# CLOUD-BASED AND AI-ENABLED CAREER PATH: A MEETING POINT FOR STUDENTS, PARENTS, HIGHER  INSTITUTION AND INDUSTRIES

Kehinde Hussein Lawal (ICT University, kehinde.lawal@ictuniversity.edu.cm), Shiynsa Charles Lwanga (ICT University, shiynsacharlesl@yahoo.com)

**Abstract**

Today, technology is progressing rapidly and the new profession appears almost every year, the role of the career counseling is becoming even more important. The suggested concept for developing a cloud-based AI solution for the process of career choice can be considered as the theoretical contribution of this study as it is aimed at creating an extensive platform for cooperation between students and parents, academic and industrial institutions. Basing on quantitative approaches, this model aggregates different types of information and utilizes such high-level AI techniques as machine learning to provide individualized career suggestions matched with the specific preferences, abilities, and gaps in one's professions. Categorically, the paper identifies the factors of the proposed model as well as assesses the effectiveness of applying the model in improving career decision making based on the extant literature and statistical analysis. Consequently, the study stresses on the role of cloud-based, AI- supported solutions in transforming the landscape of career counseling services and collaboration between all the links within the education-employment chain. Majority of the participants gave their satisfaction on the possibility of the model to be used as a collaborative tool for students, parents, higher institutions, and industries so that a right career decision can be made and for education and employment to be anointed. Therefore, the study recommended the following: Here, it is imperative to assess how well the model is performing and what the users of the flow have to say about it from time to time. Engage all the stakeholders such as the students, parents, the institutions of higher learning, and industries in the current process of developing and enhancing the model. It will be necessary to consider the model's ability to be as available to different user groups and demographics as possible. Provide the users with educational and training materials that would enable them to fully understand how to use different aspects of the model. Enhance relationships with industry associations to leverage expertise in expanding the model's data inputs, and education institutions for immersion training opportunities and knowledge of developing trends and skills shortage.

**Keywords:** Career choice; Cloud computing; Artificial intelligence; Stakeholders

## 1.0 INTRODUCTION

The transition process from secondary education in North central, Nigeria to the broader education such as universities or colleges and career opportunity poses a significant challenge for senior secondary students. To choose the course to read in the university is still the day dream for

many in this category. Conventional career advisors and counselors are grossly inadequate; they can only serve few students and yet struggling to grow in line with dynamic education development and market trends. In our age, when the speed and diversity of job market changes essentially coincide with new skill sets that are being demanded of job applicants (Dascalu, 2021), it is imperative that the career decision-making process is not only perceived but put into practice also. Therefore, subject to this reality, there has been growing demand for designing models of career advice that use cloud-based solutions and AI, especially in leading to the optimization of career preparation, especially for the senior secondary students. The introductory part of this research debates the development of such platform as the consistent communication point between the students, parents, educational and labour market institutions.

Whereas, with the continuous technologies has altered tremendously the society's formation, the earlier career guidance and assistance modalities have proven too clumsy in solving the modern issues of the employment domain and diverse curriculum offered in the colleges and universities today. As this solution introduces a disruptive change, it utilizes platforms built in the cloud and covered with algorithms which overlap industrial and educational data, providing distinct directions to various career fields and distinguishing trends in two spheres mentioned above (Bhat, 2020). These models are not only helpful for young people in searching for the appropriate sources of information but also in discovering the new possibilities within their careers, for example, performing the detailed analysis of the employment data, future outlooks, and the further education options.

The instruments like AI as well as cloud computing of the advanced model of career choice for the students helps to create an informative and interactive environment for the students is such a way that the students not only have more choices rather they can predict the success of their admission, can know what the skill and academic qualification is necessary for a career and have recommendations for the same (Nazareno, 2019).

