

A study of APACC Integrated Management System (AIMS) in planning, implementing and reviewing for continuously improvement in preparation for the APACC accreditation audit.

Normah bt Cheman¹, Munawira binti Saharani², Zaiton bt Arifin³

¹Department of Mechanical Engineering, norcheman92@gmail.com

²Department of General Studies, munawira@polimas.edu.my

³Department of Electrical Engineering, zaifin5638@gmail.com

Politeknik Sultan Abdul Halim Mu'adzam Shah, Jitra, Kedah.

Abstract: *Asia Pacific Accreditation and Certification Commission* (APACC) is a particular accreditation used for TVET institution. The achievement of obtaining Level III-Gold status by a TVET-based educational institution directly proved that the polytechnic system has been able to achieve international standards. It also proven that graduates of polytechnic system are able to compete in the global market. The achievement also coincided with polytechnic planning to achieve the fourth successive of 2015 Education Blueprint (Higher Education) in producing high quality Technical Education and Vocational Training (TVET) graduates. Hence, POLIMAS has built a comprehensive and applicable planning model. In this regard, this quantitative and qualitative study is conducted to evaluate the effectiveness of APACC Integrated Management System (AIMS) in planning, implementing, reviewing and performing enhancements in preparation for the APACC accreditation audit. This study also gives importance to the organization to achieve its objectives. The basic objective of assessment is to Identify the effectiveness of media use through the accuracy of time management of APACC activities and to compare the achievements group works. The result shows the concept of AIMS which includes TQM, Deming and the use of ICT as a medium of information and communications delivery has put POLIMAS at the GOLD status. accreditation.

Keywords: APACC, AIMS application, TQM, Deming theory.

1.0 Introduction

Department of Polytechnic Education, MOHE aims in achieving APACC accreditation which is a certification body under *Colombo Plan Staff College for Technician Education* (CPSC). This accreditation will facilitate Malaysian Polytechnic graduates' mobility to ASEAN countries. CPSC which consists of 17 countries of the Asia Pacific region initiated the establishment of APACC in December 2004 in Seoul, Republic of Korea. 17 members of CPSC have given their commitment in developing a regional to award certification and accreditation to Technical and Vocational Education (TVET) institutions. Among the basic principles of APACC's accreditation initiatives and certification are to harmonize the quality of TVET education, create equivalent standards in the skills taught at TVET institutions of the Asia Pacific region and facilitate the mobility of workers in the Asia and Pacific region.

In relation to that, the statistics released by CPSC in 2013 stated that 87 institutions from 8 countries

have applied for APACC accreditation. Of the 87, only 29 (33.3%) had successfully obtained APACC accreditation. Of the 29, only 3 institutions (3.4%) managed to achieve Level II – Silver. The remaining 26 (29.8%) obtained Phase I - Bronze. In 2014 Malaysian Polytechnic became the first TVET institutes in Asia Pacific to achieve Level III - Gold. Among them are Politeknik Ungku Omar (PUO), Perak, Politeknik Sultan Salahuddin Abdul Aziz Shah (PSA), Selangor and Politeknik Ibrahim Sultan (PIS), Johor. The following year, Politeknik Sultan Haji Ahmad Shah (POLISAS), Pahang, Politeknik Sultan Azlan Shah (PSAS), Perak, Politeknik Seberang Perai (PSP), Penang and Politeknik Kota Bharu (PKB), Kelantan. Subsequently in 2016, Politeknik Port Dickson succeeded in this audit. Politeknik Sultan Abdul Halim Muad'zam Shah (POLIMAS) is the ninth (9th) polytechnic obtaining the accreditation in December 2017. In this context, it is an approach to measure polytechnic's excellence by comparing them with equivalent institutions at the international level. Thus, the implementation of APACC shows that nine out of the four TVET institutions in the Asia Pacific region

