, improved client service, improved data management, effective administration, optimised hiring, and simplified oversight, ICT tools have, in short, become indispensable in HRM (Chowdhry et al. 2020). These benefits not only improve HRM procedures but also help keep businesses successful and competitive.

## **5 THE IMPACT OF ICT ON HRM**

A fundamental component of the paradigm shift in the management of human resources (HRM) is the use of technology. ICT (information and communication technology) integration has revolutionised HR practises, not merely by streamlining administrative procedures. Because of its widespread impact, HR departments are now playing a more strategic role, transforming their conventional roles and embracing a more data-driven, flexible approach. This change represents a fundamental reorientation, allowing HR to better connect with the changing demands of people and the changing organisational context. It is not only about fine-tuning old procedures. The integration of technology is not an add-on; rather, it is a primary force that is transforming the core principles of HRM practices. (Ossewaarde 2018, 1004.)

Technology has reshaped the field of the management of human resources (HRM), changing the way its fundamental ideas and working dynamics are understood. The use of ICT has not only accelerated administrative processes but also initiated a comprehensive transformation of HR operations. This development has led HR departments to adopt a proactive, data-centric mindset and a strategic perspective. It's not just process improvement; it's a paradigm change that promotes HRM that better aligns with the dynamic demands of workers and the complex architecture of contemporary organisational structures. In HRM, technology is more than simply a tool; it's a revolutionary force that is changing the core principles of the field's methods as well as philosophy. (van Kruining 2017, 313.)

### **5.1 ICT's Influence on HRM**

The impact of ICT (information and communication technology) on human resource management (HRM) is both diverse and game changing. Several important facets of this effect are beginning to emerge as an increasing number of businesses are using ICT solutions to improve HR procedures. (van Kruining 2017, 315.)

The use of ICT technologies results in increased levels of both efficiency and productivity in HRM. The automation of administrative duties, including payroll, benefits administration, and attendance monitoring, helps to simplify procedures and minimise the amount of time necessary to perform these services. Because of this, HR professionals can devote a greater portion of their time to HR-related

strategic projects (van Kruining 2017, 315). The ability of ICT to gather and analyse data enables HRM to access insights which were previously difficult to acquire. The Human Resources department is able to identify trends, anticipate personnel requirements, and evaluate the effectiveness of HR policies when they make decisions based on data (Ossewaarde 2018, 1007). This strategy results in decisions that are more informed and effective, which in turn leads to improved outcomes for both the organisation and its workers. Workplace dynamics, particularly the idea of remote work, have been radically altered as a result of the proliferation of information and communications technology (ICT) technologies. Effective management of scattered workforces is possible with the use of collaboration and communication solutions that may be accessed via HRM (Ahmad 2017). Video calling, project management software, and instant messaging applications enhance cooperation and connectedness, making it feasible for human resources managers to contact workers and job seekers regardless of where they are. (van Kruining 2017, 317.)

Information and communications technology (ICT) not only helps to expedite procedures but also improves the entire employee experience. Employees are given the resources necessary to handle their own HR-related issues autonomously via the use of staff self-service portals, review platforms, as well as mobile HR applications (Chowdhry et al. 2020). Because of this empowerment, there is a greater feeling of control and participation in the task, which contributes to a more favourable work environment. The procedures of talent acquisition as well as onboarding have been significantly altered as a result of the proliferation of ICT. Recruitment activities may be sped up with the use of online job listings, applicant tracking tools, and video interviews. (van Kruining 2017, 318.) The process of onboarding new employees is made more efficient using digital documents, e-learning courses, and digital signatures, which results in a smoother experience overall (van Kruining 2017). Information and communication technology provides novel ways for performance management. Performance assessments may become more complete with the use of systems that provide real-time feedback, digital setting objectives, and performance data. (van Kruining 2017, 318.) Continuous feedback loops provide a more agile response to problems, which in turn helps to maximise the performance of individuals as well as teams (van Kruining 2017, 319). ICT has a major positive impact on workforce planning, which in turn benefits from ICT. HR is able to predict personnel demands, match recruiting efforts with organisational goals, and maximise workforce planning thanks to the data analysis and projection tools at their disposal (Chowdhry et al. 2020). This proactive strategy guarantees that the appropriate individuals are contributing to the success of the organisation in the appropriate positions.

The impact of information and communications technology on human resource management is not limited to only enhancing already established procedures; rather, it also encourages a re-examination of more conventional HR policies and procedures. This digital transformation enables human resources departments to adjust to the changing nature of work, making them nimbler and more sensitive to the requirements of both people and the organisation (Chowdhry et al. 2020).

## **5.2 ICT's Impact on Organizational Quality and Competitiveness**

The integration of ICT (information and communication technology) into human resource management (HRM) practises has more benefits than just increased productivity. It has a significant bearing on the overall quality as well as the level of competitiveness of organisations. (Baghdadi & Harfouche 2019.)

ICT-driven HRM practises contribute to significant increases in the standard of HR services and, as a corollary, employee experiences, which in turn leads to quality improvement. HR experts can deliver faster and more accurate replies to employee enquiries when the procedures they use are simplified and when self-service portals are made available. Decision-making that is informed by data gives human resources the ability to anticipate problems and solve them before they arise (Baghdadi & Harfouche 2019). Because of the ease with which ICT technologies enable employers to locate and choose the individuals who are most suited to fill open jobs, the standard of talent acquisition has also improved. Companies that can use information and communications technology (ICT) for human resource management successfully acquire a competitive advantage. In today's fast-paced and competitive corporate world, the ability to source, onboard, and keep top personnel is critical to one's chances of achieving success. The integration of these procedures into ICT results in a boost in both their efficiency and their effectiveness (Baghdadi & Harfouche 2019). This helps organisations to swiftly react to changes in the market as well as new possibilities, which ultimately strengthens their position in the competitive landscape. The use of information and communications technology (ICT) tools in human resource management helps to create agility and adaptation in an organisation. In order to adapt quickly to changing market conditions, HR is able to make rapid changes to HRM strategy, workforce planning, and recruitment initiatives. This flexibility is essential in fields that are characterised by fast innovation and continually shifting client expectations. (Manuti & Davide 2018, 34.)

