



IMPACTS OF ARTIFICIAL INTELLIGENCE ON JOB SECURITY.

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Declaration

I declare that this work is my own work and has not been previously submitted by me for a degree at any other university or institution

Signature:

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Name:

Registration No.

Department:

Approval

This management research paper has been submitted for examination with my approval as university supervisor.

Signature:

Date:

Name:

Riara University.

Dedication

I would like to dedicate this Research to my family for believing in me, my friends for supporting me and to all people out there who are eager to learn more. Thank you and may God bless you all abundantly.

Acknowledgement

I would like to acknowledge the Almighty God for granting me His goodness and grace to work through this project. I would also like to acknowledge the Riara University for providing me with resources to carry out and complete this project. My gratitude also goes to my supervisor Thaisaiyi Zephania Opati for his push and guidance throughout the research and for me too, for not giving up on the way.

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ABBREVIATION AND ACRONYMS

IT- Information Technology

AI- Artificial Intelligence

ABSTRACT

As we keep moving towards the future, a lot of people are losing their employment opportunities because technology is replacing them. This study seeks to shed light on the impact of Artificial Intelligence on Job security. AI is among the latest technologies that is replacing a lot of jobs. To fulfill its objective the study operates a descriptive research approach design. The target population in the study is the lecturers in Riara University and other people's views around the university including students and few citizens. Primary data was collected using a quantitative approach. The respondents were students from each of the two courses and from each class (year one to four), one lecturer from each school and 10 outside employees. The data obtained was mainly quantifiable in nature and hence was analyzed by descriptive analysis. I conducted inferential analysis which included a multiple regression analysis. The study concludes that AI indeed greatly affects job security and something needs to be done that in as much as we keep growing in technology, we should also find a way to create jobs using technology.

CHAPTER ONE: INTRODUCTION

1.1. Background of Study:

Artificial intelligence is the process of machines displaying intelligence and also being able to act like humans. A typical definition is “we define AI as a system’s ability to interpret external data correctly, to learn from such data and to use those learnings to achieve specific goals and tasks through flexible adaptation” (Kaplan and Haenlein, 2019). Technology development is greatly changing everything around us. Each day something new in technology is discovered. Technology seeks to solve problems, make things easier including our jobs and even give us better experiences in almost everything we relate with. In recent years, technology and digitalisation as co-designers of the future of work have again moved more into a labour research focus (Bogedan and Hoffmann, 2015; Kuhlmann and Schumann, 2015). Various perspectives have evolved, such as the focus on technology and its potential to change work and tasks (Brynjolfsson and McAfee, 2014) or newly emerging forms of work (Baruch, 2000; Shockley and Allen, 2007).

Technologies are emerging such as the Internet of things, Artificial Intelligence, Block chain and so many more. With these technologies, a lot of professions have been able to change such as accounting, education and so many more. The AI-based work transformation in the field of accounting is therefore not only driven by the possibility to automatise work processes, which already happened over the last decades, but it is also largely driven by the availability of big data (Cockcroft and Russell, 2018; Green et al., 2018; Vasarhelyi et al., 2015) and the use of smart big data analytics. This would allow us to predict the future and have the potential to suggest decisions or – in the long run – could replace human decision-making (Loebbecke and Picot, 2015; Marrone and Hazelton, 2019). Therefore, the digital transformation of accounting work brings with that not only simple, repetitive activities but highly intricate cognitive work is taken over by AI-based technologies and well-paid jobs may no longer exist in the present way (Loebbecke and Picot, 2015). The question is, is technology development just impacting us positively or there's more than just those positive impacts.

Ethical consequences of artificial intelligence (AI) is also a hot topic of debate across academia, policy and general media. It has been shown that there is a large degree of convergence in terms

of the principles that guidance documents are based on (Jobin et al., 2019). At the same time, the principle-based approach adopted by much of the discourse has been criticised as insufficient in dealing with the practical issues raised by AI (Mittelstadt, 2019). Unless guidelines are set, people will be able to come up with anything they want in the name of technology advancement.

The research seeks to use the field of Artificial Intelligence to examine the impact of technology. The Research will go deeper in finding out the real impact of Artificial Intelligence on Job security in years to come. This will help in deciding on how to ensure the world maximizes on the positive results and see how they can minimize negative impacts. Therefore, the research expounds on both positive and negative impacts of the Technology in relation to new technologies arising.

1.2. Problem Statement:

New technologies – especially artificial intelligence (AI) based – will have a major impact on the overall structure and processes in accounting and thus massively transform existing professional occupations and task profiles within a very short time (Neely and Cook, 2011). There are several issues that are addressed by this research which arise as a result of Artificial Intelligence. Most people are losing their jobs as technology keeps on advancing, Cyber crimes are also a threat and so many more. Software robots (robotic process automation [RPA]) have already taken over routine tasks (Cooper et al., 2019) and are gradually providing more and more support in non-routine tasks that require decisions on complex and novel situations and flexibility (Autor and Dorn, 2013; Autor et al., 2003; Frey and Osborne, 2017) leading to a higher accounting efficiency (Guthrie and Parker, 2016).

In the future, these “smart” AI-based software robots will also be in charge of highly complex tasks such as fraud detection and liquidity planning (Brynjolfsson and McAfee, 2014; Skrbis and Jacqueline, 2019). We already see the first steps as AI allows speech and image recognition and learns independently from new cases (Berger and Weidinger, 2018; Najderek, 2020). In the long run, AI-based accounting software will be capable of performing tasks that normally require human intelligence (Huttunen et al., 2019) empowered by highly sophisticated algorithms

bringing with a plethora of yet unresolved questions concerning their impact (Hrazdil et al., 2019; Kellogg et al., 2019; Martin, 2019). Currently, the use of AI-based digital technologies is in its infancy; nevertheless, in a large scale study on the future of digital accounting, Lehner et al. (2020) found that this development will stepwise proceed towards a "Fully Autonomous Accounting System" (FAAS) and described that a FAAS is a firm-wide, fully autonomous, self-aware and self-improving accounting system. The centre of an FAAS is a state-based, multi-functional, deep-learning network as artificial intelligence (AI) that is able to holistically simulate and potentially outpace human-cognition and decision making processes. This AI manages structured and unstructured data and regulations from various sources and delivers timely and apt information to the right audience in the right format (Lehner et al., 2020).

One of the ways in which these problems can be solved or minimized is by analyzing details (pros and con) before carrying out anything. The truth is despite us saying that Artificial Intelligence is great, we should look at the other side or else we'll realize that only the minority will benefit and the majority will be disadvantaged. The study examines the impact of Artificial Intelligence on Job security by looking at how factors such as organization of work, working time and health and safety issues are affected.

1.3. Objectives:

1.3.1: General Objective;

To access the impacts of Artificial Intelligence on job security.

1.3.2 Specific Objectives;

To find out how organization of work is affected by Artificial Intelligence.

To determine how working time is affected by Artificial Intelligence.

To examine how health and safety issues are affected by Artificial Intelligence.

1.4. Research questions:

How does Artificial Intelligence affect job security?

How does organization of work affect job security?

How does working time influence job security?

How does health and safety issues affect job security?

1.5. Scope of the study:

The Research is conducted from various sources and ideas without limitations. It's majorly for students and technology drivers in decision making towards technology development. The respondents will be students from all departments, some lecturers, some It staff and some few workers from outside. The respondents will be asked about what they think on organization of work and their ideas on working time as a result of AI. They will also be asked about health and safety issues in the workplace and what they think will be issues arising as a result of AI.

1.6. Contribution of the study:

The research enlightens people on technology advancement in AI and seeks to encourage the technology experts to see how they can ensure that AI benefits the majority if not everyone especially in terms of jobs.

The study will fuel people towards thinking on what can be done to ensure that technology brings more positive results in the future than negative ones.

The study is important to everyone in this universe since technology affects everyone. However, it is also of great importance to those who are in charge of developing the technologies since the decisions lie within them. Our study will also contribute in adding knowledge to the growing literature on the impact of AI-based technology.

1.7. Limitations of the study:

The study has not expounded on all the technologies. It only concentrates on the field of AI leaving behind other technologies like block chain, internet of things and so forth.

Some of the respondents were not all conversant with what was happening in the field of AI. Most of them didn't really understand what AI is and are not aware of current trends in technology advancement.

Time-consuming: Gathering information from various sources and having respondents fill out the questionnaires took time.

1.8 Conceptual framework:

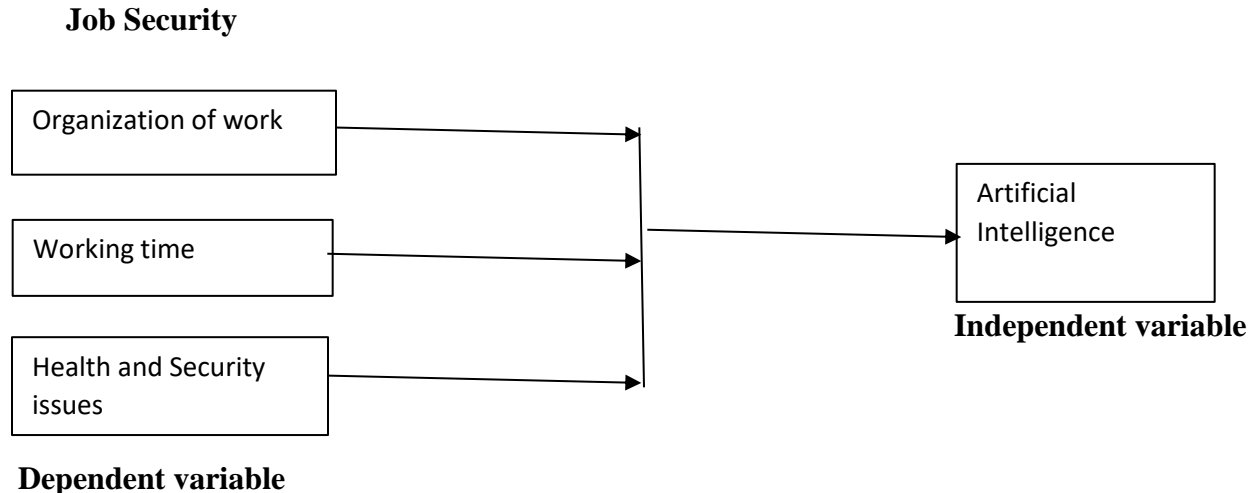


Figure 1.1 Conceptual framework.

2. CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction:

This section will look at theoretical literature review, empirical research, review the summary of the literature and the research gaps. It will also aim at the conceptual framework which will also include the measurement.

2.2. Theoretical Literature:

With the rapid change in technology and growth in AI, a lot of change is taking place in the workplaces.

Lewin's Three-Step Model for Change

Lewin's theory proposes that individuals and groups of individuals are influenced by restraining forces, or obstacles that counter driving forces aimed at keeping the status quo, and driving forces, or positive forces for change that push in the direction that causes change to happen. The tension between the driving and restraining maintains equilibrium. Changing the status quo requires organizations to execute planned change activities using his three-step model. This model consists of the following steps (Lewin 1951; Manchester, et al., 2014; Vines, et al., 2104).