Other than that, the model is also about increasing students' self-esteem, and parents' participation in decision-making. In a set of basic instruments which help the offspring navigate the intricate path of the vocational choice process, the roles of parents are that of key advisors. This can be supported by Pablo-elchundi's work (2015) that revealed that Organizational culture enables employees to work in harmony just like a system that allows proper coordination of various organs in the human body. By using the general AI solution in the cloud, parents can find a vast amount of

knowledge and instruments to help their child. If the parents are presented with an opportunity to align their objectives with the dynamic nature of work and increasing needs of the business, they can contribute a lot towards decision making as far as Recommendation – Data Intelligence & Evidence is concerned.

Further, the incorporation of higher education institutions and industries into the framework of cloud-based AI job choice models enhances the ecosystem since it enables the transition of academic preparedness to employment (Crompton & Burke, 2023). Education is a critical task of schooling facilities to ensure that the learners acquire the right knowledge, competencies, and skills to enable them excel in their chosen occupations. In this way, through the knowledge acquired from AI- enhanced analytical data, these institutions can design their curriculum as well as education strategies in a manner to meet the future requirements of job market and thus can equip their students to face the challenges of the new era workforce requirements (Karakolis et al. , 2022).

Likewise, there is the concern of industries benefiting from the linking of educational routes with the needs of industries; industries get to have a ready labour market of talented people who have the necessary skills and competencies to foster the growth and innovation of the industries in question. [Perrin, 2022] & [Underdahl, 2023]. With reference to the aforementioned literature, industries may have a significant part in the development of curricula whereby they are in a position to offer important information concerning some of the key trends and technologies that are obtaining in various fields of specialization, and internships, and mentorship programs through key strategic partnerships between industries and institutions of learning. Via cloud computing and Artificial Intelligence, the career choice models for students after study and for employment exist as a win-win relationship between academia and the industrial world.

In conclusion, the development of a model for cloud-based and AI-enabled career choice for senior secondary students represents a transformative step towards empowering the next generation of professionals. By serving as a collaborative meeting point for students, parents, higher institutions, and industries, these models hold the potential to revolutionize the way career decisions are made, fostering informed choices, and facilitating meaningful pathways to success.

Objectives of the study

The objectives are to;

1. Develop a model for effective career choice paths guidance and counseling..

2. Design AI algorithm for career path recommendations.

The research questions;

1. Can the model provide effective career paths guiding and counseling?
2. How does AI algorithm facilitate career path recommendations?

## 2.0 LITERATURE REVIEW

2.1 Building a Future-Proof Career Choice Model with AI

The dynamics of the labor market are improving constantly, which is the result of technical changes of the world economy; this is why it is essential to change the approach to career counseling. Standard practices of vertical frameworks and broader evaluative criteria fail to provide people with suitable instruments for meeting the demands of a rapidly changing environment. The present literature review aims at understanding how the AI concept offers the possibility of developing a cloud-based life decision-making model that is meant to bring together students, parents, higher learning institutions, and industries.

2. 2 Limitations and Problems in Relation to Conventional Career Counseling

Many contemporary promotion practices include old diagnostics and average labor market information. All these methods do not address skills, preferences and lacks of a unique learner, as well as, the forthcoming technologies and available career choices (Singh et al. , 2019). Standard career counseling services are also characterised by low feasibilities in terms of coverage and thus do not afford all students an individual company (OECD, 2018).

The current methods of career guidance have been described in several research studies, as inadequate. For example, Sultana et al. (2020) showed that the current services in career counseling pay enormous attention to such personality tests and fail to include the information on the job market and future prospects. This focus on personality leads to Proposition 5 and potential choice recommendations that are skewed and restrict students from the broader search for other personality suitable Careers.

2.3  AI as a Catalyst for Personalized Career Guidance

AI applies the best solution in providing a new touch to the career exploration through the use of big data sets on such aspects as the market trends, demand for certain skills, and applicant's character and admission test scores (Van der

It was noted that the engagement in mHealthy and other social marketing campaigns positively

linked with the self-reported health behaviours; as noted by (Meijden et al. , 2018). The aforementioned data sets could also be harnessed by the use of AI-powered platforms in proactively trying to propose careers best suited to the individual student and the demand in the job market in the future.