Pool Information and communications technology is able to cross-regional barriers, giving users access to a pool of talent that spans the globe. Organisations have access to a more diversified pool of candidates from all over the globe thanks to online job advertisements and remote recruiting procedures. This international viewpoint encourages innovation and creativity inside the organisation, which in turn enhances the organization's ability to compete on a worldwide basis. (Baghdadi & Harfouche 2019.) ICT-driven HRM is dependent on data analytics in order to make educated choices. This method eliminates the need for speculation and prioritises methods that are supported by facts. The study of data may reveal previously unknown patterns, point out areas where improvements can be made, and help HR policies become more effective. As a result, businesses are able to bring their HR practices closer in line with their strategic goals, which boosts their overall competitiveness (Swann & Fenner 2016). The use of ICT tools plays a crucial role in increasing employee engagement, which in turn has a direct influence on the quality of the organisation and its ability to remain competitive. Employee happiness may be increased by making digital feedback systems, chances for learning, and flexible work arrangements available to them. Employees who are engaged in their work are more likely to put up their best efforts, which leads to an improvement in both product quality and service to customers. (van Kruining 2017, 322.)

The impact of information and communications technology on organisational quality as well as competitiveness is not restricted to improvements in HRM efficiency alone; rather, it encompasses a wider range of innovations that better position organisations for sustained success. By maximising the use of information and communications technology (ICT), businesses are able to provide services of a high standard, entice and keep the best employees, and react quickly to changing market circumstances, eventually enhancing their edge over their competitors. (van Kruining 2017, 321.)

### **5.3 IT as a Catalyst for Quality Improvement**

The use of Information Technology (IT) may operate as a potent accelerant in the process of improving the standard of HRM (Human Resource Management) practises. It not only provides support and automation but also fundamentally alters the way HR operates, which in turn contributes to an increase in overall quality. Its role goes beyond that of simple assistance and automation. (Kittivaraporn et al. 2014, 183.) In this part of the article, we will investigate the various manners in which information technology contributes to the improvement of HRM's quality.

The Department of Information Technology helps simplify HR procedures by automating mundane administrative activities. This helps to simplify complicated procedures, cuts down on mistakes, and guarantees that activities are carried out in a consistent manner. Eliminating the need for manual data input not only reduces time but also improves data accuracy, which is an essential component of preserving the quality of HR data. (Chowdhry et al. 2020.) The solutions provided by IT play a critical part in ensuring that data is accurate and honest. The potential for data loss or duplication is reduced when organisations use digital records and databases that are centralised. It guarantees that sensitive data pertaining to HR is kept secure and cannot be altered by putting stringent data security measures into place. (Moomal & Masrom 2015, 347.) This contributes to an increase in data quality and helps IT achieve its overall mission. Information technology solutions aid human resources departments in maintaining regulatory compliance requirements and producing accurate reports. Automated inspections and tracking technologies lower the danger of non-compliance, which may lead to expensive legal and financial implications. Non-compliance can lead to costly penalties (Chowdhry et al. 2020). Transparency and ethical HR practices may be maintained via the generation of accurate compliance reports.

Through the use of IT solutions, employees are empowered to manage their own HR-related needs independently through the use of self-service portals as well as mobile apps. This approach to self-service not only lessens the administrative strain on HR but also makes life better for the staff members. It offers instant access to services and information for workers, which fosters a feeling of control and happiness in the workplace. (Ossewaarde 2018, 1004.) The ability to convert towards a culture of data-driven decision-making is made possible by IT. The collection and analysis of human resources data enables human resources professionals to make more educated decisions about recruiting, education, management of performance, and talent development. These data-driven judgements result in HR practices that are both more efficient and more strategic (Swann & Fenner 2016). The tools provided by IT make it possible to do performance tracking and feedback in real-time. Because HR is given rapid access to employee performance data, they are able to identify areas of development and provide constructive criticism in a timely manner. This dynamic strategy for performance management is one factor that helps the ongoing improvement of quality (Ceric 2017). Through the use of educational management systems as well as e-learning platforms, which are powered by information technology, businesses are able to offer ongoing learning opportunities for their staff members. (Baghdadi & Harfouche 2019, 39.) These platforms provide individualised learning experiences for workers, allowing them to gain new skills and competencies that are congruent with the organization's overall objectives.

It functions as a catalyst for enhancements in quality in HRM by increasing data accuracy, optimising procedures, encouraging compliance, allowing self-service, and supporting data-driven decision-making. This transition not only improves the standard of HRM practises but also makes the HR function more effective and places a greater emphasis on the needs of employees.

#### **5.4 Enhancing Organizational Competitiveness Through Technology**

Not only can the use of technology in HRM (Human Resource Management) help to improve the efficiency of internal HR procedures, but it also plays a critical part in raising an organization's level of competitiveness. In this part, we will investigate how organisations might obtain a competitive advantage in today's fast-paced business world by using the power of technology. (Ossewaarde 2018, 1008.)

Thanks to technological advancements, businesses are now able to discover, recruit, and keep talented employees. Job advertisements may now reach a wider audience because of the proliferation of job boards on the Internet, social networking platforms, and application tracking systems, which gives businesses access to a larger and more diversified pool of potential employees. (Ossewaarde 2018, 1008.) Additionally, technology is helpful in the process of developing talent retention strategies, which ensures that essential personnel continue to be interested and happy in their work. As a result of technology's ability to transcend regional barriers, businesses now have access to a worldwide pool of potential employees. Businesses are able to access worldwide labour markets by conducting interviews virtually and carrying out recruiting procedures online. This global viewpoint stimulates variety and creativity, two crucial factors for maintaining one's competitive edge in today's interconnected economic landscape. (Ossewaarde 2018, 1007.) Technology helps to simplify the onboarding process, making it possible for businesses to swiftly integrate new workers. The onboarding process is made easier and more efficient using digital documents, e-learning courses, and mobile applications. (Ossewaarde 2018, 1009.) This not only reduces time but also guarantees that newly hired employees are efficient and engaged from the very first day they are on the job.

Technology enables HR to adopt a flexible approach to planning the workforce. Insights that are powered by data make it possible for businesses to respond quickly to shifts in the market and new

possibilities. This flexibility is critical in fields that are characterised by fast innovation and constantly shifting client expectations. (Ossewaarde 2018, 1009.)

Companies that adopt data-driven decision-making, which is made possible by technology, gain an edge over their rivals. Companies can better their HR practices, optimise their talent strategy, and find areas in which they may make improvements when they use HR analytics. Because of this data-centric strategy, HR management has become more efficient, and the company's overall competitive position has improved (Swann & Fenner 2016,121). Technology's Contribution to Improved Customer Service In addition, technology contributes to improvements in the standard of customer service. Companies may make their workplaces more pleasant by improving their HR procedures and encouraging more participation from their workers. (Ossewaarde 2018, 1001.) Employees who are engaged in their work are more likely to give superior customer service, which, in turn, boosts the quality of the whole customer experience and encourages customer loyalty. Technology fosters an environment that is more open to new ideas and ways of doing things inside organisations. HR departments that have adopted technology advances have a greater ability to adjust to shifting conditions in the business world. (Ossewaarde 2018, 1003.) An environment of innovation that helps organisations stay competitive may be fostered via the use of technology in several different ways, including the implementation of new recruiting platforms, the improvement of staff training, and the introduction of performance management systems.

