CAPACITY DEVELOPMENT CONFERENCE 2023 (CDC23)

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"Investigating the Effectiveness of Malaysian Skills and Competency Programmes in contributing to Skilled Workforce Development towards Industry 5.0 in Malaysia "

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Organised by the Malaysian Communications and Multimedia Commission (MCMC)

INTRODUCTION

- The impact of full-scale 5G deployment has driven service providers to train, expand, and diversify their employees' skill sets.
- The skills and competency programmes are provided to give participants the information and abilities they need to do their professions (Ridzwan et al., 2017).
- The skills and competency courses are needed to sustain continuity and meet new demands for our nation's future industrial development and close the skills gap in the workforce is imperative.
- This practice will assist in addressing current issues about the programmes/courses offered and in assisting our country for long-term sustainability and prosperity.

- Even the benefits of 5G technology are far-reaching; the implementation of this technology's potential is not without its challenges.
- Besides, industry players must ensure whether the market is ready to embrace new technology. However, there are only few collaboration and partnership programmes offered in Malaysia related to 5G.
- Therefore, an action plan should be effectively introduced for future skills development to meet industry needs, thereby contributing to workforce preparedness for 5G deployment.

RESEARCH AIMS / OBJECTIVES

Research Questions	Research Objectives
What are the availability and opportunity of current skills and competency programmes in Malaysia related to 5G deployment?	To review and assess the availability and opportunity of current skills and competency programmes in Malaysia related to 5G deployment.
How effective are the current Malaysian skills and competency programmes to ensure the workforce preparedness for 5G deployment?	To measure the effectiveness of the Malaysian skills and competency programmes to ensure workforce preparedness for 5G deployment.
How the Malaysian skills and competency programmes can be improved to encourage workforce preparedness particularly in 5G deployment?	To propose an action plan for Malaysian skills and competency programmes to encourage workforce preparedness particularly in 5G deployment.

RESEARCH METHODOLOGY

1

A purposive sampling technique involves a target population of individuals and experts who have knowledge or attended the skill and competency programmes related to 5G

Survey consisting of items related to (personal, behaviour, and environment, workforce preparedness and demographic variables)

2

In-depth interviews with questions related to (personal background, availability of the 5G skills, effectiveness of the programmes & future recommendation)

3

4

Quantitative data collected was analysed using Partial Least Square Structural Equation Modelling while Qualitative data was analysed using the NVivo software

KEY FINDING 1

RQ1: What are the availability and opportunity of current skills and competency programmes in Malaysia related to 5G deployment?

- From the quantitative analysis, we found that there are more technical skills in the course compared to organisational skills.
- From the technical skills that are being taught in the programmes, Programming was the highest with 71.2% compared to other skills such as AI and Machine Learning Algorithms, system maintenance, big data analytics, IoT and 5G policies, regulation and construction.
- Besides, for the organisational skills, communication skills was the highest with 71.2% compared to other skills like design thinking, creativity and virtual working.

- From the qualitative analysis, we found that the informants agreed that the availability of 5G skills in programmes are still at the beginning stage with basic level involving knowledge of the development of 5G skills.
- Hence, the programmes are more to theory-based rather than practical.

KEY FINDING 2

RQ2: How effective is the current Malaysian skills and competency programmes to ensure the workforce preparedness for 5G deployment?

In terms of the effectiveness of the programme which could be measured through personal, behavioural , and environmental factors, the findings show that the programmes need to be improved to serve the future particularly in preparing workforce towards 5G deployment .

- From quantitative analysis, the effectiveness of the programme to ensure the workforce preparedness was measured based on three factors (personal, behavioural, and environmental) as supported by Social Cognitive Theory (SCT).

From qualitative analysis, the weaknesses of the programmes are because of the:

i) Lack of evolutionary adaptation, understanding and cognitive skills

The findings are consistent with the past studies that mentioned in order to ensure students are well-prepared for future jobs, the adaptation skill is very crucial (Justin et al., 2021). Besides, the lack of knowledge among students could make them anxious in accepting the 5G knowledge as they perceive it would be difficult to use and applied (Crnobori et al., 2022).

ii) Low self-efficacy and lack of awareness in 5G technology among trainees

From the findings, it shows that self-efficacy and behaviour are interrelated. The findings are consistent with past studies that shows a low self-efficacy may ultimately result in failure to complete the task assigned (Nordén, Mannila, & Pears. (2017). Self-efficacy has been shown to affect behaviour (Thurm & Barzel, 2020).

iii) Limited access to resources, lack of a specific subject, exposure, collaboration and programme duration

The findings are consistent with past study that shows the improved resources and support will assist in creating solutions to better prepare students to be career ready (DiBenedetto & Myers, 2016). Moreover, exposure to real practice is important for graduates' preparedness (Illing et al., 2013).