Corresponding Author: Normah binti Cheman, Department of Mechanical Engineering, Politeknik Sultan Abdul Halim Mu'adzam Shah, Jitra, Kedah, normah@polimas.edu.my

which earn gold levels are among the Malaysian Polytechnic. In this context, it is in line with polytechnic efforts to produce quality TVET graduates through the Economic Transformation Programme (ETP), Malaysia needs to multiply TVET enrollment to 2.5 times by 2025. However, the supply of TVET workers is inadequate in 10 of the 12 major National Key Economic Areas (NKEAs) sectors. Furthermore, TVET is considered less attractive than conventional university education. This resulted in the low number of TVET student, especially those who were highly qualified. Hence, Malaysia needs to shift from a higher education system that focuses only on conventional university education, as the only career path, to two separate routes taking TVET into account.

Along with that, APACC accreditation has brought quality improvements in the service of TVET institution. Among the improvements cover the area of Governance (C1), Teaching and Learning (C2), Faculty and Staff (C3), Research and Development (C4), Image dan Sustainability (C5), Resources (C6) and Support to Students (C7). This is align with CPSC mission which stated, "as a commission established by CPSC, the APACC aims to accredit and certify the TVET institutions for human resources development through the standardization and harmonization of education and training systems which will facilities the mobility of the workforce across national borders in Asia and the Pacific region". Through this statement it is clear that APACC's accreditation is a human resource coordination body through the unification and harmonization of education and training systems. With this, APACC accreditation is an internationally recognized quality indicator. In this regard, in order to attain Level III-Gold of a TVET-based educational institution, POLIMAS has implemented the APACC Integrated Management System in planning, implementing, reviewing and performing enhancements in preparation for the APACC accreditation. Hence, this study is conducted to review the effectiveness of the system.

2.0 Research Objectives

The main objective of this study is to gain a thorough understanding the effectiveness of the process and practice towards achieving level III - Gold in accreditation which includes:

- a. To determine the percentages of POLIMAS communities involvement in APACC activities
- b. To Identify the effectiveness of media use through the accuracy of time management of APACC activities
- c. To Compare the achievements group work's by APACC criterion.

3.0 Literature Review

John W. Creswell in his work stated that, "a researcher must critically elaborate, summarise important ideas and produce main theme, direction, critics and as such Marshall and Rossman [1]. Thus, the researcher implemented Integrated Management System (AIMS). It is found that the AIMS system is important in the effort of achieving APACC accreditation. Through this study, there are several important processes or activities to be considered in this AIMS system. Among them are Total Quality Management (TQM) and Deming Cycles. Similarly, is the use of information and communication technology (ICT) to communicate work related within the working hours or after working hours.

The issues of quality becomes a vital point to some organisations because in the era of science and technology, competition is not only based on roice but also on the quality matters. According to Kanji and Wong [2], TQM is a way of life for organisations which are committed to customer satisfaction and this process is carried out through continuous development process. Focusing on the continuous improvements of customer satisfaction, TQM is a corporate culture which involves everyone in the organisation. The management plays an important role in ensuring active participation of staff from all levels. This approach is aligned with Islamic way of life, that focuses on goal achievement of dunya and the afterlife. Thus, it stresses on the quality and its improvement in product realisation or services. This has been supported by Surah al-A'raf, ayah 157 dan a hadith by Bayhaqi which means, "Allah is beautiful and great. He does not accept other than good and beautiful." This has also been supported by hadith by Muslim that says " Allah sets that there is a good way in all things".

The improvement of Deming Cycles is also crucial in AIMS. The Deming Cycle [3] or better known as the PDCA Cycle (Plan, Do, Check, Act) or Shewart is an ongoing concept of improvement which emphasized on continuous innovation. The Deming Cycle consists of four main levels namely, plan, do, check and action which takes place in a step by step approach and happens continuously. Among the techniques used are statistics for example the fishbone diagram, bar graph, gantt chart, pareto diagram, pie chart, SPC or scatter diagram which will be selected based on the appropriate process as a tool to help organisation in quality control so that they meet or exceeded the fixed standard. One of the most important element in the management of Deming Cycle [3] is the existence of goal setting towards the improvement of service and quality of material, continuous improvement of services and products, to eliminate fear and to develop trust. It then follows by to transform which requires a large

workforce as well as cooperation which applies the win- win approach.