1. Unfreezing, or creating problem awareness, making it possible for people to let go of old ways/patterns and undoing the current equilibrium (e.g., educating, challenging status quo, demonstrating issues or problems)
2. Changing/moving, which is seeking alternatives, demonstrating benefits of change, and decreasing forces that affect change negatively (e.g., brainstorming, role modeling new ways, coaching, training)
3. Refreezing, which is integrating and stabilizing a new equilibrium into the system so it becomes habit and resists further change (e.g., celebrating success, re-training, and monitoring Key Performance Indicators [KPIs])

Other Considerations. Criticisms of Lewin's change theory are lack of accountability for the interaction of the individual, groups, organization, and society; and failure to address the complex and iterative process of change (Burnes, 2004). Figure 1 depicts this change model as a linear process.

Figure 2.1 Lewin's Three-Step Model for Planned Change.



From the Research, AI seeks to create problem awareness and come up with new ways to make tasks easier thus making people leave old ways of doing tasks and embrace new ones. This brings a change in the organization of work, the time and other issues concerning health and safety also arise. Therefore, analysis of the benefits of the change as well as working on reducing the forces which bring negative change. Eventually the change reaches a point where it's accepted and embraced hence no further change unless other advancement comes up.

2.3. Empirical Literature:

Due to the rapid change in technology advancement, it is important to come up with efficient labour markets which will benefit workers, employers and societies as a whole. Rapid technological progress and innovation can threaten employment. Such a concern is not new but dates back at least to the 1930s, when John Maynard Keynes postulated his 'technological unemployment theory' – technological change causes loss of jobs (Keynes, 1937).

Technological innovations can affect employment in two main ways:

- by displacing workers from tasks they were performing previously.
- by increasing the labour demand in industries or jobs that arise as a result of technological progress.

Goos and Manning (2007) argue that the impact of technology leads to rising relative demand in well-paid skilled jobs, which typically require non-routine cognitive skills, and rising relative demand in low-paid, least-skilled jobs, which typically require non-routine manual skills. At the same time, demand for 'middling' jobs, which have typically required routine manual and cognitive skills, will fall.

As much as the technology change creates new jobs such as data scientists, IT managers crowd workers who offer their skills via their computers on online platforms, the rate at which jobs will be lost is higher than job creation. A lot of jobs such as high-routine occupations e.g office clerk, accounting, e.t.c, physical works e.g being replaced by robots and dismissal of employees due to

digitalisation. What's more worrying is that even the well-paid jobs that are mentioned by Goos which will rise will eventually be swept off since technology is constantly changing. AI is moving towards making machines behave totally like humans, that means at one point there will be no jobs at all since the machines will be able to operate everything even the data scientists work. It's therefore time we start seeing how we can reduce that negative impact of AI for the workers too to benefit thereby lifting the society. This is because if there are no jobs, there will be so many issues arising such as; poverty, crimes and so many more.

2.3.1. Organization of work.

As days pass by, numerous jobs will be carried out by intelligent softwares or machines rather than humans.

1. New structures in the company.

i. Existence of virtual working groups which enable organizations to bring together skilled workers to work from any time zone, any area and exchange information at any time. A substitute employee is said to be available in case an employee falls ill or gets a challenge. However, this kind of structure leads to isolation of employees and limits the physical Communication hence less creative ideas. When there is an easy chance of substituting an employee in the event they are ill, that means one can also easily lose their job.

ii. Outsourcing of jobs.

(Wisskirchen,et al, 2017, p.52) The increasing globalisation and digitalisation of society and the huge range of services offered by independent contractors on the internet render it easier for companies to relocate fields of activity or service sectors to other regions (outsourcing).

Therefore, as much as this is beneficial since it allows companies to get quality services, it also poses a risk to employees in the organization who are not skilled enough since they may as well lose their jobs at any point.

2. Changes in the working environment caused by the introduction of artificial intelligence systems.

i. Robots working alone with human clients.

(Wisskirchen,et al, 2017, p.54) In the 'Henn-na Hotel' in Sasebo, Japan, 'actroids' are used. Actroids are humanoid robots, that is, robots with a human likeness. In addition to receiving and serving the guests, they are also responsible for cleaning the rooms, carrying the luggage and, since 2016, preparing the food. The robots are able to respond to the needs of the guests in three

languages. So far, the use of actroids is a culminating point in the interaction between human and robot. Over the long term, the plan is to replace up to 90 per cent of the employees by using robots in hotel operations. As evidenced by numerous CCTV cameras, the human's only remaining task is to intervene if problems arise or to stem safety risks.

ii. Intelligent systems replacing humans examples.

(Wisskirchen,et al, 2017, p.57) In addition to private use, driverless motor vehicles are already used in factories. This applies particularly to self-driving forklifts in warehouses. In addition, self-driving motor vehicles transport work materials, shipping containers or employees on the business premises.t will be possible in the long term to eliminate the position of warehouse clerks thanks to intelligent sorting machines and fully automated packing machines. The system will register and store newly incoming goods, while another system will take the relevant goods from the warehouse to fulfil orders. The registration also makes it possible to order new goods automatically if stocks fall below a certain minimum level and the goods are selling quite well. After the goods or the required materials have left the warehouse, they can be transported by safe autonomous logistics and transportation vehicles in outdoor areas (abbreviated in German to 'SaLsA').

iii. Robots work next to human workers and support them.

(Wisskirchen,et al, 2017, p.54) The robots are able to simplify the work of employees by doing the strenuous work and those that can cause accidents. With this, employees need to be equipped with technical skills on how to interact with the intelligent systems. The organization also has a role to provide platforms for the employees to learn. This concludes that for us to create a balance between negative impacts and positive, both the organization and the workers have a role to play since technology cannot be stopped from advancing.

2.3.2 Working time.

Availability of technology enables work to be done faster than when a human did hence taking less working hours. Employees are able to work on their own schedule as long as they meet the deadlines. This gives them an opportunity to engage in other activities and also spend time with their family and friends. However, in the event of less working hours, some employees may get laid off.

2.3.3 Health and safety issues.

1. Risk management and policies concerning the use of new technology.

An analysis must be conducted before so as to protect employees when working with robots.(Wisskirchen,et al, 2017, p.62) The machinery should not be put in place until a safety briefing relating to the individual workplace of the employee working with the machinery has taken place. It is also recommended to regulate the use of the systems by establishing policies.

2. Employees new risks due to new technology.

(Wisskirchen,et al, 2017, p.62) The use of (partly) autonomous systems in the establishment leads to numerous safety hazards that can end in an accident at work, because when an automatic procedure has been put in motion, it is difficult to stop it. Even if the procedure is interrupted, it cannot be ruled out that all of the risks have been averted. New, individual risks that were not foreseeable either by the relevant operators or by the autonomous system can, for instance, arise because of the uncontrolled interruption of a procedure. There have, for example, been cases in the US in which an employee suffered serious injuries resulting in death because of the shut-off of the system. Such cases include the dropping of an employee after a colleague flipped the emergency switch or the crushing of an employee after they restarted the machinery. The number of deaths caused by robots in the US over the past 30 years is 33 employees. So, an average of one death caused by a robot per year out of approximately 2,000 accidents at work per year in the US,258 which equates to 0.0005 per cent.

2.4. Research Gaps:

According to Samala and others (2020) Impact of AI and robotics in the tourism sector: a critical insight, they conclude that AI certainly enhances tourism experiential services however cannot surpass the human touch which is an essential determinant of experiential tourism. AI acts as an effective complementary dimension to the future of tourism. With the emergence of artificial travel intelligence, it is simpler to make travel arrangements. AI offers travel services that are automated, customized and insightful. AI allows travelers to learn about their behaviors, interests to inclinations and provide a personalized experience. Gone are the days to consult a travel agent, meet him physically and indulge in an endless chain of troubling phone calls to inquire

about travel arrangements. According to Cain (2019) on From sci-fi to sci-fact: the state of robotics and AI in the hospitality industry, they concluded that In the future, managers will need to have sufficient technological skills to understand robotics and AI applications to maximize the potential benefits and efficiencies of such systems.

Ryan and Stahl (2020) Artificial intelligence ethics guidelines for developers and users: clarifying their content and normative implications, the authors therefore provide a detailed explanation of the normative implications of existing AI ethics guidelines but directed towards developers and organisational users of AI. The authors believe that the paper provides the most comprehensive account of ethical requirements in AI currently available, which is of interest not only to the research and policy communities engaged in the topic but also to the user communities that require guidance when developing or deploying AI systems. Leitner-Hanetseder (2021) A profession in transition: actors, tasks and roles in AI-based accounting showS that tasks and skills for existing professional occupations in the broader accounting context will be subject to major changes in the next 10 years due to (AI based) digital technologies, while “core” roles and tasks will continue to exist in the future, some will not be performed by humans but by AI-based technology. For other“new”roles, humans will need to make informed use of digital technologies and, to some extent, collaborate with AI-based technology.

According to Rodriguez (2020) on Impact of Artificial Intelligence on the health protection scheme in India, AI certainly enhances experiential services; however, it cannot surpass the human touch which is an essential determinant of experiential healthcare services. AI acts as an effective complementary dimension to the future of healthcare. Wirtz (2018) Brave new world: service robots in the frontline, provides a definition of service robots, describes their key attributes, contrasts their features and capabilities with those of frontline employees, and provides an understanding for which types of service tasks robots will dominate and where humans will dominate. Second, this paper examines consumer perceptions, beliefs and behaviors as related to service robots, and advances the service robot acceptance model. Third, it provides an overview of the ethical questions surrounding robot-delivered services at the individual, market and societal level.

From the literature it can be deduced that Artificial Intelligence brings a very great positive impact and also comes in with some setbacks. The purpose of this research was to tackle the impacts of AI both negative and positive especially in the organization of work, working time and health and safety issues which arise. It also sought to shed some light and make people think more on how job security can be totally maintained as technology keeps advancing. In as much as workers will have to learn new skills, their roles will still reduce hence increasing the chances of layoffs since work that would have been done by five people would now be done by one person with the help of technology. If one can think of creating a complex system, then they are capable of coming with ways of ensuring the systems coexist and benefit both the employer and the employee.

2.5. Conceptual Framework:

Figure 2.2 Conceptual Framework and operationalizations.

Variable	Definition	Operationalization
Artificial Intelligence	<p>Artificial Intelligence (AI) can be referred to as the development of computer systems that can perform tasks and activities which require human intelligence (Russell and Norvig, 2016, p. 4) .</p> <p>Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially</p>	The availability of AI systems makes work operations easier.

	<p>computer systems. Specific applications of AI include expert systems, natural language processing (NLP), speech recognition and machine vision.(Tucci,2020)</p>	
<p>Job security</p>	<p>Job security, often measured using the perceived risk of job loss in the near future.(Artz & Kaya,2015)</p> <p>Many workers have been threatened with job loss situations, transfer of work, requested to quit early and work part-time. According to Mauno & Kinnunen (1999) all these situations can be classified into the term of job insecurity.</p>	<p>Presence of AI poses a risk of job loss to some workers in the near future.</p>
<p>Organization of work</p>	<p>Work organization is about the control of work and the division of labor. It includes the tasks performed, who performs them and how they are performed in the process of making a product or providing a service, (AFL-CIO Department of</p>	<p>AI systems greatly influence how work will be organized.</p>

	<p>Safety and Health, 2006)</p> <p>Other features of work organization include schedule factors such as long work hours (more than 50 hours per week) and shift work (evening or night work); (Landsbergis,et al, 2011)</p>	
Working time	<p>Working time can be divided into two main components: (1) hours of work; and (2) the organization of working time, which is more commonly known as working time arrangements or work schedules, (Messenger, 2018)</p>	<p>AI systems mostly reduce the working hours for employees since they make work easier and faster.</p>
Health and safety issues	<p>The activity of protecting one from harm, illness and danger.</p>	<p>With AI systems in place, workers can be safe when the machines are used to carry out the dangerous activities while can also harm the workers when they are not operated well.</p>

3.0 CHAPTER THREE: METHODOLOGY

3.1 Introduction:

This chapter will entail the research design used to carry out the research, which is an arrangement for collecting and analyzing data, operationalization and measurement of variables, the target population of the study which is limited to formal employees at Riara University, some students and some few outside workers. It will also entail the sampling design which is convenient sampling design, data collection method which is questionnaire method, data collection procedure, data analysis technique and presentation and lastly ethical considerations.