KEY FINDING 3

RQ3: How the Malaysian skills and competency programmes can be improved to encourage workforce preparedness particularly in 5G deployment?

Adopt 5G Learning Model
(*Incorporates the elements from technical to application with different level of competency in the courses offered*)

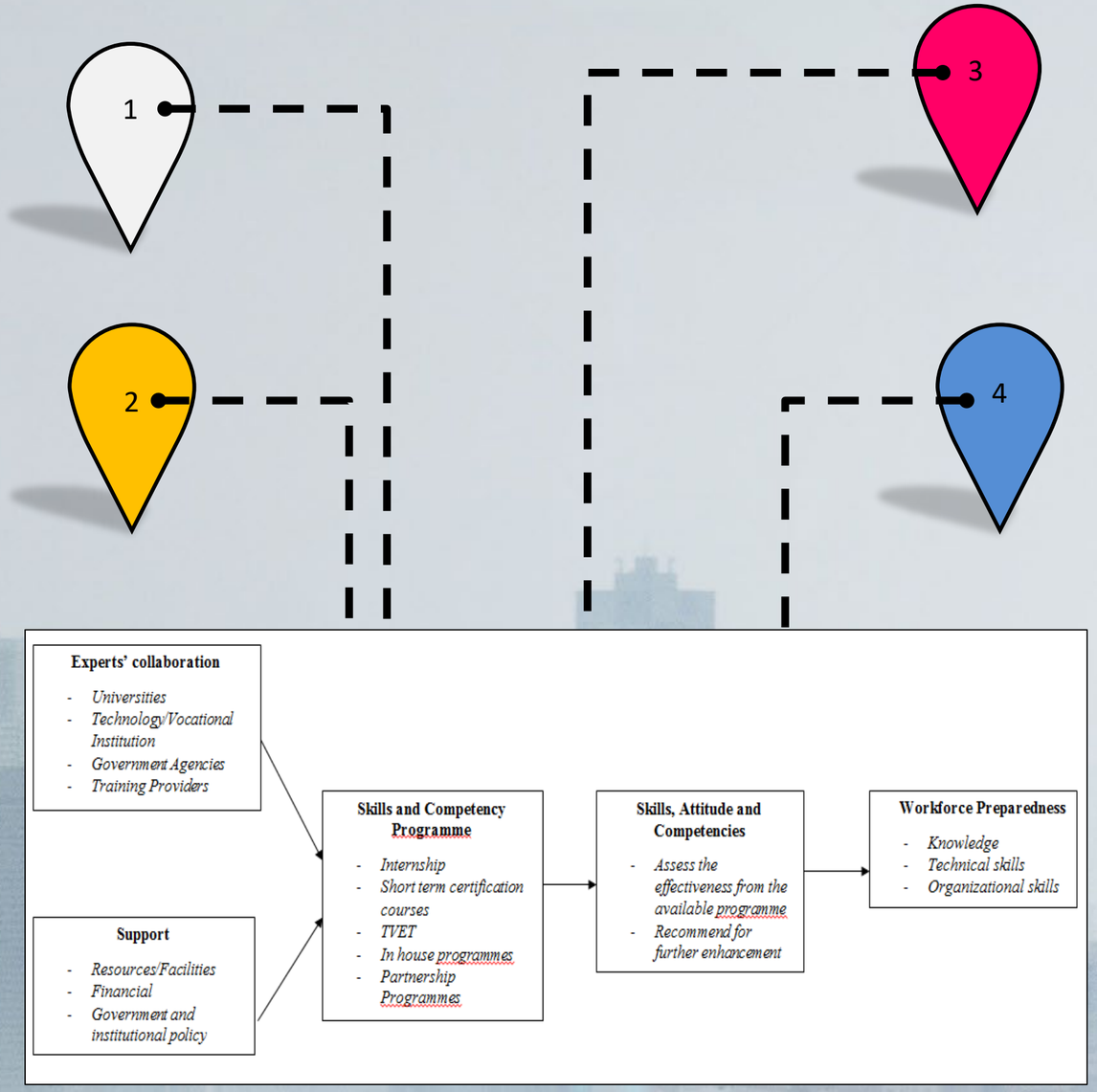
Effective Collaboration
(*collaborate effectively with various parties for the development of the programmes*)

Developing the Personal Factors
(*personal skills, attitude, and competencies development)*

CONCLUSION

- This research would be able to provide an overview of the 5G technology in Malaysia through the skills and competency programmes.

- The findings showed that in terms of the availability of 5G skills in the programmes, they are still at the beginning stage with more theory based than practical.



- For effectiveness of the programme which could be measured through (personal, behavioural, environmental), it shows that the programmes can be improved for workforce preparedness towards 5G deployment.

- Hence, suggestions are given to enhance the effectiveness of the programmes in preparing workforce towards 5G deployment.

MCMC

Thank You

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