In this concept. Information and Communication Technology also plays an important role where it allows users to create, access, disseminate, store, administer and deliver information in digital format. Among the social media used as communicative network are *facebook, MySpace, Friendstar, Bebo, WeChat, Whatsapp*, Telegram and other electronic communication which enables users to carry out virtual or online community to share information, idea, messages, videos and as such. Hence, the development of ICT has made the social media as main communication medium of employers in solving their daily chores due to its simplicity and ability to rapidly deliver information in various information format for instance, text, pictures, video and as such Siti Ezaleila [4]. Clearly, social media is not only being used for social communication but has also been used for work purposes. It is parallel to Farzana's view that in recent years there have been a rapid increase of using social media in employment and organisational purposes [5]. It is also in line with the research carried out by online job search engines; *jobstreet.com* which discovers that 54% out of all employees in the country are still getting instructions from their employers even though during holidays or after working hours. Therefore, the researcher find that AIMS which consists of Total Quality management (TQM), Deming Cycle and the use of ICT in delivering work related information has been successfully implemented. POLIMAS achievement of obtaining Lelel III- Gold in the accreditation process is a measure of success in the implementation of AIMS.

4.0 Research Methodology

This research is a qualitative research that tends to the method of data collection through observation or analysis of the contents of relevant documents. According to Noraini Idris, qualitative research is an effort to answer questions that are unlikely to be answered through quantitative research and to illustrate from quantitatively measurable perspectives.

Methods of data collection have also been used by researchers. Methodology means Science of finding solutions. It comes from the Greek word consisting of two words, which means method or way and *logos* means to carry a study of something or simply Science. Hence, methodology means the knowledge of a particular way or procedure for understanding research so that the results obtained meet the scientific requirements and are accountable. The quality of a research and investigation depends on the accuracy of the use of methods that fit the object and purpose. Its role is very important in the process

of human development and resources. It is a key input to any effective change proposal. Accumulated knowledge and discoveries may allow some penalties on various phenomena.

The data of this study are obtained from various sources, including literature which is in the form of various papers, whether in the form of papers or previous research results in the form of old documents, manuscripts, scientific books, journals, encyclopedias, seminar papers, excerpt of al-Quran and interpretations, papers , scientific training and so on. Hence, research is the efforts undertaken by means of data collection and interpretation of collected data. Furthermore, the researchers will try to visit several libraries to obtain the desired data. Among them; Hamzah Sendut Library, Universiti Sains Malaysia, Za'aba Memorial Library, University of Malaya and University of Malaya Main Library. While electronic data such as, from Digital Library 'Abdullah Sanusi, eprints.utm.my, eprints.um.edu.my, eprints.usm.my, eprints.ukm.my, e-book and *maktabah shamelah* will also be investigated. According to Azizi Yahaya, Shahrin Hashim and others that "with the use of computers, the process of information retrieval becomes easier for researchers as researchers do not have to waste time making complete notes and summarizing articles to study.

In the process of collecting this data, researchers will present some form of method that can provide accurate and appropriate information to be used in this study, among which is the documentation method. The documentation method is a process of obtaining data by studying the documents that are related to the studied problems. The Dictionary of the Fourth Edition Board defines it as a collection or group of materials or documents that can be used as the basis of a study, the production of an issue and others. Thus, the method of documentation is the way of data collection by studying the documents that are related to the issues being studied. Among those included in the category of documents are decisions, courts, legal and regulatory groups.

Through this material, the researcher will be able to process and compile all the obtained information. Hence, researchers will use quotations from the Quran and al-Hadith to further reinforce each of the opinions expressed, both of which belongs to document as its source as a written source and guaranteed by its authenticity. Although this documentation method is almost identical to the historical aspects of the investigation of certain documents, there are differences between the two where the documentation method has no historical value.