3.2 Research design:

The study will adopt Exploratory research design, which according to Field (2009), is a way of determining variables and has the capability of decreasing information to a good size that is easily manageable. Exploratory factor analysis is done by basically running a rotated component matrix, hence reducing the questions that are irrelevant and do not make sense. This research design is used when finding out the factors or variables that influence a phenomenon, thus, according to this study, it is more effective, since the study focuses on impacts of AI on job security. The job security factors include; organization of work, working time and health and safety issues. This research design was proven effective and successful, as it was used by Mugabe & Kulabako (2016).

3.3. Operationalization and Measurement of Variables:

Figure 3.1 Operationalization and Measurement of Variables.

Variable	Definition	Operationalization	Measurement
Artificial Intelligence	The term 'artificial intelligence' thus means 'investigating	The availability of AI systems makes work operations easier.	Likert scale will be used for measurement

	<p>intelligent problem-solving behaviour and creating intelligent computer systems'.(Wisskirchen,et al, 2017).</p> <p>Artificial intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing (NLP), speech recognition and machine vision.(Tucci,2020)</p>		
<p>Job security</p>	<p>Job security, often measured using the perceived risk of job loss in the near future.(Artz & Kaya,2015)</p> <p>Many workers have been threatened with</p>	<p>Presence of AI poses a risk of job loss to some workers in the near future.</p>	<p>Likert scale will be used for measurement</p>

	<p>job loss situations, transfer of work, requested to quit early and work part-time. According to Mauno & Kinnunen (1999) all these situations can be classified into the term of job insecurity.</p>		
<p>Organization of work</p>	<p>Work organization is about the control of work and the division of labor. It includes the tasks performed, who performs them and how they are performed in the process of making a product or providing a service, (AFL-CIO Department of Safety and Health, 2006)</p> <p>Other features of work organization include schedule factors such as long work hours (more</p>	<p>AI systems greatly influence how work will be organized.</p>	<p>Likert scale will be used for measurement</p>

	<p>than 50 hours per week) and shift work (evening or night work); (Landsbergis,et al, 2011)</p>		
Working time	<p>Working time can be divided into two main components: (1) hours of work; and (2) the organization of working time, which is more commonly known as working time arrangements or work schedules, (Messenger, 2018)</p>	<p>AI systems mostly reduce the working hours for employees since they make work easier and faster.</p>	<p>Likert scale will be used for measurement</p>
Health and safety issues	<p>The activity of protecting one from harm, illness and danger.</p>	<p>With AI systems in place, workers can be safe when the machines are used to carry out the dangerous activities while can also harm the workers when they are not operated</p>	<p>Likert scale will be used for measurement</p>

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3.4. Target Population:

The target population is formal employees at Riara University, employed by the school, Riara students from all schools and few outside workers. The size of the population will be all employees aged 18 years and above. The study will include the working employees of the university that are employed to work within the school premises. The employees are of various schools, including the school of business, journalism, education, international relations, law and computing science.

3.5. Sampling Design:

Convenience sampling design will be adopted, since the population is easy to reach and contact, because the population is from Riara University. Convenience sampling will be used to collect data under each school in the university because the employees are from various schools. This type of sampling is affordable, since it does not require much effort and resources. It also saves the researcher's time, because the researcher does not need to go look for a population to use for data collection, since it is readily available. This type of sampling design has limited rules on how data should be collected (Maravelakis 2019).

3.6. Data Collection tool:

The data will be collected from respondents using questionnaire to obtain substantial information. The questionnaire will entail closed-answer format which will allow the respondents to respond as they wish (Bananuka et al., 2018). Questionnaires have advantages over some other types of surveys in that they are cheap, do not require as much effort from the questioner as verbal or telephone surveys do, and are often easily understood. They are limited to the fact that respondents must be able to know how to read the questions and how to respond to them.

3.7. Data Collection Procedure:

Data will be collected through the use of questionnaires. The questionnaires will be sent to respondents through various platforms, including; Gmail account and WhatsApp. Gmail will be considered first because it is official, since the research will involve the Riara university staff who are formal employees, not informal. Gmail is also safe and secure, when compared to WhatsApp. WhatsApp will also be used, but in rare occasions; if the email of the respondent is not active or inaccessible, or due to other circumstances.

3.8. Data Analysis and Presentation:

SPSS method of analyzing data will be used. It is a short form for Statistical Package for the Social Sciences, and is used to compile and analyze statistical data. The software was first launched in 1968 by SPSS Inc., and International Business Machines Corporation acquired it in 2009. It is widely and globally used, because of its flexibility, transparency, English-like command language and it thoroughly analyzes statistical data, giving transparent results. It is used by various departments when carrying out research, including health, education, marketing and government itself, in order to get the most accredited results from their research projects. SPSS provides solutions for data management problems, that allows researchers to carry out case selection, analyze data and transfer data into files and then reshape the files. (International Business Machines Corporation, 2020). Data will be presented in charts, i.e., pie- charts and graphs.

3.9. Ethical Considerations:

Plagiarism will be addressed by citing and quoting the relevant authors and paraphrasing their original work. The work will also be referenced at the end of the research in order to reduce plagiarism. Plagiarism will also be addressed by the use of plagiarism checker, to enable identify the plagiarized areas and enable the researchers to correct on those areas.

Privacy will be addressed by not mentioning and not listing the names of the respondents who participated in the questionnaire during the research, assuring the respondents that their

information will be kept confidential and assuring the respondents that the information provided will be used for academic purposes only and not for selfish interests.

4.0. CHAPTER FOUR: RESEARCH FINDINGS AND DISCUSSIONS.

4.1 Introduction.

This chapter is about data analysis regarding the Impacts of Artificial Intelligence on Job Security among the Riara University employees and students. The data analyzed has been interpreted in relation to the research objectives and has been presented in table form, graphs and charts.

4.2 Response Rate.

Table 4.1: Response Rate.

The questionnaire was sent to students and staff via emails and whatsapp. Out of the sent questionnaires, only 40 personnel responded to the questionnaire.

4.3 Demographic Information.

This refers to a set of characteristics, a behavior or trend that is observed in a given study that targets a population of choice. This section covers the age bracket and gender of the respondents. This information is important as it helps to understand the composition characteristics of the target population of study.

4.3.1 Gender of the Respondents.

Gender:

40 Responses

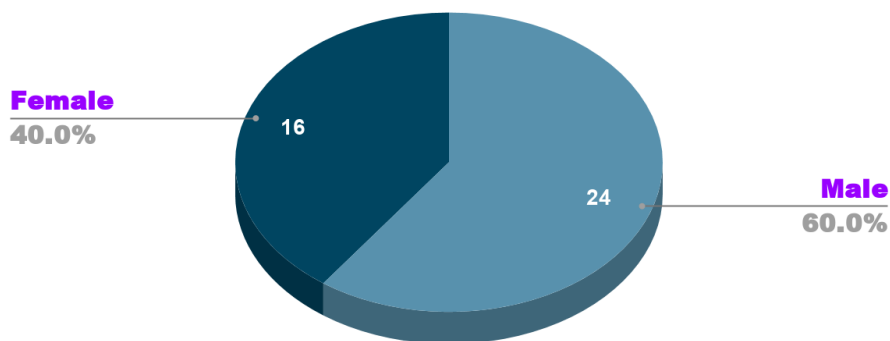


Figure 4.1 Gender.

The study found it essential to determine the respondents' gender in order to ascertain whether gender parity was in consideration. Based on the findings in figure 4.1, the majority of the respondents were male with a total percentage of 60% and 40% female.

4.3.2 Age of the Respondents.

Age:

40 Responses

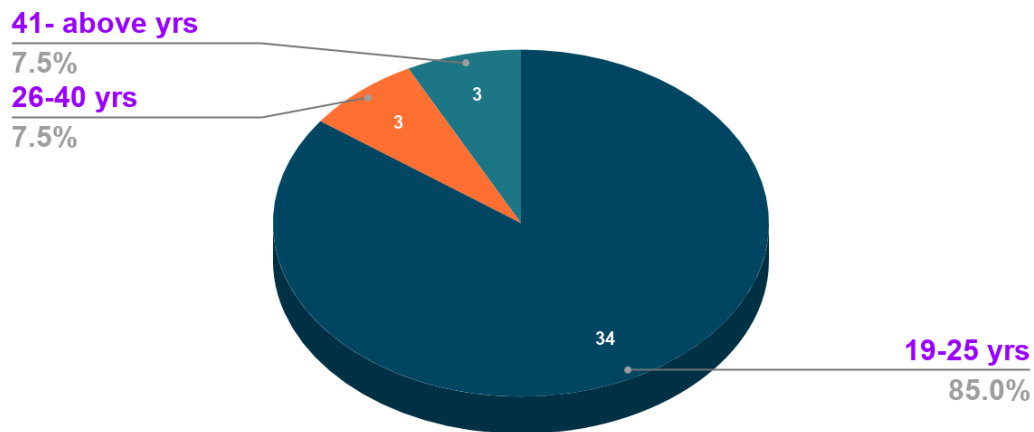


Figure 4.2 Age of the Respondents.

Figure 4.2 shows that 0% of the respondents were below 18, 85% were between the age of 19-25, 7.5% between 26-40 and 7.5% between 41 and above. This indicated that the majority of the respondents were between the age of 19-25, while the minority were between the age of 26 and above.

4.4 Impacts of Artificial Intelligence on Job Security.

The study assessed the Impacts of Artificial Intelligence on Job Security among the Riara University employees and students. Thus; 1 indicated strongly agree, 2-agree, 3-not sure, 4-disagree and 5-strongly disagree.

4.4.1. Organization of work.

The study aimed to find how organization of work affects Job security. This section had four questions or statements that were posed to the respondents. The first statement was “Availability of machines in the workplace will change how often employees will come to work.”. 21 (52.5%) of the respondents strongly agreed, 13 (32.5%) agreed, 2 (5%) were neutral, 3 (7.5%) disagreed and 1 (2.5%) strongly disagreed. The second statement on organization of work was “Machines will increase outsourcing of jobs from outside.” it received the following responses. 15 (37.5%) strongly agreed, 8 (20%) agreed, 14 (35%) were neutral, 4 (10%) disagreed and 1 (2.5%) strongly disagreed. The third statement was “Eventually, machines will replace every task done by a human.”. This statement received the following responses. 4 (10%) strongly agreed, 12 (30%) agreed, 4 (10%) were neutral, 15 (37.5%) disagreed and 5 (12.5%) strongly disagreed.

The last statement was “It will be good when machines perform almost all our tasks. ” and it had the following responses. 1 (2.5%) strongly agreed, 7 (17.5%) agreed, 13 (32.5%) were neutral, 13 (32.5%) disagreed and 6 (15%) strongly disagreed.