In the fast-paced corporate climate of today, technology is not only a tool for increasing productivity; rather, it is a valuable resource that raises organisational competitiveness. Organisations that use technology for human resource management not only optimise their internal operations, but also successfully recruit, retain, and nurture top people while simultaneously promoting innovation and agility.

## **6 RESEARCH METHODOLOGY**

Research methodology is defined as the systematic process of designing the framework for conducting research. That is why, research methodology is often noted as the principal component of a research. Roughly, research method is classified into two major categories: quantitative and qualitative research. Quantitative research involves in gathering and analysing numerical data, whereas qualitative research deals with collecting and analysing non-numerical data. (Martens 2022.) This study has employed quantitative method; that means this research has collected numerical data from respondents.

### **6.1 Quantitative research and survey**

Data gathering is a crucial component of this study, which aims to comprehend how ICT (Information and Communication Technology) has affected HRM practises in Shopnoferi. An organised method of data gathering is necessary to guarantee that the study goals are fully addressed (Martens 2022, 54). A methodical approach to examination, quantitative research makes use of statistical analysis and numerical data to comprehend and clarify events. Its capacity to provide precise, unbiased results that can be applied to broader groups while offering quantifiable, understandable insights is what makes it so strong. However, this method may oversimplify complicated human experiences, thereby omitting subtleties and nuanced understanding. While its emphasis on statistics may restrict the investigation of larger settings and qualitative elements of a topic, it does give useful statistical analysis and replicability. For a more thorough understanding, complementing the use of qualitative methodologies is necessary.

Findings from quantitative research are objective, repeatable, and often have wide applicability because of their accuracy as well as statistical skills. However, the dependence on numerical data might limit the breadth of comprehension and lead to the oversimplification of intricate processes. By resolving the shortcomings of each and presenting a more nuanced examination of the issue, combining quantitative and qualitative methodologies may provide a more comprehensive understanding. (Creswell & Creswell 2023, 13.)

Surveys are a vital resource for effectively gathering information from a wide range of groups and provide a methodical way to comprehend beliefs, actions, or traits. With standardised questions that

guarantee consistency in gathering data and analysis, they excel in rapidly and cheaply obtaining information from a wide pool of respondents. Surveys are useful for quantitative research and trend detection because of their organised framework, which produces quantifiable data that allows statistical analysis to identify patterns and trends within the replies. (Swann & Fenner 2016, 65).

Surveys do, however, have inherent limits. Their uniform structure may compromise width for depth, perhaps excluding complex personal viewpoints or original ideas. The reliability and accuracy of the data obtained are at risk due to response bias, which may be impacted by respondent demographics, question phrasing, or format. Low response rates might also cast doubt on the sample's representativeness, which makes the results less generalizable. The accuracy of the data obtained may be compromised by badly created survey questions, therefore creating well-designed, objective, and understandable questions is a big task. (Pandey 2023, 121.)

Because of their effectiveness in obtaining a variety of data, surveys continue to be a mainstay in research. Despite these drawbacks, well-thought-out surveys may provide a wealth of information on a variety of subjects and target audiences. To provide more accurate and thorough research outputs, survey approaches should be combined with strong validation procedures to assist in reducing biases and improve the dependability of the information that is obtained. (Marsden & Wright 2010, 35.)

## **6.2 Data collection and analysis**

The main objective of this study was to examine how the use of ICT has impacted the human resource management of Shopnoferi. As it was a quantitative study, the study used survey method to collect data. Since using survey method helps a researcher to analyse data easily and it also helps respondents to give straightforward answers, the objective of the study was met by using the survey method. To employ the survey method, a survey questionnaire was made initially. The questionnaire consisted of 13 questions. Among these questions, a few questions were about general inquiry and rest of the questions were about the research study. The questionnaire was designed in such a way that respondents could chronologically reveal how ICT impacts the HR of Shopnoferi.

The sampling method is very crucial for quantitative data collection as designing proper sampling method assures the reliability of the research. For this study, the sampling method which was selected is simple random sampling method. Simple random sampling method is a simple process of sampling

which is basically selecting random sample from a population. However, to apply this simple random sampling method, 30 respondents were randomly selected from Shopnoferi.

After selecting 30 respondents, the researcher communicated with the respondents to obtain their consent to participate in the survey. As no respondents denied participating in the survey, the researcher did not have to select any participants. Afterwards, survey question was sent to them, and they were notified that they might skip any questions they want. After collecting respondents' responses to survey questions, raw data was sorted and then analysed to reach at a meaningful conclusion.

### **6.3 Reliability and validity of the research**

Validity and reliability assurance are crucial in quantitative research approaches to support the accuracy of data obtained and the analysis that follows. In order to ensure that the measurements as well as findings accurately portray the desired ideas or occurrences, the study's validity must be checked for correctness and honesty. However, stability and consistency of measurements and results across many iterations or under different situations are what dependability refers to. (Martens 2022, 39.)

Several methods were used to determine the authenticity of this investigation. For instance, research data was stored in the cloud storage to ensure data protection. Moreover, carefully creating survey questions and making sure they matched the goals of the study and pertinent theoretical frameworks allowed for the assurance of content validity. By using recognised and approved measuring instruments pertaining to ICT's influence on HRM, construct validity was maintained. Rigid approaches were used to seek reliability. In order to verify the consistency of results over time, a group of respondents was given the survey twice, which further assessed test-retest reliability. (Pandey 2023, 109.)

Through careful consideration of validity and reliability issues, this research sought to reinforce the validity and robustness of its conclusions, guaranteeing that the information gathered and examined correctly represented the complex link between ICT use and HRM practices at Shopnoferi.

## **7 DATA ANALYSIS**

This section provides a summary of the research results and outcomes. Using a random selection method, 30 workers from Shopnoferi were chosen for the study. Given the company's entire workforce of 120 employees, a sample size of thirty was deemed adequate to provide statistically significant findings. The researcher conducted the survey by sending an email to thirty workers describing the goal of the thesis and asking if they wanted to participate. The researcher wanted responses within 24 hours to save time. The researcher issued the survey questions and gathered their responses after obtaining responses from thirty interested participants. The whole thing took three days. To investigate this specific element, the study used a deductive research strategy and a quantitative research approach. The usage of Google Docs enhanced the data collecting procedure. The first email was sent on November 11, followed by the distribution of the survey questionnaire on November 12, with replies due by November 13.