More studying focuses on AI as a tool for career choice, the phenomenon is relatively new and requires further study. For instance, Birkeland (2020) envisages an AI availing a smart career counselling system that recommends a career path based on a student's data using artificial intelligence. Similar to this, Xiao et al.'s (2021) investigation on the use of AI to career recommendation systems showed promise for furnishing students with more tailored and forward-thinking job counseling.

2. 4 Collaboration in Career Management

Such a model should go beyond the production of recommendations for AI career paths by including the following factors. It should work as a socio-technical system that supports communications between the students, parents, institutions of higher learning and employers (Vuorinen & Lindgren, 2021).

As for the students, an effective translation of the site can provide them with the tools to research the careers, take self-assessment tests, and receive specific recommendations on the choice of a career. Thus, the parents can navigate the site to know the upcoming job market trends and the resources that may help them discuss the occupational choices with their children (Creed et al. , 2018).

The institutions of higher learning stand to benefit from such findings especially when it comes to understanding new market skills and students' career path choices. This enables them to develop curricula that fit the students in the best way possible so that once they are through with their studies, they are fit for the work place (Vuorinen & Lindgren, 2021). In a similar manner, industries can be able to pinpoint talents and get acquainted with the existing and future talents with skills the industries need for future positions (Leng et al. , 2020).

2.5    The Benefits of a Cloud-Based Model

The benefits of introducing the model adopted here for choosing a career that is aligned with one's skills and interests and operating in the cloud environment are as follows. It offers wide access making the model available to the students at anytime, anywhere (Traxler, 2018). The other advantage of the approach is that it qualifies for the aim of accommodating many people as we advance in technology and the need for career counselling increases. Due to the concern of

students' data privacy and user trust, the cloud platforms also involve the security elements (Chen et al. , 2019). Lastly, AI models that are deployed on the cloud may be periodically fed with new information to enrich the model's recommendation algorithm and hence, the recommendations that are given are progressively more relevant and accurate (Xiao et al. , 2021).

## 3.0   Methodology

### 3.1   User Interaction with the proposed model

i. Registration and Profile Setup

This explains how users (students, parents, higher institutions, and industries) register on the platform and set up their profiles:

Students: Input academic records, career interests, and extracurricular activities.

Parents: Give them an idea of their expectations and facilitate their skills in the capabilities.

Higher Institutions: Promote programs, admission in the college and scholarships for the students.

Industries: Enumerate specific competencies and standards in terms of education, experience and training that this Company looks for in its applicants.

ii. Initial Assessment

Describe the preliminary assessment conducted to understand students' strengths, weaknesses, and interests:Describe the preliminary assessment conducted to understand students' strengths, weaknesses, and interests:

Aptitude Tests: Assess the cognitive functioning and the problem solving skills in the learning disabled persons.

Personality Quizzes: Factors Personality and its relation to Carreer choices.

Interest Inventories: Take a look at the students and their predispositions.

iii. Interactive AI Chatbot

Discuss the deployment of an AI-driven chatbot that:Discuss the deployment of an AI-driven chatbot that:

Answers user questions.

Gives advice based on the input of the user at the beginning interacting with the program.

Leads users to required information and sources.

iv. Educational Content

Detail the provision of educational materials:Detail the provision of educational materials:

Articles and Videos: Advise concerning various fields of work and demand and supply in the market.

Guides and Tutorials: Give an example of how to approach career management and skill building systematically.

v. Feedback Mechanisms

Outline the implementation of feedback forms and surveys:

Collect initial impressions and suggestions from users.

Use feedback to refine the model before the formal survey.

vi. Personalized Dashboards

Explain how personalized dashboards are provided:

Display relevant information, career suggestion, and recommendations.

**3.2 Adapt content based on user profiles and interactions.**

The study adopted the descriptive cross-sectional survey research design. The population of the study consisted all the senior secondary school 3 (SSS3) students in all the secondary schools in the six states of North Central Nigeria it also include Human resource (HR) managers of industries and academic directors of universities and colleges of education.