Table 4.2 Availability of machines in the workplace will change how often employees will come to work.

Findings	Frequency	Percentage (%)
Strongly Agree	21	52.5%
Agree	13	32.5%
Neutral	2	5%
Disagree	3	7.5%
Strongly Disagree	1	2.5%

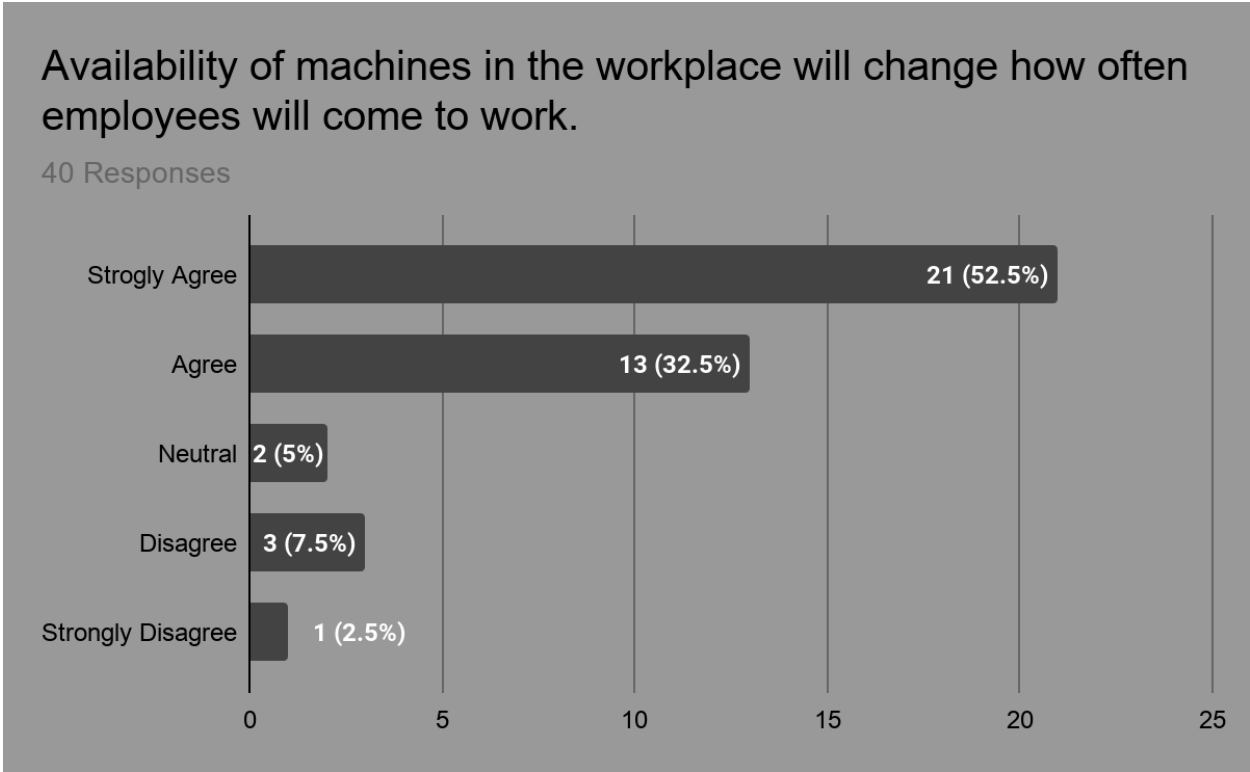


Figure 4.2: Availability of machines in the workplace will change how often employees will come to work.

From the figure above, 21 (52.5%) of the respondents strongly agreed, 13 (32.5%) agreed, 2 (5%) were neutral, 3 (7.5%) disagreed and 1 (2.5%) strongly disagreed.

Table 4.3: Machines will increase outsourcing of jobs from outside.

Findings	Frequency	Percentage (%)
Strongly Agree	15	37.5%
Agree	8	20%
Neutral	14	35%
Disagree	4	10%
Strongly Disagree	1	2.5%

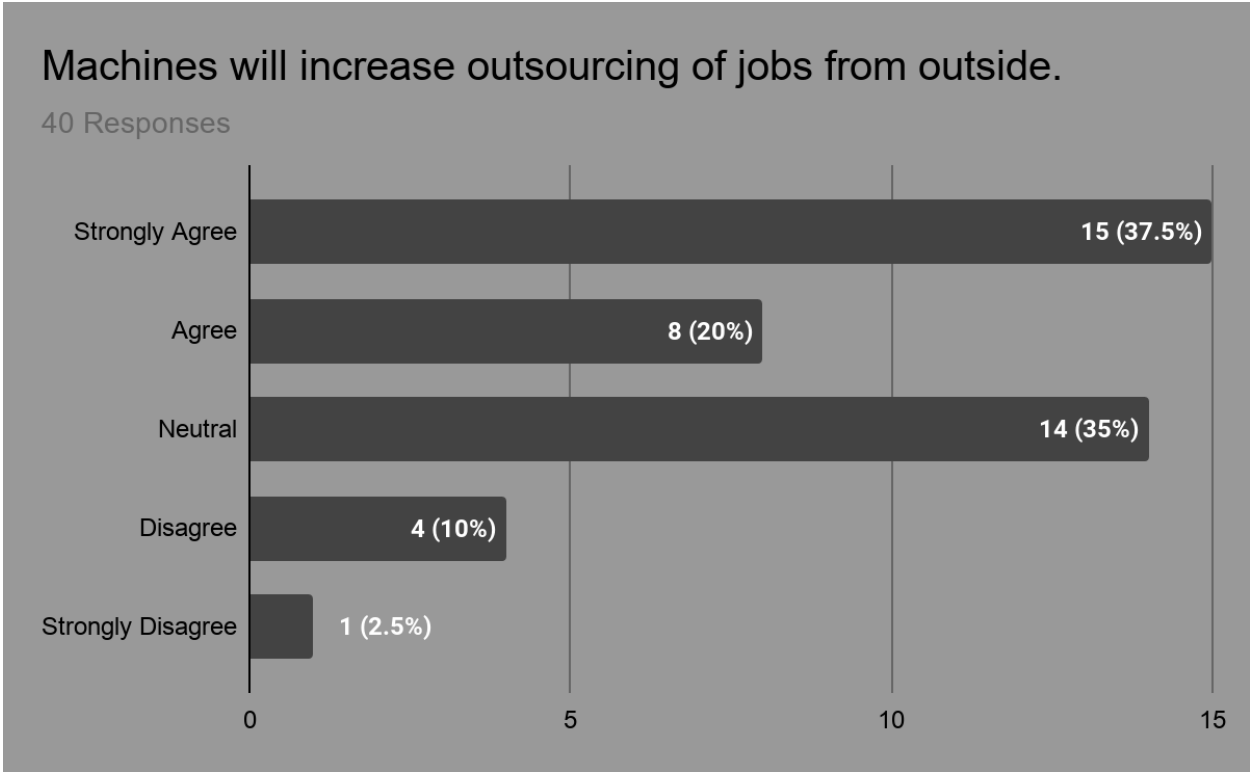


Figure 4.3: Machines will increase outsourcing of jobs from outside.

From the figure above, 15 (37.5%) strongly agreed, 8 (20%) agreed, 14 (35%) were neutral, 4 (10%) disagreed and 1 (2.5%) strongly disagreed.

Table 4.4: Eventually, machines will replace every task done by a human.

Findings	Frequency	Percentage (%)
Strongly Agree	4	10%
Agree	12	30%
Neutral	4	10%
Disagree	15	37.5%
Strongly Disagree	5	12.5%

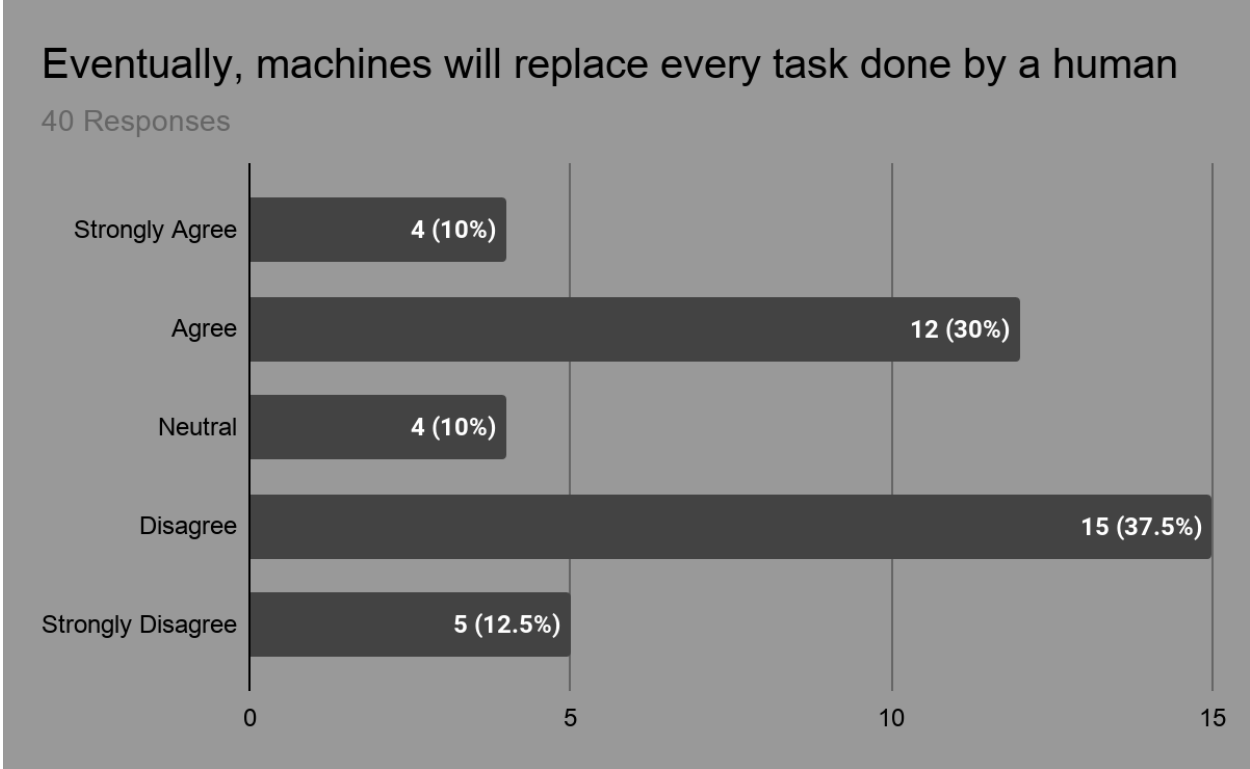


Figure 4.4: Eventually, machines will replace every task done by a human.

From the figure 4.4, 4 (10%) strongly agreed, 12 (30%) agreed, 4 (10%) were neutral, 15 (37.5%) disagreed and 5 (12.5%) strongly disagreed with the statement.

Table 4.5: It will be good when machines perform almost all our tasks.