In this context, the researcher has conducted a qualitative study (survey) with the aim of identifying the percentage of APACC working group performance through the AIMS system consisting of TQM, Deming Cycle and the effectiveness of media use as a communication agent between the management and staff as well as POLIMAS lecturers related to the working hours or after working hours. This method is also used to calculate (score achievement) for every mock audit that has been implemented until POLIMAS succeeds in the APACC audit. Along with that, the design of the study is an action plan that shows in detail how a survey was conducted [6]. It also serves as a guide to assisting researchers in the process of collecting, analyzing and making interpretations of the results of research conducted. The research design is also a model for the researchers to make an inference on the studied variables. This research is a descriptive study that aims to explore and explore the error

source in measurement. In this context, the research population is the target group of researchers so that some research findings can be applied [7]. In this study, the research target population consists of 552 staff, lecturers and 5,265 POLIMAS students who have worked hard to achieve the accreditation. In conclusion, the researcher considers that this survey method is best used in this study to determine the effectiveness of APACC's Integrated Management System (AIMS) in POLIMAS.

5.0 Findings and Discussions

The research has revealed several findings:

5.1 To determine the percentage of POLIMAS Community involvement in the APACC Working Group

Figure 1a: Percentage of involvement POLIMAS communities in APACC activities

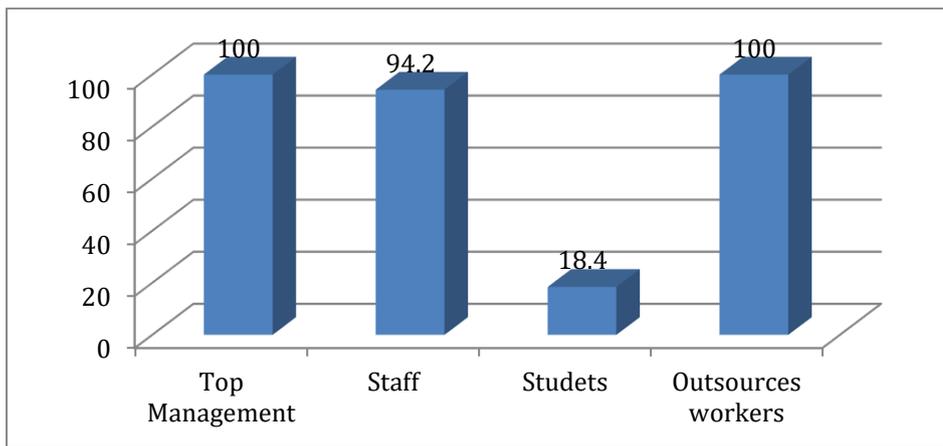
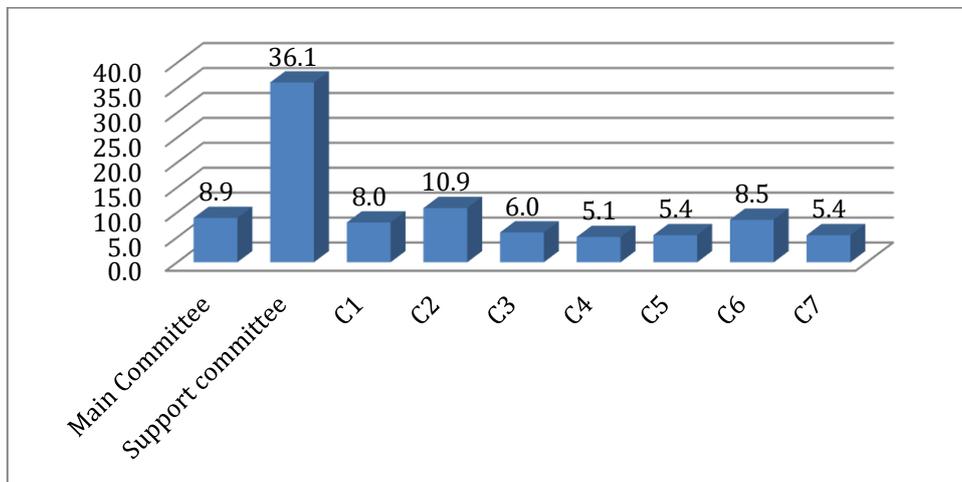