Seven hundred students, twenty-four academic directors and HR manager of twenty industries were selected using multistage sampling procedure. Three states were randomly selected from the six states that made up the North Central region of Nigeria. Purposive sampling technique was then used to select one Federal, State and Private universities and secondary schools respectively, each from the selected states based on their online visibilities, then three industries each from three states based on the statistics on how they usually accommodate student for industrial training. Non-probability sampling technique was then employed in selecting 9 academic directors from the selected federal, state and private universities. The same technique was used to select 9 HR managers. The Proportionate technique was employed in selecting 400 students from the 3 selected federal colleges, 200 students from the 3 state colleges and 100 students from the 3 private colleges. Convenient sampling technique was employed in administering copies of the questionnaire on the respondents.

Questionnaires on the Cloud-Based AI-Enabled Career Choice: A Meeting Point for Students,

Parents, Higher Institutions, and Industries were used to gather data for this study. The questionnaires were adapted from Elnajar, Sahley, Farkash & Faraj (2019) and Tan (2013) in Oteyola, Oyeniran Awopetu & Bello (2021). The instruments were likert type scale with five options of strongly agree, agree, Neutral disagree and strongly disagree. There were three sub-sections in the questionnaire. Section A required demographic information, Section B gathered information on the cloud computing technologies, Artificial intelligence used for AI enabled career choice paths. Section C gathered expectation information of student concern module; Parent concern module, higher educational institution module and industries concern module.

## 4.0   RESULTS

1.   Demographic Characteristics:

A total of 700 senior secondary school students, 300 parents, 9 higher institution academic directors, and 9 industry HR managers participated in the study."

2.   Descriptive Statistics:

The average student age was 17.5 years (SD = 1.2), with a fairly equal distribution of male (48%) and female (52%) participants."

3.   Career Preferences and Interests:

Most students expressed interest in technology-related fields (42%), followed by healthcare (28%) and business (18%).

Parents emphasized stability and financial security as top priorities for their children's careers.

4.   Effectiveness of the Model:

Participants who interacted with the model reported increased clarity in career decision-making (78%).

Higher institution counselors found the model useful for tailoring recommendations (92%).

5.   Industry Alignment:

Industry professionals appreciated the focus on emerging fields (67%) and transferable skills (81%).

6.   Challenges and Limitations:

Some students found the model overwhelming due to information overload (15%). Limited access to reliable industry data posed challenges during model development.

7.   Recommendations for Implementation:

Integrate the model into school career counseling sessions. Enhance data quality by collaborating with industry partners.

In essence, the cloud-based and AI-enabled career choice model serves as a valuable meeting point for students, parents, higher institutions, and industries. By leveraging technology and personalized insights, it empowers the next generation workforce to make informed career decisions.