Findings	Frequency	Percentage (%)
Strongly Agree	1	2.5%
Agree	7	17.5%
Neutral	13	32.5%
Disagree	13	32.5%
Strongly Disagree	6	15%

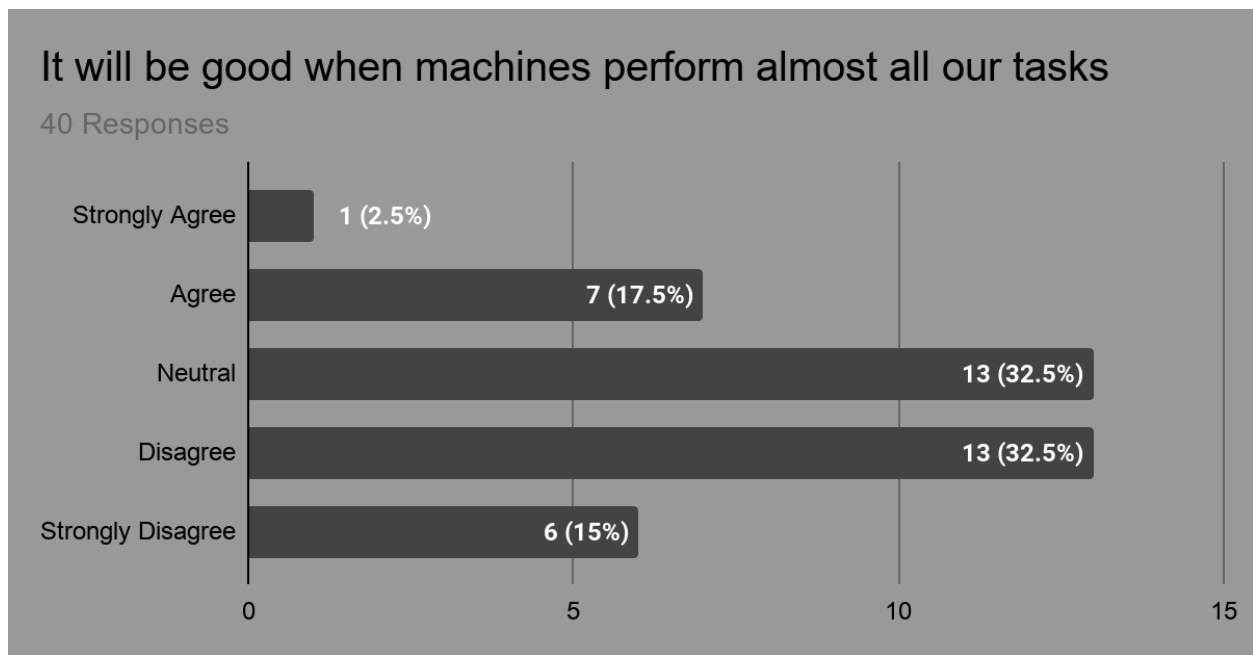


Figure 4.5: It will be good when machines perform almost all our tasks.

From the figure 4.4, 1 (2.5%) strongly agreed, 7 (17.5%) agreed, 13 (32.5%) were neutral, 13 (32.5%) disagreed and 6 (15%) strongly disagreed with the statement.

4.4.2: Working Time .

The study aimed at finding out how working time affects job security. This was done using the likert scale, the study posed three statements under which the respondents were to tick where

appropriate. The first statement was “Most employees may lose jobs if they work a few hours due to machines helping them”. The following were the responses. 8 (20%) strongly agreed, 23 (57.5%) agreed, 2 (5%) were neutral, 8 (20%) disagreed and 0 (0%) strongly disagreed. The second statement was “I prefer less working time and less pay than more working time and less pay”. 10 (25%) strongly agreed, 14 (35%) agreed, 9 (22.5%) were neutral, 5 (12.5%) disagreed and 2 (5%) strongly disagreed. The third statement was “Less working hours would give me an opportunity to work in other areas”. 11 (27.5%) strongly agreed, 22 (55%) agreed, 6 (15%) were neutral, 1 (2.5%) disagreed and 0 (0%) strongly disagreed.

Table 4.6: Most employees may lose jobs if they work a few hours due to machines helping them.

Findings	Frequency	Percentage (%)
Strongly Agree	8	20%
Agree	23	57.5%
Neutral	2	5%
Disagree	8	20%
Strongly Disagree	0	0%

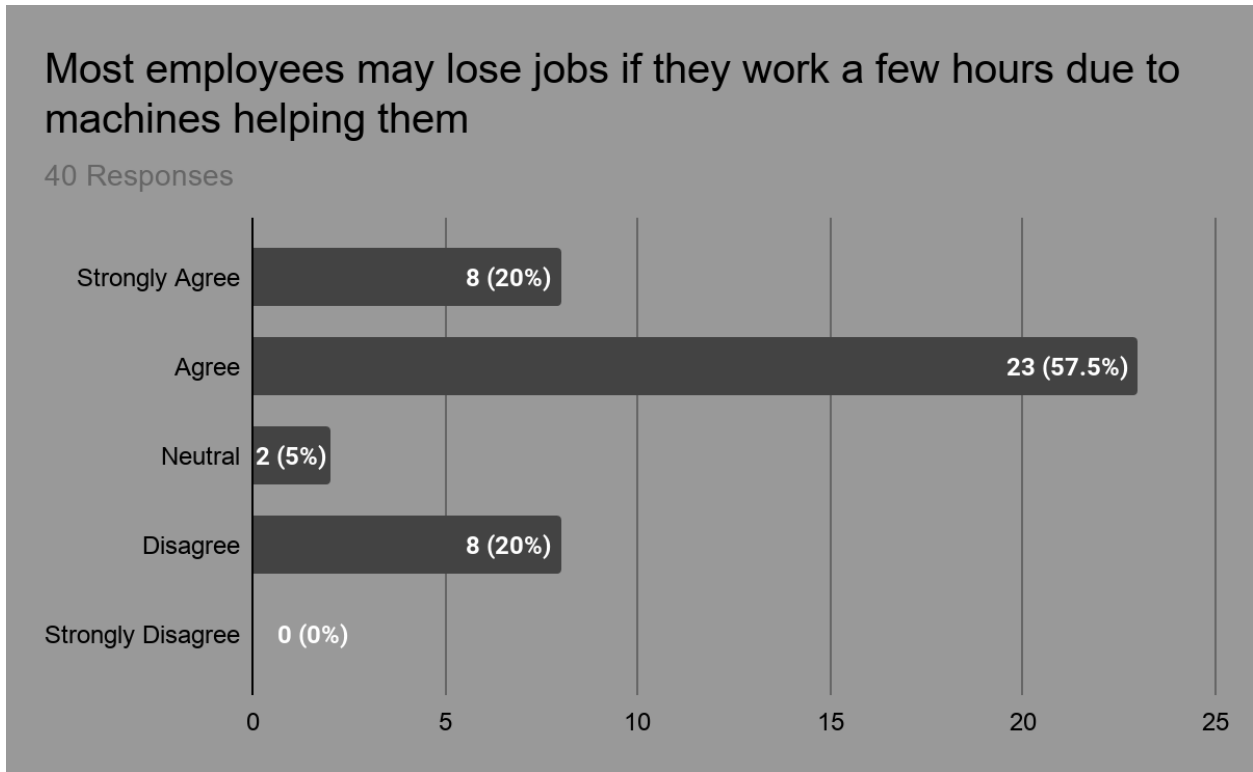


Figure 4.6: Most employees may lose jobs if they work a few hours due to machines helping them.

From the figure above, 8 (20%) strongly agreed, 23 (57.5%) agreed, 2 (5%) were neutral, 8 (20%) disagreed and 0 (0%) strongly disagreed with the statement.

Table: 4.7. I prefer less working time and less pay than more working time and less pay.

Findings	Frequency	Percentage (%)
Strongly Agree	10	25%
Agree	14	35%
Neutral	9	22.5%
Disagree	5	12.5%
Strongly Disagree	2	5%

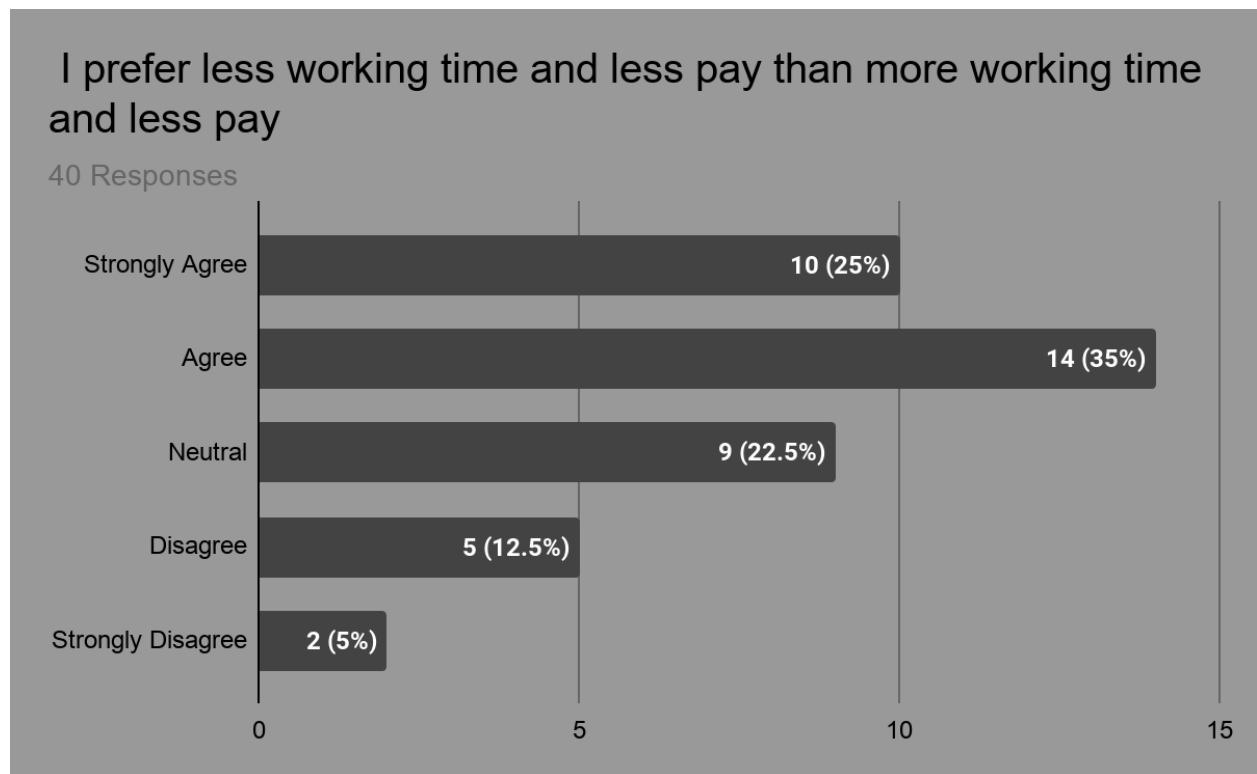


Figure 4.7: I prefer less working time and less pay than more working time and less pay.

From the figure above, 10 (25%) strongly agreed, 14 (35%) agreed, 9 (22.5%) were neutral, 5 (12.5%) disagreed and 2 (5%) strongly disagreed with the statement.

Table 4.8: Less working hours would give me an opportunity to work in other areas.