### **7.1 Quantitative Data Analysis**

A quantitative strategy has been utilized to acquire broad numerical insights from employees by asking them a series of thirteen questions. The well-crafted questionnaire contains exact questions designed to collect demographic information, such as the impact of digital transformation on worker efficiency, customer service efficiency and many more.

#### **7.1.1. Gender**

Pie chart in figure 1 shows the percentage of the female and male participants in the survey. This is one of the demographic questions. The outcome reveals that there were considerably more male participants than female participants. As there were 60% of men and 40% of women. However, it will not produce any prejudice.

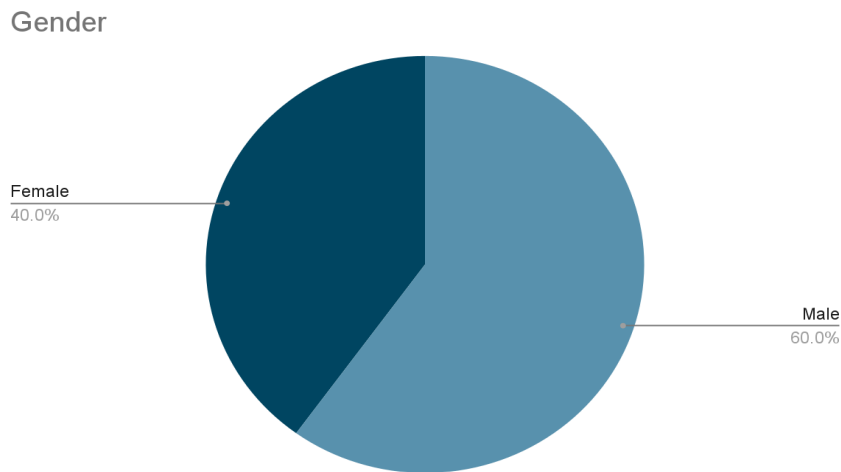


FIGURE 2. Gender

### 7.1.2. Work Experience at Shopnoferi

The participant then inquires about the length of time they have worked at Shopnoferi. The outcome, which accounted for 64.7%, demonstrates that a sizable fraction has been there for less than five years. In contrast, over 35% of respondents had five to ten years of experience. It suggests that while some of the respondents have been working with them for a long time but the majority of them only recently (less than 5 years) began working there.

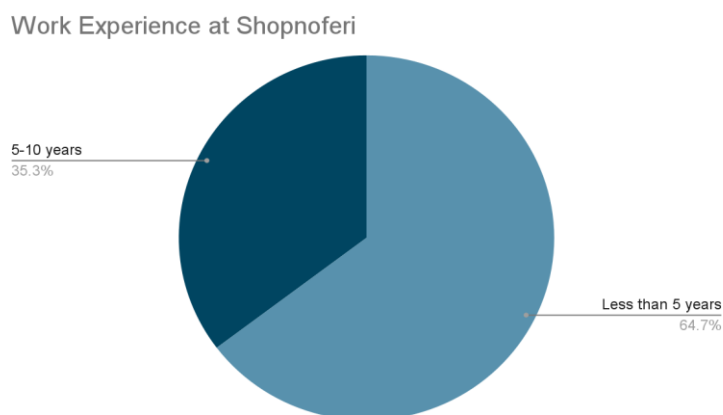


FIGURE 3. Work Experience at Shopnoferi

### 7.1.3. Implementation of Digital Transformation in HR Department

The use of digital transformation at Shopnoferi's HR division is depicted in Figure 3's pie chart. Approximately three quarters of the participants agreed that Shopnoferi had adopted digital transformation in HR. However, the remaining participants hold a contrary view. They, on the other hand, disagree, saying that the HR division has not undergone any digital change.

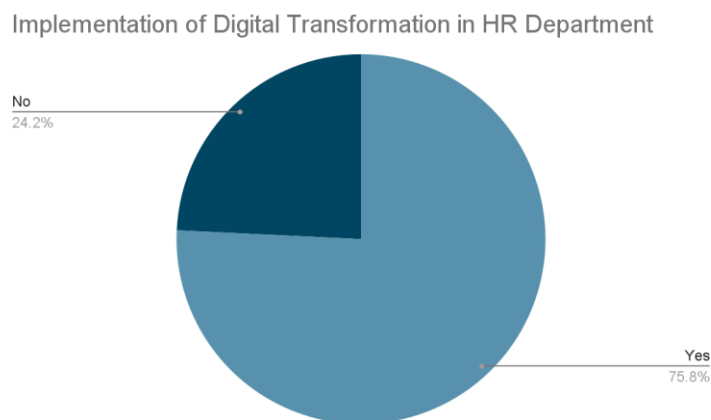


FIGURE 4. Implementation of Digital Transformation in HR Department

### 7.1.4. Impact of Digital Transformation on Worker Efficiency

Continuing from the preceding question, respondents were asked if the digital revolution in the HRM process led to improving overall worker efficiency. A "no answer" option was included to offer flexibility and prevent participants from having to choose between two options. Notably, a sizable 70% of respondents agreed that digital transformation has played a role in enhancing overall worker efficiency. In contrast, a fifth of respondents disagreed, claiming that they saw no improvement in overall worker productivity as a result of the use of digital transformation in the HRM process. Additionally, one tenth of participants remained silent, maintaining an unbiased opinion about the impact of digital transformation on worker productivity.

Impact of Digital Transformation on Worker Efficiency

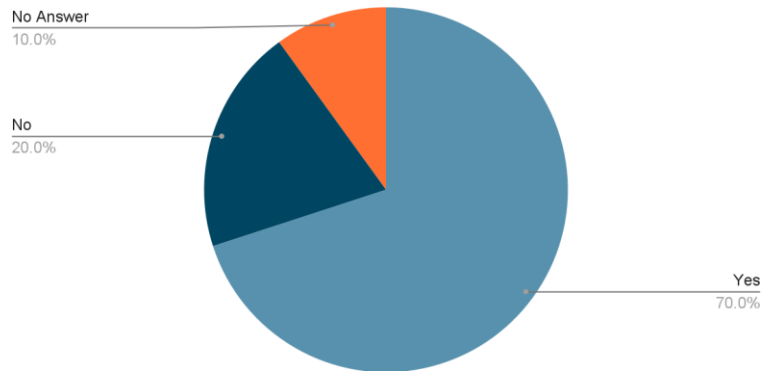


FIGURE 5. Impact of Digital Transformation on Worker Efficiency

### 7.1.5. Spontaneity of Workers towards Digital Transformation

The researcher then asked participants to assess how spontaneously employees responded to changes brought forth by workplace digital transformation on a scale of 1 to 5. According to the survey findings, only 6.5% of respondents provided 1 point or extremely negative ratings. Similarly, 16.1% of respondents rated it "bad" by awarding it 2 points, while 6.5% remained indifferent. On the contrary, a higher proportion of respondents (41.9%) evaluated workers' spontaneity to change brought about by digital transformation in the workplace as 'excellent,' while the remaining 29% said it is very good. The survey suggested that most respondents believe staff are willing to accept digital transformation.