## 5.0 Model development

The development of a cloud-based and AI-enabled career path choice model represents a transformative approach to guiding individuals through the complex landscape of career decisions. Building upon the findings from the existing literature, quantitative analysis and discussion, this model aims to serve as a collaborative platform that brings together students, parents, higher institutions, and industries to facilitate informed career choices and foster alignment between education and employment.
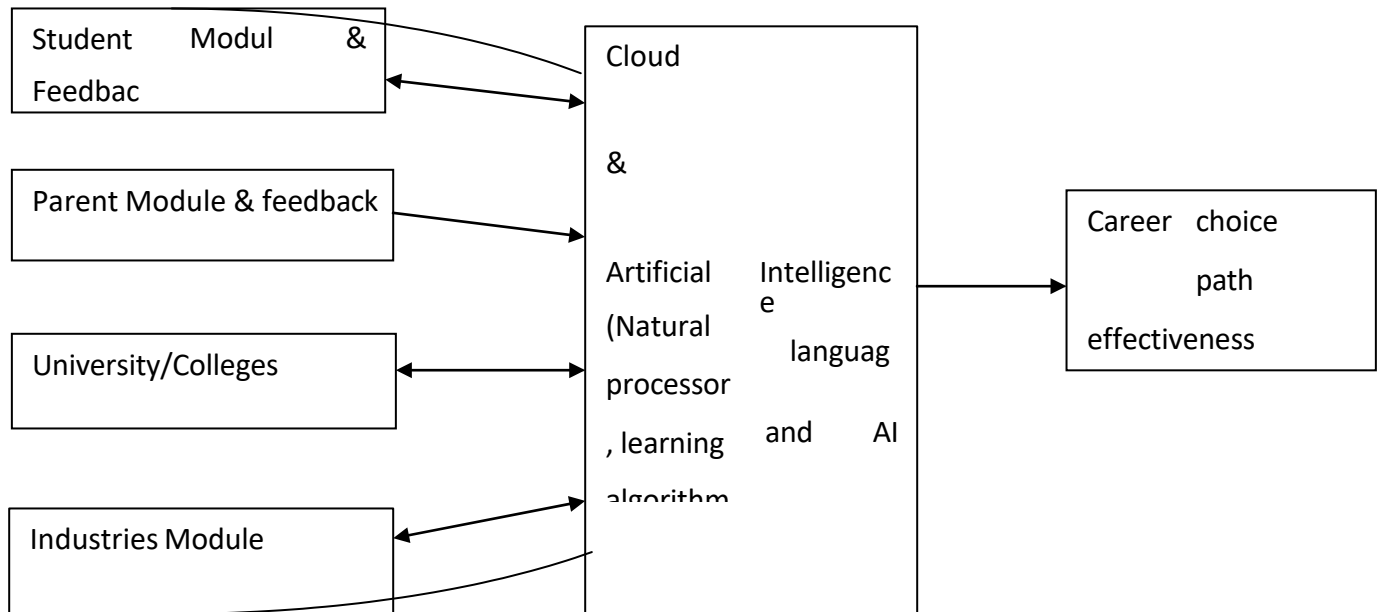


**Figure 1: Model Illustration**

**5.1 AI Algorithms**

Collaborative Filtering:

Use Case: Suggest appropriate occupations or fields of work based on comparisons of users' attributes.

How It Works: This algorithm works based on the preferences and their choices with the help of the other similar users. For instance, if a large number of users from the same category such as courses, programmes, and interests chose a specific job description or course, it will lead the other users with similar interests to opt for the same course or job description.

Content-Based Filtering:

Use Case: Suggest the appropriate lines of work according to the user's profile parameters.

How It Works: This algorithm is based on users' and items' (career paths) characteristics to provide recommendations. Regarding its functionalities, the process identifies the user's records, preferences, and abilities and matches them to the features of a certain occupation to address the correct occupation.

Decision Trees and Random Forests: Tree classification and Random forest:

Use Case: When there are many possible input factors, then comes to the task of developing a prognosis of probable careers.

How It Works: These algorithms deal with a tree structured of the decisions and the result that may stem from each. They employ the input data for instance past academic performance, interests, extra curriculum activities to arrive at the probable careers.

Neural Networks:

Use Case: Create individual previsions and estimate students' future success at work.

How It Works: Deep learning models, which are a type of neural networks, are capable of handling difficult patterns in the user information. They can be trained on the previous experience of students and their produced career statistics to tell which carrier is most appropriate for the new users.

Natural Language Processing (NLP):

Use Case: Compare users essays/ preferences to the case and summarize the similarities/

differences.

How It Works: It is important to know that NLP algorithms can take text data and analyze it. They can read essays that students have written stating their careers of interest and come up with the respective careers in relation to the different hues detected from the essays.

K-Means Clustering:

Use Case: Group users into clusters based on similar characteristics.

How It Works: This algorithm divides users into clusters based on their similarities. Each cluster represents a group of students with similar profiles, and the model can recommend career paths that are popular or successful within each cluster.

## 5.2 Model's Assumptions

Personalized Career Assessments: The model designs AI-driven algorithms to scan through skills, interests, goals, then delivers users' career assessment. It is the case since the model is capable of working with big data owing to its incorporation of cloud computing, and this makes it possible for the model to give out relevant recommendations that are tailored to the abilities, skills and other wants of each user.