Findings	Frequency	Percentage (%)
Strongly Agree	11	27.5%
Agree	22	55%
Neutral	6	15%
Disagree	1	2.5%
Strongly Disagree	0	0%

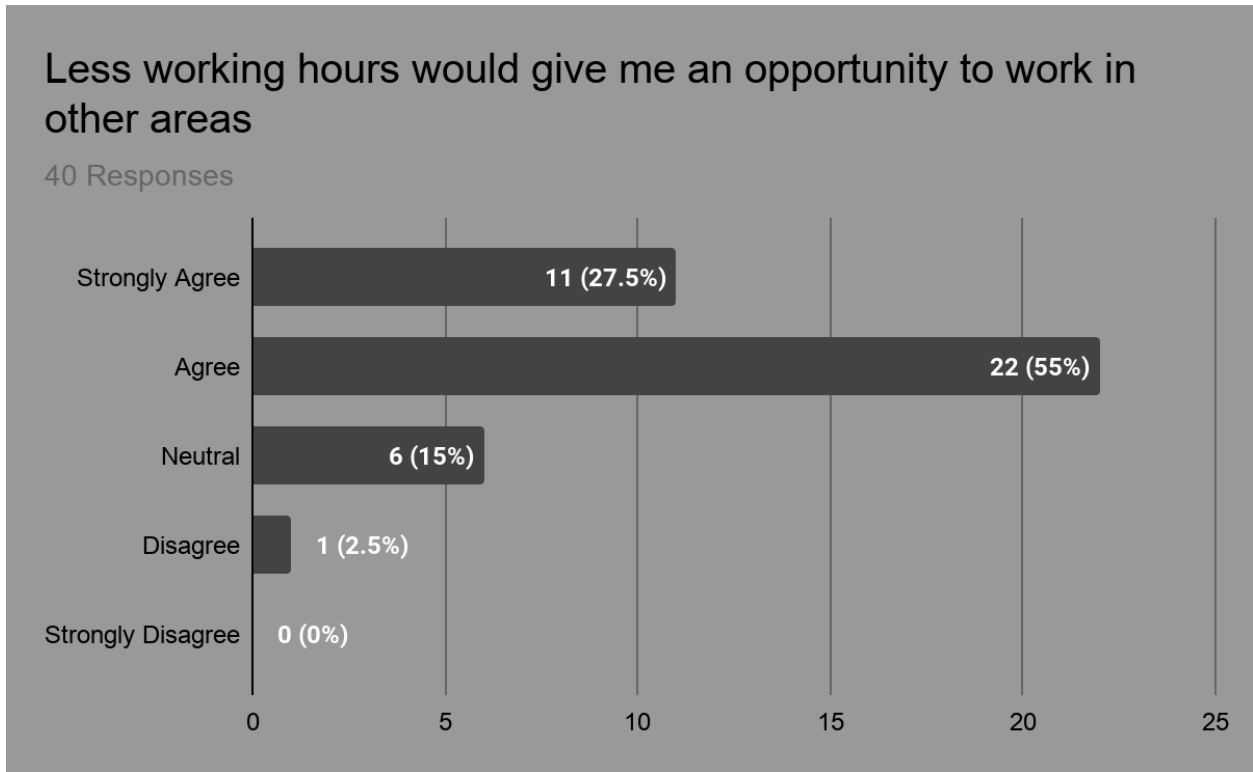


Figure 4.9: Less working hours would give me an opportunity to work in other areas.

From the figure above, 11 (27.5%) strongly agreed, 22 (55%) agreed, 6 (15%) were neutral, 1 (2.5%) disagreed and 0 (0%) strongly disagreed with the statement.

4.4.3. Health and Safety Issues.

The study intended to find out health and safety issues affect job security. Using the likert scale, the study posed three statements that the respondents were to tick where appropriate according to them. The first statement was “I feel safe relating and working with robots in the future”. 4 (10%) strongly agreed, 17 (42.5%) agreed, 13 (32.5%) were neutral, 4(10%) disagreed and 2 (5%) strongly disagreed. The second statement was “Robots should be designed with restrictions to avoid causing any harm”. 22 (55%) strongly agreed, 17 (42.5%) agreed, 1 (2.5%) were neutral, 0 (0%) disagreed and 0 (0%) strongly disagreed. The third statement was “Laws should be set to govern the development of robots”. 26 (65%) strongly agreed, 13 (32.5%) agreed, 1 (2.5%) were neutral, 0 (0%) disagreed and 0 (0%) strongly disagreed.

Table 4.10: I feel safe relating and working with robots in the future.

Findings	Frequency	Percentage (%)
Strongly Agree	4	10%

Agree	17	42.5%
Neutral	13	32.5%
Disagree	4	10%
Strongly Disagree	2	5%

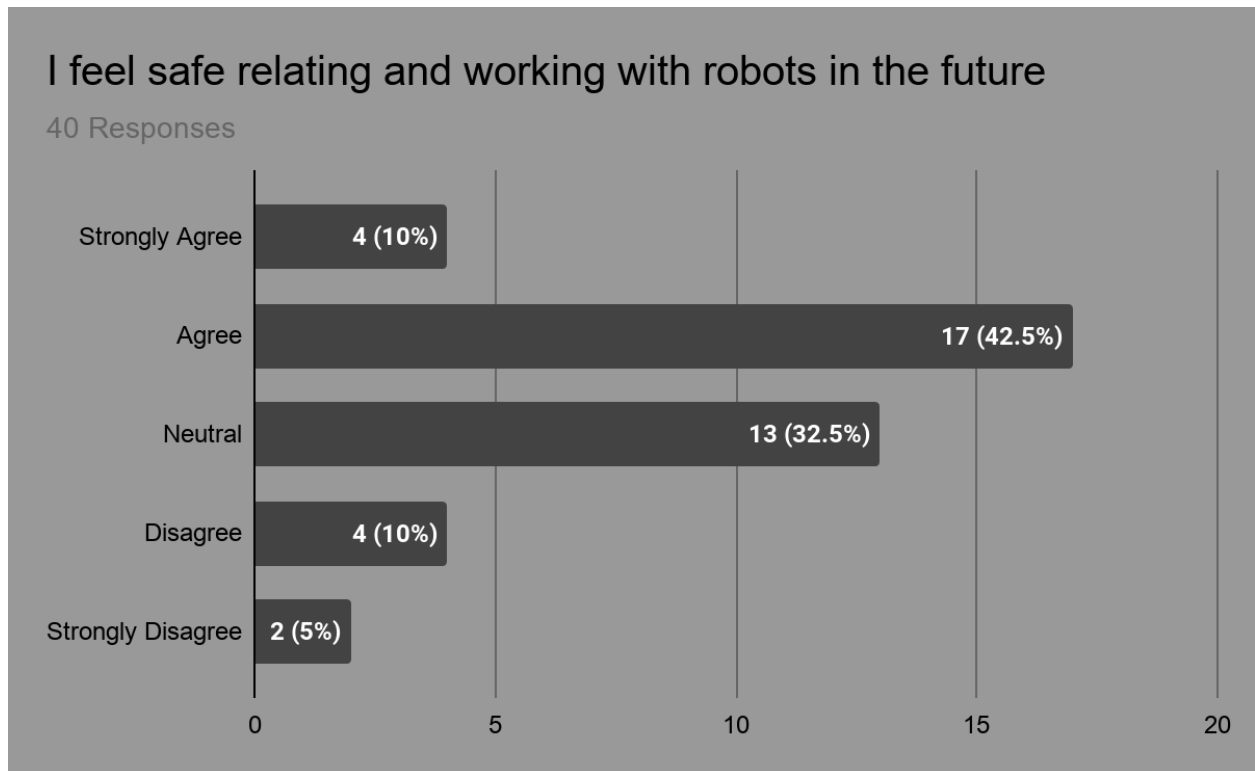


Figure 4.10: I feel safe relating and working with robots in the future.

From the above figure, 4 (10%) strongly agreed, 17 (42.5%) agreed, 13 (32.5%) were neutral, 4(10%) disagreed and 2 (5%) strongly disagreed with this statement.

Table 4.11: Robots should be designed with restrictions to avoid causing any harm.

Findings	Frequency	Percentage (%)
Strongly Agree	22	55%

Agree	17	42.5%
Neutral	1	2.5%
Disagree	0	0%
Strongly Disagree	0	0%

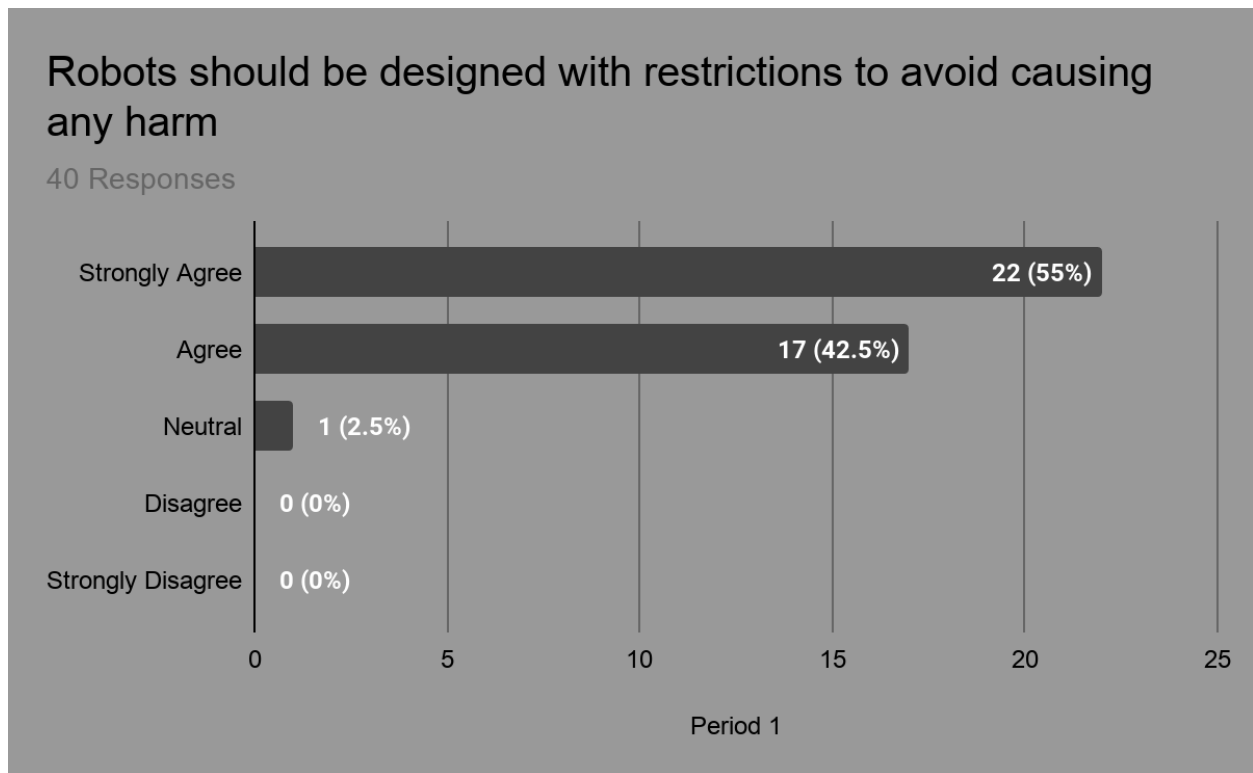


Figure 4.11: Robots should be designed with restrictions to avoid causing any harm.

From the above figure, 22 (55%) strongly agreed, 17 (42.5%) agreed, 1 (2.5%) were neutral, 0 (0%) disagreed and 0 (0%) strongly disagreed with this statement.

Table 4.12: Laws should be set to govern the development of robots.