Spontaneity of Workers towards Digital Transformation

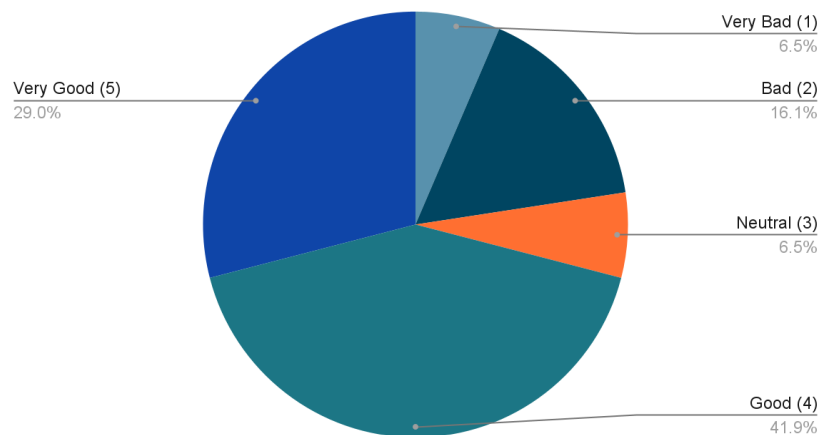


FIGURE 6. Spontaneity of Workers towards Digital Transformation

### 7.1.6. Enhancement of Customer Service Efficiency through Digital Transformation

Next, the respondents were asked whether the digital transformation enhances customer service efficiency. In this question also, a "no answer" option was included to offer flexibility and prevent participants from having to choose between two options. Notably, a sizable 71.4% of participants agreed that digital transformation has played a role in enhancing customer service efficiency. In contrast, 14.3% of respondents disagreed, claiming that they saw no improvement in overall customer service as a result of the use of digital transformation. Additionally, an identical portion of participants remained silent, maintaining an unbiased opinion about the impact of digital transformation on customer service enhancement.

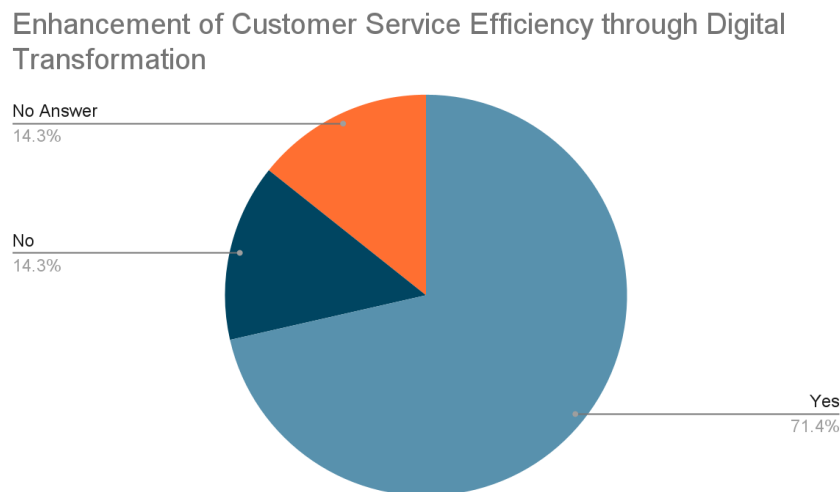


FIGURE 7. Enhancement of Customer Service Efficiency through Digital Transformation

### 7.1.7. Improvement in Administrative Quality due to Digital Transformation

Following that, respondents were questioned about their thoughts on how to increase administrative quality as a result of digital transformation. 62.7% of responders believed that digital transformation had helped to improve administrative quality. In contrast, more than a fifth of respondents (24.1%) disagreed, indicating that they noticed no increase in administration quality as a result of the adoption of digital transformation. Furthermore, 13.8% of respondents opted for 'no answer' option.

### Improvement in Administrative Quality due to Digital Transformation

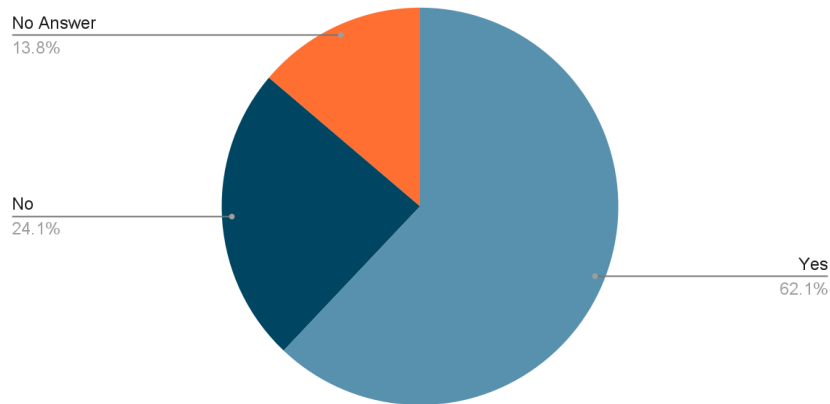


FIGURE 8. Improvement in Administrative Quality due to Digital Transformation

#### 7.1.8. Challenges in Online Recruitment for Shopnoferi

The respondents were also questioned if Shopnoferi has any difficulty hiring online. A sizable proportion of participants responded negatively, implying that Shopnoferi has not encountered any difficulty with online recruiting. However, 15.6% of respondents had difficulty recruiting online. The remaining 15.6% chose 'no answer' option.

### Challenges in Online Recruitment for Shopnoferi

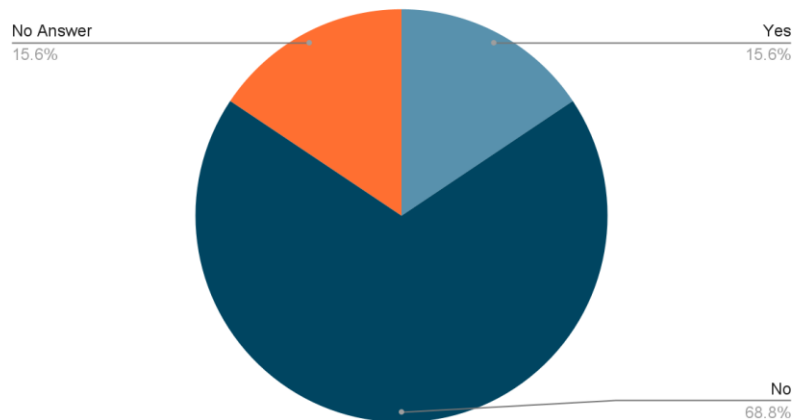


FIGURE 9. Challenges in Online Recruitment for Shopnoferi

### ***7.1.9. Effect of Digital Transformation and ICT on HR Decision-Making***

The respondents were then asked how digital transformation and ICT impact HR management decision-making. A great majority of participants, 83.3%, believe that digital transformation and ICT have a positive impact on HR management decision-making. Whereas the remaining 16.7% believe it has had a negative impact on HR management decision-making.