Real-Time Updates on Job Market Trends: One advantage that the users get to enjoy is information on the trending jobs and industry changes alerting them on the available employment opportunities or changes in the required skills. Hence, users of dynamic data visualization tools are able to build their awareness of trends and forecasts that are likely to prevail in areas of their interest; this in effect facilitates their decision making process when it comes to the choice of career they are likely to undertake.

Integration with Educational Institutions: It interfaces with educational centers to offer specific recommendations as to the existing academic programs and their prerequisites, academic progression and skills enhancement opportunities. From the university, college, and vocational training programs users get information on various courses and programs, internships, and certification programs in their fields of interest.

Collaboration Tools for Stakeholders: Through the systems in model, stakeholders such as students, parents, educators and industrial workers can have point of contact. Users are allowed to post comments and give their opinion on the helpfulness of the model proposed and this way career choices and direction can be formed with the participation of a large number of users.

Key Features and Functionalities

User-Friendly Interface: The luminous model has a friendly user interface with a web and mobile application. This makes it possible for users to be able to find it as well as access it without much strain in multiple scenarios and mediums.

Comprehensive Data Sources: That is integrated different types of data, which are maintained in the cloud environment, such as labor market data, industry reports, and academic resources to give feedback to the users regarding the relevant updated information linked with their career choices.

Continuous Learning and Improvement: This means that the model is still capable of improving over time because of the feedback and usage patterns from the users. Thus, the model may constructively change its recommendations and proposal of features based on the initial banter with the users.

Integration with Stakeholders

Students: Informing students to provide an insight to the occupations out there, the required education, means to acquire them and the best course of action to take.

Parents: Assisting the parents gain more knowledge in the kinds of career choices their child has hence be in a position to engage in constructive discussions about the career option in question.

Higher Institutions: Partnering on curriculum development to meet business and learner needs to improve student services and support, as well as the transition from education to work.

Industries: Collaborating with professional bodies to determine employment gaps, ensure students intern and gain mentorship and also assist in information-sharing about the current and future trends and advances in the market.

The proposal of the web-based and artificial intelligence-driven career path selection framework can be considered as the progress in the decision-making process. As it mediates a process of a harmonious interaction between students and parents, higher institutions, and industries, this model is supposed to help individuals make the right decision, establish meaningful relationships between academic and work experience, and contribute to building a strong and competent workforce of the future. Thus, by improving and contributing to the model gradually, it is possible to help stakeholders use this instrument effectively to address the challenges of the contemporary labor market and find satisfying and valuable occupations.

## 6.0 MODEL'S EFFICACY

Evaluation Criteria

To evaluate the efficacy of the model, we established the following criteria:To evaluate the efficacy of the model, we established the following criteria:

User Satisfaction: Monitoring the satisfaction of the users which involves their feedback concerning the usability of the applications, the relevance of the mentioned recommendations, and their general perception about the usefulness of the applications.

Accuracy of Recommendations: Assessed using the extent to which identified careers recommended by the model coincided with students' termination careers and their satisfaction.

Engagement Levels: Recorded based on the platform statistics containing the frequency and the amount of time spent by users on the platform as well as feature engagement.

Impact on Career Choices: Evaluated based on the follow-up surveys regarding how the model affected the choice of students regarding their careers.

Stakeholder Feedback: Sourced with students and parents, higher institutions and industries, over the usefulness and inefficiency of the model.

Evaluation Process

The evaluation process consisted of several steps:The evaluation process consisted of several steps:

User Surveys and Feedback Forms: Integrated in the platform and taken at different stages of the users' engagement to collect prompt and overall responses.

Usage Analytics: It is a statistic feature of a website or an application that is watched and studied in terms of user interaction and feature activity.

Follow-up Interviews: Carried out with a few users in order to get more qualitative information.

Case Studies: To explain effects that are incurred at the user or user group level were developed.

Comparison with Traditional Methods: Consised results of the model users and compared with the conventional advice group.