Figure 1a projects that 100% of top management, 94.2 % Staff , 18.4% students and 100% outsource workers were involved in the activities pertaining to APACC audit. This shows that the implementation of Total Quality Management (TQM) in APACC activities helped to ensure the awareness among for POLIMAS citizens.

Referring to Figure 1b, 36.1 percent of the staff have been involved in the support committee focusing on APACC's infrastructure and fun-filled activities, while 10.9 percent to 5.1 per cent of the staff are involved in document preparation and 8.9 percent of

staff are involved in the Main Committees to plan and monitor the implementation of APACC's preparation. This finding shows that a large number of staffs of 36.1 percent have been involved in support committees to facilitate the preparation of APACC's fun-filled infrastructure and activities. A total of nine APACC working groups have been formed, namely the main committee, support, Criterion 1, Criterion 2, Criterion 3, Criterion 4, Criterion 5, Criterion 6 and Criterion 7 in the preparation of documents, infrastructure and APACC on-site activities.

Figure 1b: Percentage of staff in the APACC committees



5.2 To Identify the Effectiveness of Media Use through Accurate Time Management of APACC Activity

Figure 2a: Gantt Chart of APACC Audit Activities

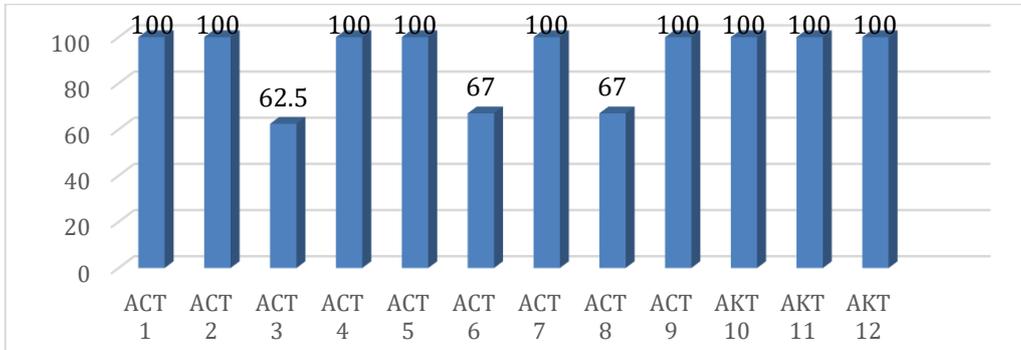
NO	ACTIVITY		2017											
			DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	
1	APACC Awareness	Plan												
		Do												
2	Evidence Preparation (Dec14, June15, Dec15, June16, Dec16,	Plan												
		Do												
3	MPP/ PRS/ Students Grooming session	Plan												
		Do												
4	APACC Online Application	Plan												
		Do												
5	Self Study Report Workshop ii. SWOT Analysis iii. Annexes preparation	Plan												
		Do												
6	Self Study Report 1 (POLIMAS)	Plan												
		Do												
7	Self Study Report 2 (Internal Audit)	Plan												
		Do												
8	Self Study Report Workshop Online submission	Plan												
		Do												
9	Mock Internal Audit 1 (PSP APACC Team)	Plan												
		Do												
10	Mock Internal Audit 2 (PSAS APACC Team)	Plan												
		Do												
11	Mock Internal Audit 3 (BIPD APACC Team)	Plan												
		Do												
12	Monitoring APACC evidence and Campus environment	Plan												
		Do												

APACC AUDIT 2017

A total of 12 main activities are planned for APACC accreditation including awareness and culture, document preparation, student grooming, submission of APACC Online application, self-assessment workshop, document audit, submission

of assessment reports, four mock audit sessions, revision and monitoring of APACC documents and POLIMAS infrastructure. The planned and implemented APACC Gantt chart is shown in Figure 2a.