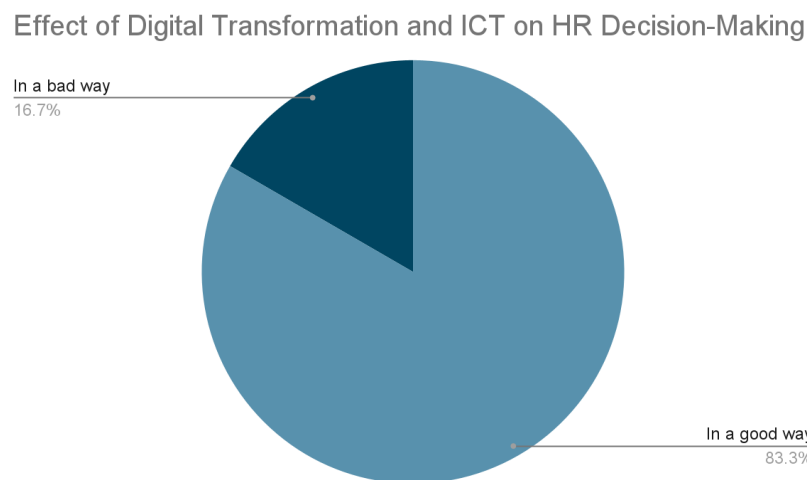


FIGURE 10. Effect of Digital Transformation and ICT on HR Decision-Making

### ***7.1.10. Impact of ICT on Organizational Capability in Market Competitiveness***

Subsequently, the participants were asked if ICT use improves an organization's capacity to compete in the market. 70% of responders believed that the use of ICT enhanced the organisational capability of battling market competitiveness. On the other hand, a fifth of respondents disagreed with the statement indicating that they noticed no enhancement in terms of the organisational capability of battling market competitiveness due to the use of ICT. Furthermore, 13.8% of respondents opted for 'no answer' option on the impact of ICT on organizational capability in market competitiveness.

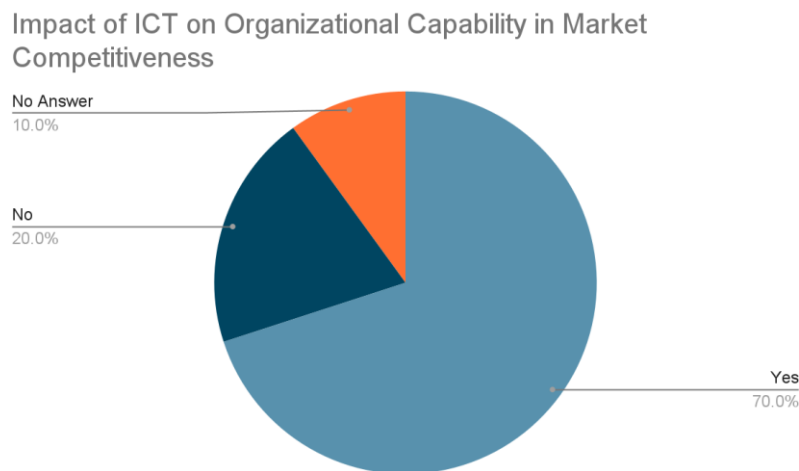


FIGURE 11. Impact of ICT on Organizational Capability in Market Competitiveness

#### ***7.1.11. Incorporation of Continuous Feedback System to Enhance ICT in HRM***

The respondents were then questioned if Shopnoferi had a continual feedback mechanism in place to increase the use of ICT in human resource management. A "no answer" option was also provided in this question to provide flexibility and avoid participants from having to pick between two possibilities. According to the study results, respondents have mixed feelings. Similarly, to previous questions, the majority of respondents (70%) agreed that Shopnoferi uses a continuous feedback mechanism to increase the role of ICT in human resource management. A fifth of respondents, on the other hand, disagreed, arguing that Shopnoferi lacks a constant feedback mechanism to increase the use of ICT in human resource management. Furthermore, one-tenth of participants 'no answer' while answering about a continuous feedback system to improve the role of ICT in human resource management.

### Incorporation of Continuous Feedback System to Enhance ICT in HRM

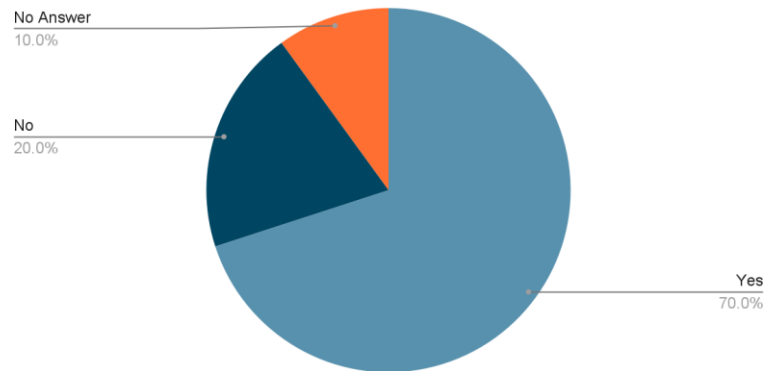


FIGURE 12. Incorporation of Continuous Feedback System to Enhance ICT in HRM

### 7.1.12. Existence of Security Threats in ICT

In the following question, the participants were asked if they were aware of any security issues related to ICT. The replies were almost evenly divided into two categories. On one hand, more than half of the participants agreed that there are some security threats associated with ICT. However, the two fifths of participants disagreed as they believe that there are no security threats connected to ICT. Furthermore 6.7% of respondents opted for the 'no answer' option.