Findings	Frequency	Percentage (%)
Strongly Agree	26	65%

Agree	13	32.5%
Not Sure	1	2.5%
Disagree	0	0%
Strongly Disagree	0	0%

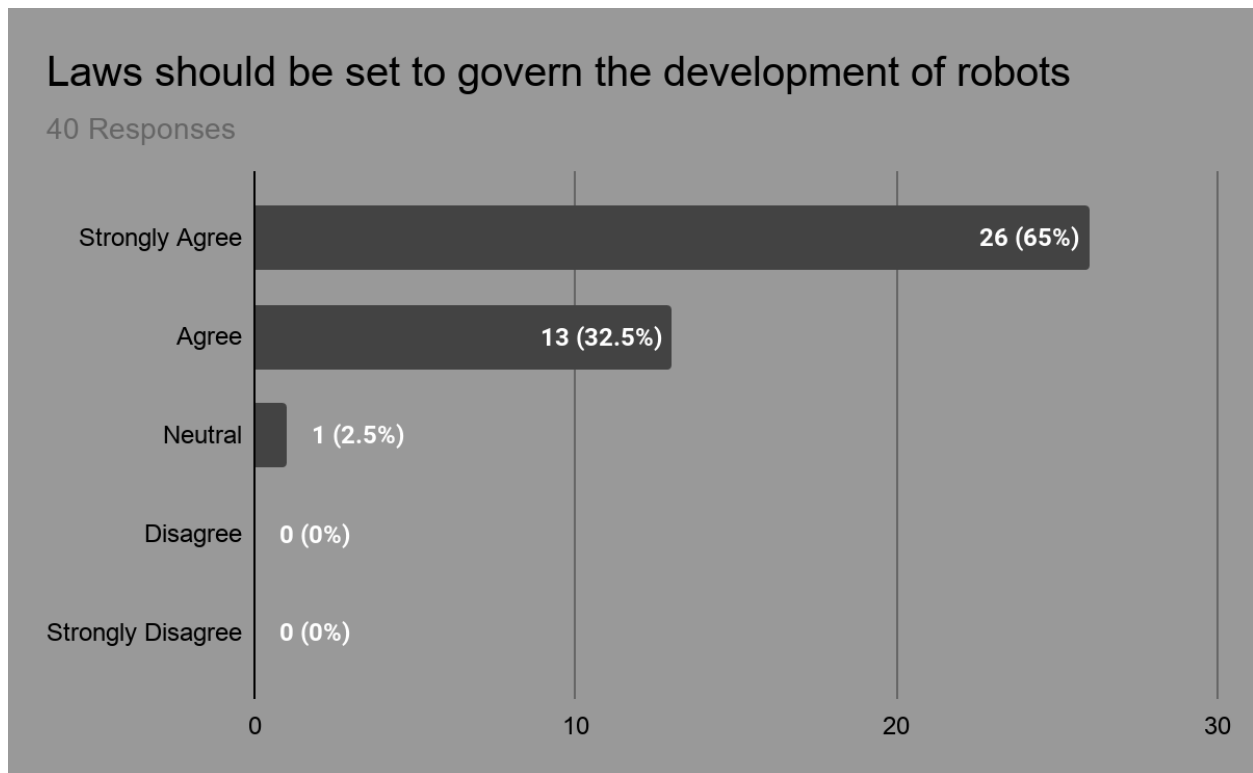


Figure 4.12: Laws should be set to govern the development of robots.

From the above figure, 26 (65%) strongly agreed, 13 (32.5%) agreed, 1 (2.5%) were neutral, 0 (0%) disagreed and 0 (0%) strongly disagreed with this statement.

4.4.4 Artificial Intelligence

The study aimed to find out how respondents view and understand Artificial Intelligence. The first statement about AI was “I am conversant with technology trends”. 14 (35%) strongly agreed, 16 (40%) agreed, 6 (15%) were neutral, 4 (10%) disagreed and 0 (0%) strongly disagreed. The second statement was “Technology advancement can be used to also create more employment opportunities as much as it makes work easier”. 17 (42.5%) strongly agreed, 22 (55%) agreed, 0 (0%) were neutral, 0 (0%) disagreed and 1 (2.5%) strongly disagreed.

The third statement was “Considerations should be done in technology advancement to ensure that there is also an increase of employment opportunities”. 24 (60%) strongly agreed, 15 (37.5%) agreed, 1 (2.5%) were neutral, 0 (0%) disagreed, and 0 (0%) strongly disagreed.

Table 4.14: I am conversant with technology trends.

Findings	Frequency	Percentage (%)
Strongly Agree	14	35%
Agree	16	40%
Not Sure	6	15%
Disagree	4	10%
Strongly Disagree	0	0%

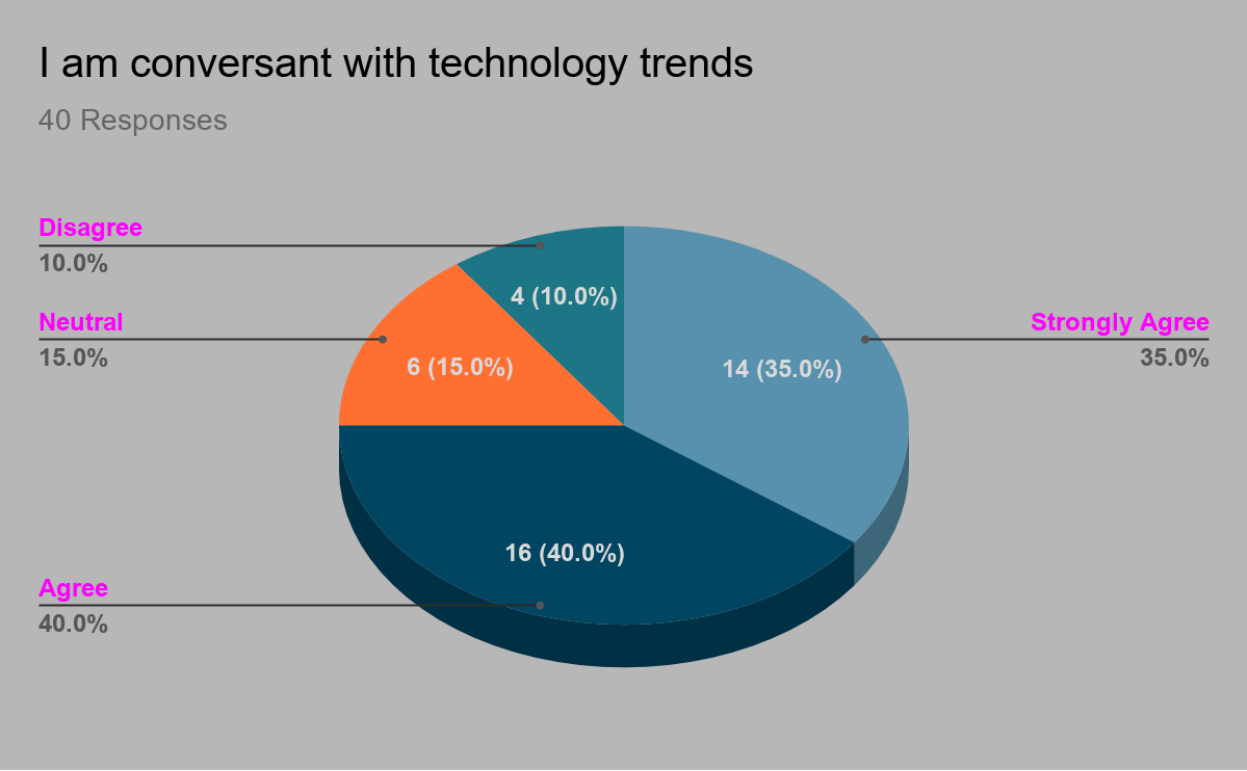


Figure 4.14: I am conversant with technology trends.

From the figure above, 14 (35%) strongly agreed, 16 (40%) agreed, 6 (15%) were neutral, 4 (10%) disagreed and 0 (0%) strongly disagreed.

Table 4.15: Technology advancement can be used to also create more employment opportunities as much as it makes work easier.

Findings	Frequency	Percentage (%)
Strongly Agree	17	42.5%
Agree	22	55%
Not Sure	0	0%
Disagree	0	0%
Strongly Disagree	1	2.5%

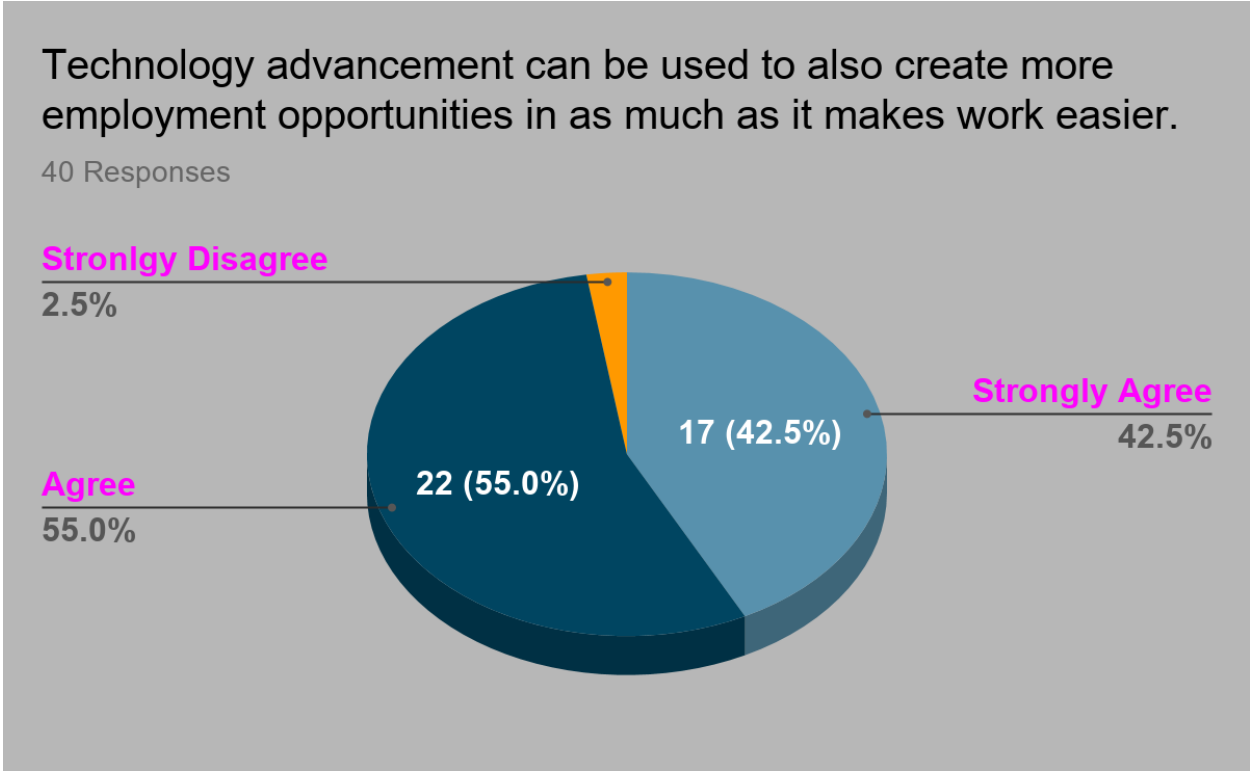


Figure 4.15: Technology advancement can be used to also create more employment opportunities in as much as it makes work easier.

From the figure above, 17 (42.5%) strongly agreed, 22 (55%) agreed, 0 (0%) were neutral, 0 (0%) disagreed and 1 (2.5%) strongly disagreed with this statement.