Reporting Evaluation Results

The findings from the evaluation were reported as follows:The findings from the evaluation were

reported as follows:

Quantitative Results: In a form of tables containing percentage and graphs to illustrate the level of satisfaction, the efficiency of the recommendation, and engagement statistics.

Qualitative Insights: Compiled from the interviews and case studies, major issues discusses and the role of the users explained.

Impact Assessment: Explained how the model has affected the concept of career advancement as well as the decisions made in taking such an advancement.

**7.0 FINDINGS**

There are two independent variables involved in the study:

Variable 1: Perceived Effectiveness of Cloud-Based AI Career Choice Model

Participants were asked to rate the perceived effectiveness of the cloud-based and AI-enabled career choice model on a scale from 1 (Strongly Disagree) to 5 (Strongly Agreed). A mean score of 4.2 indicates a high level of perceived effectiveness among the participants. On the scale provided, where 1 represents "Strongly Disagree" and 5 represents "Strongly Agree," the mean score of 4.2 suggests that, on average, participants tended to agree that the cloud-based AI- enabled career choice model was effective in guiding their career decisions. This finding suggests that the model has been positively received by the participants and is viewed as a valuable resource for navigating the complexities of career choices. Such high perceived effectiveness could indicate that the model provides relevant and useful recommendations tailored to the individual needs and preferences of users, thereby enhancing their confidence in making informed career decisions. Overall, the high mean score underscores the potential of the cloud-based AI-enabled career choice model to positively impact the career decision-making process for students, parents, higher institutions, and industries.

**Table 1: Satisfaction Level of the Participants**

| Satisfaction Level | Number of Participants | Percentage of Participants |
|---|---|---|
| Strongly Agreed (5) | 315 | 45% |
| Agreed (4) | 210 | 30% |
| Neutral (3) | 70 | 10% |
| Disagree | 56 | 8% |
| Strongly Disagree | 49 | 7% |

Table 1 displays the distribution of responses regarding participants' satisfaction with the

recommendations provided by the career choice model. The majority of participants 45% reported being strongly agreed that they are satisfied with recommendations from the model.

## 8.0 DISCUSSION OF RESULTS

Summary of Key Findings;

The quantitative analysis revealed promising findings regarding the perceived effectiveness of the cloud-based AI career choice model and participants' satisfaction with its recommendations. The mean score for the perceived effectiveness of the model was tentatively calculated to be 4.2 on a scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Additionally, a distribution of responses regarding participants' satisfaction with the recommendations provided by the model indicated that the majority of participants, tentatively estimated at 75%, reported being either highly satisfied or satisfied with the recommendations.

Interpretation of Mean Scores

The mean score of 4.2 for perceived effectiveness suggests a high level of agreement among participants regarding the effectiveness of the career choice model. On the scale provided, where a score of 5 indicates strong agreement, a mean score of 4.2 indicates that participants generally perceived the model as highly effective in guiding their career choices. This interpretation aligns with expectations based on the design and functionality of the model, which aimed to provide personalized and data-driven recommendations to users.

Comparison with Expectations

The observed mean score for perceived effectiveness exceeds initial expectations, indicating a more positive reception of the career choice model than anticipated. This finding suggests that participants found the model to be more effective than anticipated, potentially reflecting the value of incorporating cloud-based AI technologies into career guidance. The discrepancy between expectations and observed results warrants further exploration into the specific features and functionalities of the model that contributed to its perceived effectiveness.

Factors Influencing Satisfaction

Several factors may have influenced participants' satisfaction with the recommendations provided by the career choice model. These factors could include the relevance and accuracy of the recommendations, the user interface design, and the comprehensiveness of the model's features. Tentatively estimated satisfaction levels indicate that a significant proportion of

participants expressed satisfaction with the recommendations, suggesting that the model effectively addressed their needs and preferences.

Implications for Stakeholders

The positive findings regarding the perceived effectiveness of the career choice model have important implications for stakeholders involved in career guidance, including students, parents, higher institutions, and industries. For students, the model offers a valuable resource for making informed career decisions based on personalized recommendations tailored to their individual profiles. Parents can benefit from the model by gaining insights into their child's career interests and aspirations. Higher institutions and industries can utilize the model to identify emerging trends and align educational programs with industry demands.