### Existence of Security Threats in ICT

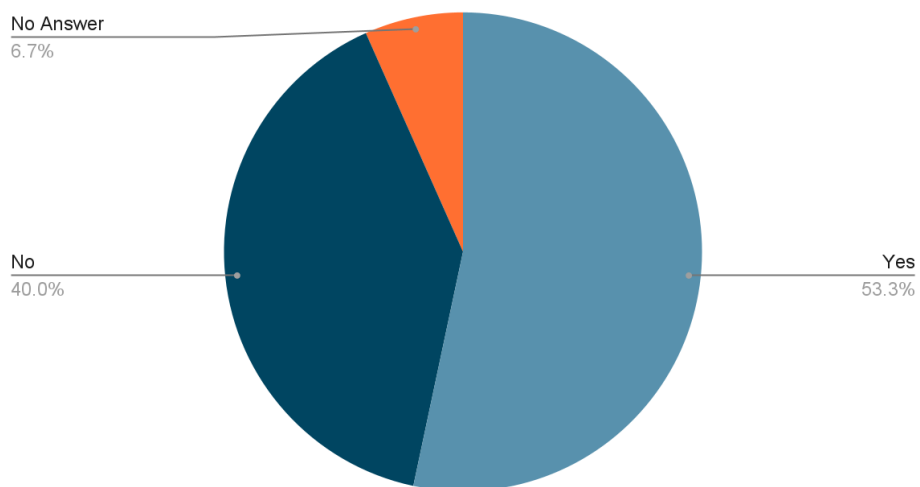


FIGURE 13. Existence of Security Threats in ICT

### 7.1.13. Overall Effectiveness of ICT in HR Management Supervision

Lastly, the researcher asked participants to assess the overall effectiveness of ICT in HR management supervision on a scale of 1 to 5 where one indicates very bad and 5 indicates very good. The survey findings showed that only 6.7% of respondents provided 1 point or extremely negative ratings. Whereas 16.7% of respondents rated it "bad" and 23.3% remained neutral. On the contrary, a higher proportion of respondents, which accounted for forty percent, evaluated the overall effectiveness of ICT in HR management supervision as 'good,'. Additionally, the remaining 13.3% rated it as 'very good'.

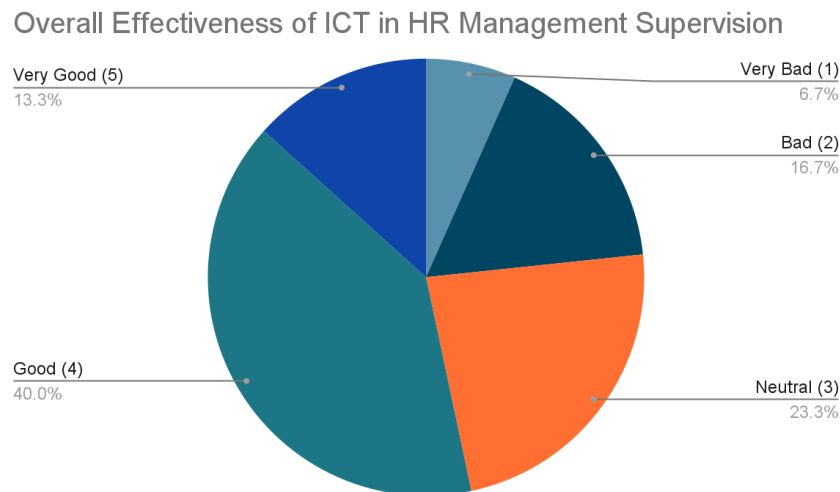


FIGURE 14. Overall Effectiveness of ICT in HR Management Supervision

## 7.2 Analysis of the findings

The Shopnoferi study sought to investigate the influence of digital transformation and information and communication technology (ICT) on several elements of human resource management (HRM) and organizational performance. The study's demographic data analysis first looked at the participants' gender distribution. The Shopnoferi workforce is predominantly male, as seen by Figure 1, a pie chart, where 60% of participants are men and 40% are women. Despite the fact that the gender ratio is unbalanced, the study underlines that this distribution does not imply bias in the research results.

Moving on, the investigation discovered that a considerable number (64.7%) of Shopnoferi personnel had been with the firm for less than five years (Figure 2). This indicates a high rate of turnover in the labour field, with the majority of respondents having relatively short tenures. However, more than thirty-five percent of respondents said they had been employed by Shopnoferi for five to ten years, suggesting a workforce with more experience.

Subsequently, the inquiry explored the execution of digital transformation inside the HR division (Figure 3). Of the participants, three-quarters said that HR had adopted digital transformation, while the other quarter disagreed. This discrepancy suggests that Shopnoferi employees may have differing perspectives on how much of the HR department has been digitally integrated. The study then investigated how workers viewed the influence of the digital transition on productivity (Figure 4). Twenty percent of respondents disagreed, with a large majority of 70% feeling that digital transformation has increased overall worker efficiency. The neutral choice, which revealed that 10% of participants had no view, allowed for a more thorough picture. When the survey looked at how employees responded spontaneously to digital transformation (Figure 5), a sizable majority (71.9%) thought that their reactions were "excellent" or "very good." This upward trend implies that workers are largely willing to embrace the changes that will result from the workplace's digital transformation. Next, the effect of digital transformation on the effectiveness of customer service was examined (Figure 6). While 14.3% disagreed, the majority (71.4%) said that digital transformation has improved customer service efficiency. The discovery emphasizes the obvious positive relationship between digitalization efforts and improved customer service inside the company. The impact of digital transformation on administrative quality was also examined (Figure 7). Notably, 62.7% of respondents thought that administrative quality has improved, whilst 24.1% didn't agree. This indicates that a large proportion of the workforce sees the advantages of the digital transformation's enhancements to administrative operations. The survey next looked into Shopnoferi's problems with online hiring (Figure 8), finding that most respondents (68.8%) had no trouble employing people online. However, 15.6% had difficulties, while an equal number stayed neutral. This shows that, while internet recruiting is often simple, a significant portion of the workforce faces significant challenges. According to the study, a resounding majority (83.3%) thought that ICT and digital transformation will have a positive impact on HR decision-making (Figure 9). However, a minority (16.7%) had a negative opinion, demonstrating that workers' perspectives on the influence on HR decision-making differ.

Furthermore, the study examined how ICT use and organizational competencies related to competitiveness in the market were related (Figure 10). 70% of respondents stated that ICT improved

organizational competence, whereas 20% disagreed. The introduction of a neutral option provided for a more nuanced view, demonstrating that 13.8% of participants were unbiased on this issue. A study on the use of a continuous feedback system to enhance ICT in HRM was conducted (Figure 11); 70% of respondents believed such a mechanism existed. 20% disagreed, suggesting divergent opinions on how well Shopnoferi's feedback mechanisms work to increase the use of ICT in HRM. Security risks in ICT (Figure 12) were a source of worry, with answers evenly divided. Moreover, half of those polled acknowledged security dangers, while two-fifths said there were none. The 'no response' option was selected by a very small percentage (6.7%) of participants, suggesting uncertainty or ignorance. Finally, the total efficacy of ICT in HR management oversight (Figure 13) was evaluated. While slightly more than half of respondents (53.3%) evaluated it positively, 23.3% were indifferent, and 23.3% were unfavourable. It appears from this evenly distributed sample that workers' views on the overall value of ICT for HR management oversight are not all the same.