Table 4.16: Considerations should be done in technology advancement to ensure that there is also an increase of employment opportunities.

Findings	Frequency	Percentage (%)
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Strongly Agree	24	60%
Agree	15	37.5%
Not Sure	1	2.5%
Disagree	0	0%
Strongly Disagree	0	0%

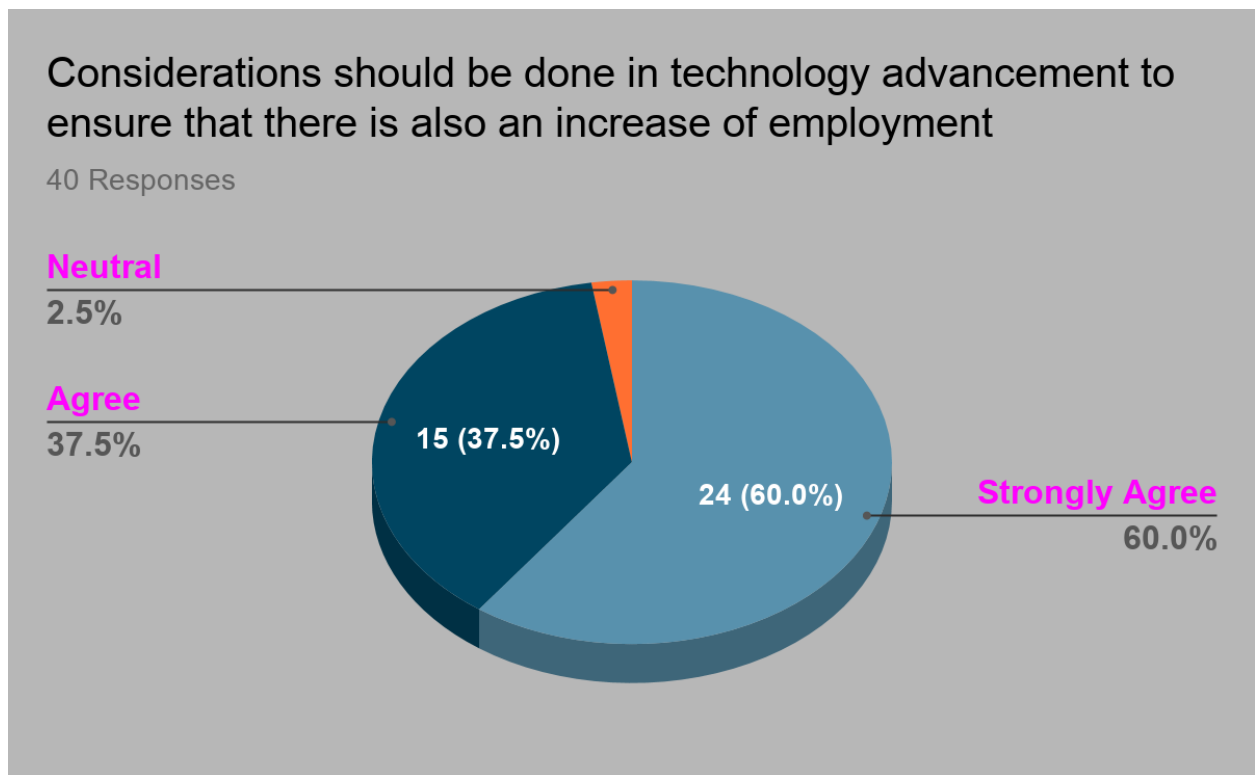


Figure 4.17: Considerations should be done in technology advancement to ensure that there is also an increase of employment opportunities.

From the above figure, 24 (60%) strongly agreed, 15 (37.5%) agreed, 1 (2.5%) were neutral, 0 (0%) disagreed, and 0 (0%) strongly disagreed with this statement.

4.5. Conclusion.

Table 4.18.

Responses	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
Availability of machines in the workplace will change how often employees will come to work.	21	13	2	3	1	8.0
Machines will increase outsourcing of jobs from outside.	15	8	14	4	1	8.4
Eventually, machines will replace every task done by a human.	4	12	4	15	5	8.0
It will be good when machines perform almost all our tasks.	1	7	13	13	6	8.0
Most employees may lose jobs if they work a few hours due to machines helping them.	8	23	2	8	0	8.2
I prefer less working time and less pay than more working time and less pay.	10	14	9	5	2	8.0
Less working hours would give me an opportunity to work in other areas.	11	22	6	1	0	8.0
I feel safe relating and working with robots in the future.	4	17	13	4	2	8.0

Robots should be designed with restrictions to avoid causing any harm.	22	17	1	0	0	8.0
Laws should be set to govern the development of robots.	26	13	1	0	0	8.0
I am conversant with technology trends	14	16	6	4	0	8.0
Technology advancement can be used to also create more employment opportunities in as much as it makes work easier.	17	22	0	0	1	8.0
Considerations should be done in technology advancement to ensure that there is also an increase of employment opportunities.	24	15	1	0	0	8.0
Average 8.05						

From the table above, the results obtained from the study of Impacts of Artificial Intelligence on Job Security among the Riara University staff and students, show that the average mean was 8.05 which implied that the respondents agreed that AI Job security. This is because the average mean was 8.05, which was rated as agreed.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

5.1. Introduction.

This chapter gives the summary and conclusions that are derived from the findings in chapter four, recommendations from the study with regards to the objectives of the research, limitations of the study as well as suggestions for further research. The objective of the study was to study about how Artificial Intelligence affects Job Security among the Riara University employees and students.

5.2. Summary of the Findings.

The main objective of this research was to determine how Artificial Intelligence affects Job Security. The study was guided by these specific objectives; to assess the impacts of Artificial Intelligence on job security, to find out how organization of work is affected by Artificial Intelligence, to determine how working time is affected by Artificial Intelligence and to examine how health and safety issues are affected by Artificial Intelligence. Data for the research was obtained from primary sources through administering questionnaires to the respondents. several questionnaires were distributed to the respondents and only 40 responded.

The study found out that there is a positive relationship between organization of work and Artificial Intelligence. From the findings, 21 (52.5%) strongly agreed that availability of machines in the workplace will change how often employees will come to work, 15 (37.5%) strongly agreed that machines will increase outsourcing of jobs from outside, 15 (37.5%) disagreed that eventually, machines will replace every task done by a human and finally 13 (32.5%) were neutral and 13 (32.5%) disagreed that “ It will be good when machines perform almost all our tasks”. This showed that they are aware and believe that as AI Technology advances and changes the organization of work, but when it comes to performing all their tasks they are a bit reluctant due to fear of job security.

The study concluded that a constructive relationship between Artificial Intelligence and working time exists. From the findings, majority 23 (57.5%) agreed that most employees may lose jobs if they work a few hours due to machines helping them, 14 (35%) agreed that they prefer less working time and less pay than more working time and less pay, 22 (55%) agreed that less working hours would give them an opportunity to work in other areas. This showed that when technology makes work easier, automatically the working time will be reduced. This in turn may be a blessing to an employee or not since some may lose their jobs and some may be able to get time to seek multiple opportunities.

The research identified that a constructive relationship exists between Artificial Intelligence and health and safety issues. From the findings of the research, majority of the respondents 17 (42.5%) agreed that they feel safe relating and working with robots in the future, 22 (55%) strongly agreed that robots should be designed with restrictions to avoid causing any harm and 26 (65%) strongly agreed that laws should be set to govern the development of robots. This showed that in as much as they feel secure working with robots in the future, they are also concerned at ensuring that the robots are designed in a way that they don't cause any harm but only fulfil the desired purpose. This means that if the employees can be safe around robots, job security is also guaranteed.

The study also reflected the understanding of Technology and what can be done to ensure the best for the society. 16 (40%) agreed that they are conversant with technology trends, 22 (55%) agreed that technology advancement can be used to also create more employment opportunities in as much as it makes work easier and 24 (60%) strongly agreed that considerations should be done in technology advancement to ensure that there is also an increase of employment opportunities. Therefore, it can be concluded that Artificial Intelligence affects Job security.

5.3. Conclusion.

The results from the study proves that Artificial Intelligence affects job security. Technology advancement affects the organization of work and working time in the jobs. Health and safety issues also arising from AI advancement affect the jobs. As technology advances, more people are likely to lose jobs due to their tasks being replaced by machines. Technology can also create more time at the same time for workers to find more opportunities and maximize them. When a machine simplifies a task, a worker works less time hence able to invest the remaining time in other opportunities. A robot can be safe and at the same time dangerous to interact with people depending on how it is designed. In the event that a robot becomes dangerous, the employee may be harmed and fall ill. During that period another employee will replace them hence increasing chances of losing their jobs. Due to AI advancement, more jobs are lost than created.

5.4. Recommendation of the Study.

Based on the findings from the research, the study recommends that the bodies governing AI Technology advancement to set laws that govern the development of robots to ensure safety and healthy measures are observed in the workplace. The study also recommends that the Technology personnel seek to create more opportunities as they develop in AI. When seeking to develop technology, we should also look at how that advancement will create opportunities.

5.5. Limitations of the Study.

The study was limited to the use of primary data that is; the use of questionnaires. This indicates that the findings of this research may not be at par with the findings from both primary and secondary sources. This study was also limited to Riara University employees and students, thus it may not match those that focused on various institutions across the country.

5.6. Suggestions for Further Studies.

This study focused on the impacts of Artificial Intelligence on Job Security; how AI affects organization of work, working time and health and safety issues in the workplaces. Future research should be done on how other technologies such as Internet of Things affect job security and the tasks.

Appendix I: Questionnaire That Determines Impacts of Artificial Intelligence on Job Security

For Formal Employees and Students at Riara University.

I am in the process of conducting research on the Impacts of Artificial intelligence on job security for formal employees and students at Riara University. I would like to hear your opinions about this important issue. This will help me to write a paper on the same. The questionnaire will take only five minutes of your time and your responses are completely anonymous and will be used for academic purposes only.

SECTION A.

1. Gender Male Female.
2. Age Below 20 21-30 31-40 41-50 51-60

SECTION B.

In all the questions please tick in the bracket where appropriate, against the statement as defined below;

3. Strongly Agree Agree Not Sure Disagree Strongly Disagree.

Organization of work.

4. Availability of machines in the workplace will change how often employees will come to work.
 Strongly Agree Agree Not Sure Disagree Strongly Disagree.
5. Machines will increase outsourcing of jobs from outside.
 Strongly Agree Agree Not Sure Disagree Strongly Disagree.
6. Eventually, machines will replace every task done by a human.
 Strongly Agree Agree Not Sure Disagree Strongly Disagree.
7. It will be good when machines perform almost all our tasks.
 Strongly Agree Agree Not Sure Disagree Strongly Disagree.

Working time.

8. Most employees may lose jobs if they work a few hours due to machines helping them.

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

9. You would prefer less working time and less pay than more working time and less pay.

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

10. Less working hours would give me an opportunity to work to work in other areas.

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

Health and Safety issues.

11. I feel safe relating and working with robots in the future.

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

12. Robots should be designed with restrictions to avoid causing any harm.

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

13. Laws should be set to govern the development of robots.

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

Artificial Intelligence.

14. Conversant with technology trends

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

15. Technology advancement can be used to also create more employment opportunities in as much as it makes work easier.

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

16. Considerations should be done in technology advancement to ensure that there is also an increase of employment opportunities.

Strongly Agree Agree Not Sure Disagree Strongly Disagree.

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