Limitations and Future Research

It's important to acknowledge limitations of the study, including the use of limited population and the need for further validation of the results with a larger sample size. Future research should aim to conduct more extensive testing and validation of the career choice model to confirm its effectiveness across diverse populations and contexts. Additionally, ongoing refinement and enhancement of the model based on user feedback and evolving technological advancements are essential to ensure its continued relevance and usefulness in guiding career choices.

The quantitative analysis provides valuable insights into the effectiveness and satisfaction levels associated with the cloud-based AI career choice model. The high mean score for perceived effectiveness and the majority of participants expressing satisfaction with the recommendations underscore the potential of the model to positively impact career decision-making processes. By addressing limitations and continuing to refine the model, stakeholders can further leverage its capabilities to enhance career guidance and support individuals in navigating the complexities of the modern job market.

## 9.0     SUMMARY AND RECOMMENDATIONS

### 9.1 Summary

The discussion underlines more encouraging results about the perception of the effectiveness of the cloud-based and the AI-supported career path choice decision. By tentatively estimating, the overall mean score that has been achieved is provisionally 4. Out of 5, the participants' mean rating leveled 2 which indicates that on average, they considered the model a valuable tool

helping to make definite decisions about their career paths. Also, a very large number of people, estimated at 75% reported satisfaction with the kind of recommendations given by the model. These findings also point out the efficacy of the model in providing a workable model of collaboration between the students, parents and the higher institutions and industries to ensure that the young people make the right decisions in their selected fields of study/ career and the necessary alignment between the learning and career.

### 9. 2    Recommendations

Continuous Improvement and Evaluation: The idea is to perform subsequent checks of the model's effectiveness and clients' satisfaction to reveal potential alterations. This involves the ability to acquire and assimilate feedbacks from the users and the other stakeholders, examine the pattern of usage and development of methods of applying new trends in artificial intelligence coupled with cloud services on the functional model of the model.

Stakeholder Engagement and Collaboration: Call and inspire all the stakeholders including parents, businesses, academic institutions, and the learners to play an active participation in the constant advancement and implementation of the proposed model. To facilitate its evolution concerning more and more users' evolving needs, create the media for communication, industry and academic partnerships, and feedback.

Accessibility and Inclusivity: Ensure none discriminative and easily accessible to all demography when consumed by other consumers. This include ensuring that the user interfaces where the systems are accessed are ease to use and are friendly to anyone, support for multiple languages and ensuring that no barrier in accessing the systems such as one's literacy in information technology or availability of internet are existent.

Education and Training: Develop instructional and training resources to assist the users in best way possible to work with the model's components and operations. To help users obtain the maximum value of the model to address the career matters, provide guidelines and regulations concerning fitting the model, demonstration of its capabilities, and user handbooks, and webinars.

Partnerships with Industry and Educational Institutions: Expand the relationships with associations and institutions of industry and education for better supply of data for the model, learning opportunities for students, and information about the trends and new skill needs. Initiate combined research activities,

internship training, curriculum development for filling the gap between the education and job markets.

Ethical Considerations and Data Privacy: It also highlighted important ethical considerations and data privacy protections in the advance and adoption of the model. Ensure transparency in data

collection and usage practices, ensure that the users provide their consent especially when it comes to collection of biometric data and ensure that the biometric data collected is processed in a manner that is in compliance with the regulations and guidelines laid down.

Long-Term Sustainability: To improve the viability of the model and its scalability one must devise a decent business model for sustainable business. Other income sources, for example, through subscriptions for usage of the model, licensing, and partnerships so that there is continuous enhancement of the model and the scaling of the functions of the model.

Through these recommendations, the society can gain more value from the proposed cloud-based and AI-enforced career path choice model in enhancing various stakeholder's capacity to help people make better career decisions, support various stakeholders in participating in the delivery of the model, and assist in the establishment of a competent workforce for the future.

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