Overall, the results of Shopnoferi's research indicate that staff members have a generally positive attitude toward ICT and digital transformation. While the benefits, such as increased worker productivity, customer satisfaction, and administrative quality, are widely acknowledged, there are discernible differences in perception, particularly when it comes to difficulties with online hiring, security risks, and the overall efficacy of ICT in HR management supervision. These subtle observations highlight how crucial it is to consider a variety of viewpoints when putting digital initiatives into practice and assessing their effectiveness inside a company. Shopnoferi may use the study's insightful findings to improve its digital transformation plans and target employee issues.

### **7.3 Recommendation**

Based on a thorough examination of the thesis' findings, there are several recommendations that can be made to strengthen the organization's digital transformation initiatives and solve specific employee difficulties. The survey shows that Shopnoferi personnel have a generally positive attitude toward ICT and digital transformation, admitting the advantages like greater productivity, better customer service, and improved administrative quality. Further research on gender-related elements of HRM practices is required to promote justice and inclusion, as indicated by the unequal gender distribution in the workforce. The report also emphasizes the necessity of training and clear communication in order to harmonise workers' viewpoints regarding the level of digital integration within the HR department. The positive perception of the impact of digital transformation on productivity and the positive

responses of employees to it are consistent with the theory of cultural shift. However, some of the participants mentioned about the difficulties involved with online recruiting and security issues, there are chances for development in digital operations. These specific pain points must be addressed in order for the digital strategy to be implemented more extensively and successfully. Moreover, the results of the study on the perceived positive impact of ICT on HR decision-making match with the theoretical framework of strategic alignment between HRM and IT. The minority with negative sentiments, on the other hand, highlights the significance of constant analysis and revision of the ICT strategy to ensure continued progress.

The link between ICT uses and organizational capacity, as well as the availability of a continuous feedback mechanism to enhance ICT in HRM, emphasizes the need of continual development and alignment with business goals. These results emphasize how crucial it is to consider several points of view, identify solutions for specific problems, and continuously enhance digital initiatives in order to increase overall effectiveness in HRM operations. Finally, the thesis provides insightful information on Shopnoferi's intricate relationship between HRM, digital transformation, and ICT. The study's findings can help Shopnoferi focus on specific employee concerns and refine its digital transformation objectives for a more thorough and effective rollout, ultimately contributing to the organization's overall success in the changing landscape of human resource management.

## 8 CONCLUSION

In conclusion, this thesis aimed to investigate and evaluate the impact and applicability of Information and Communication Technology (ICT) in enhancing the effectiveness of Human Resource Management (HRM) procedures, specifically focusing on Shopnoferi.

The research began by detailing ICT's revolutionary influence on HRM, emphasizing the paradigm change in workforce management and the expanding role of HR executives in strategic people management. The combination of HRIS, cloud-based systems, data analytics, and HR software was highlighted as critical to automating HR tasks, optimizing internal procedures, and contributing to global market presence.

The study employed a quantitative methodology, selecting a random sample of thirty Shopnoferi employees. The survey, which was carried out using Google Docs, aimed to provide quantitative information about the impact of ICT and digital transformation on many aspects of HRM and organizational performance. The quantitative data analysis found that Shopnoferi personnel had generally good attitudes toward ICT and digital transformation. The key outcomes were increased labour productivity, better customer service, and improved administrative quality. However, the survey revealed complex opinions, notably on online recruiting obstacles, security concerns, and the overall usefulness of ICT in HR management monitoring. The research technique worked well for gathering a variety of employee perspectives since it combined a quantitative approach with deductive reasoning.

In light of the findings, many recommendations are made to enhance Shopnoferi's digital transformation operations and solve specific employee difficulties. Training to harmonize viewpoints on digital integration, clear communication, and the promotion of gender-related justice and inclusion are examples of these. The report highlights that for a more comprehensive and effective execution of digital strategy, it is critical to address certain pain areas, such as difficulties with online recruiting and security concerns. The study's favourable findings are consistent with the theoretical framework of HRM and IT strategic alignment and cultural transformation. The report does, however, acknowledge the minority that holds negative opinions, highlighting the necessity of continuing analysis and ICT strategy adjustment to guarantee ongoing growth.

This thesis offers insightful information on the intricate relationship that exists between ICT, digital transformation, and HRM within the setting of Shopnoferi. Shopnoferi may use the findings as a basis

to improve its digital transformation goals by emphasizing employee issues and guaranteeing a more comprehensive and successful implementation. The study underlines the need of considering several points of view, determining how to handle specific challenges, and continuing to develop digital efforts in order to increase the overall efficacy of HRM operations. Finally, this research assists Shopnoferi in effectively navigating the ever-changing sector of human.

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**APPENDIX**

Shopnoferi consists of 120 employees. Among those employees 30 employees will be randomly selected.

**Survey Questionnaire**

1. Gender
  - A. Male
  - B. Female
2. How long are you working at Shopnoferi?
  - A. Less than 5 years
  - B. 5-10 years
3. Did Shopnoferi apply digital transformation in the HR department?
  - A. Yes
  - B. No
4. Does digital transformation in the HRM process improve overall efficiency of workers?
  - A. Yes
  - B. No
  - C. No Answer
5. Please rate (1-5) the spontaneity of workers to the change made due to digital transformation within the workforce.
  - A. Very Bad (1)
  - B. Bad (2)
  - C. Neutral (3)
  - D. Good (4)
  - E. Very Good (5)
6. Does digital transformation enhance customer service efficiency?
  - A. Yes
  - B. No
  - C. No Answer
7. Do you think digital transformation improves the quality of administrative quality?
  - A. Yes
  - B. No

- C. No Answer
8. Does Shopnoferi face any difficulties in recruiting online?
- A. Yes
  - B. No
  - C. No Answer
9. How does digital transformation and ICT affect the decision-making process of HR management?
- A. In a good way
  - B. In a bad way
10. Does the use of ICT enhance the organisational capability of battling market competitiveness?
- A. Yes
  - B. No
  - C. No Answer
11. Does Shopnoferi incorporate continuous feedback system to improve the role of ICT in human resource management?
- A. Yes
  - B. No
  - C. No Answer
12. Is there any security threat that is possessed by ICT?
- A. Yes
  - B. No
  - C. No Answer
13. Rate the overall effectiveness of ICT in the supervision of human resource management.
- A. Very Bad (1)
  - B. Bad (2)
  - C. Neutral (3)
  - D. Good (4)
  - E. Very Good (5)