Figure 2b: Percentage of Time Management Accuracy and Implementation of Activity

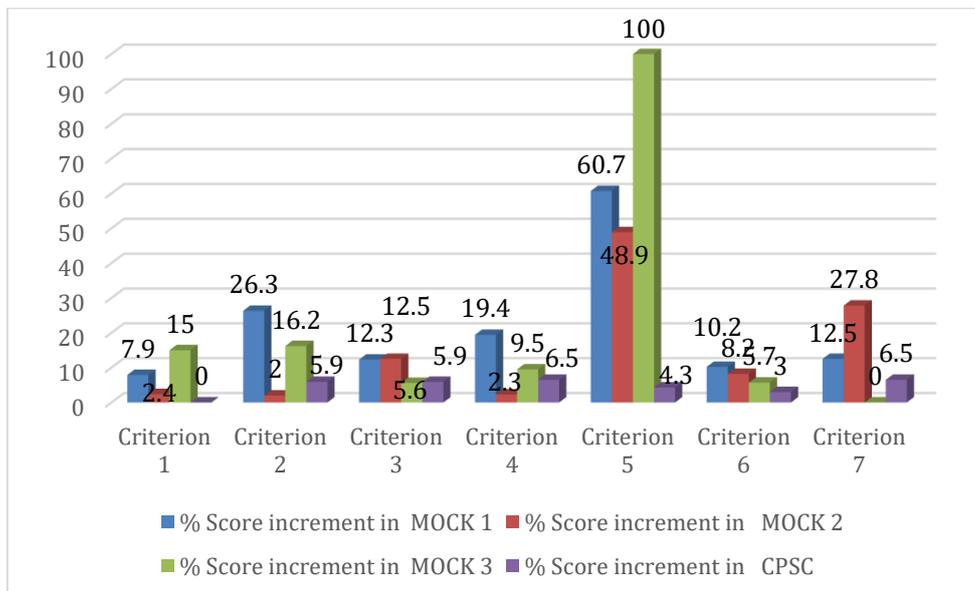


Management has used a variety of information and communication delivery media such as blogspot, google drive, website, facebook and whatsapp to ensure all APACC activities can be implemented according to planned schedule. Figure 2b shows 75 percent (9 out of 12 activities) have been in

accordance with the specified implementation period. Only 25 percent of the activities are not in accordance with the plan. This proves that the use of media is effective as a means of communication and information disseminator to all POLIMAS communities.

5.3 Comparison of Working Group Achievements according to Criteria in APACC Mock Audit

Figure 3: Percentage of Score Increment in Mock Audit



The APACC working group consists of seven criteria: Governance (C1), Teaching and Learning (C2), Faculty and Staff (C3), Research and Development (C4), Image and Sustainability (C5), Resources (C6) and Support to Students (C7). All

these criteria should be monitored to ensure that all documents and completed documentation are provided. Hence some series of mock audits have been carried out to monitor the preparation of each working group. An improvement action has been

taken on all the findings for each of the performed mock audits. Figure 3 shows the increment of scores for each mock audit session. The findings have shown that Criterion 5 working group has shown the highest increased scores compared to other working groups. However, all working groups have shown an increase in scores from the first mock audit till the actual APACC audit. Therefore, every organization that wishes to succeed must acquire a sophisticated quality management unit. The system should be flexible in accordance with market demands and time changes as well as with the ability to "change" and implement "continuous improvement".

6.0 Conclusion

The findings have answered all the submitted objectives of the study. APACC's Integrated Management System (AIMS) at Polytechnic Sultan Abdul Halim Mu'adzam Shah (POLIMAS) is effective in attempting to achieve the level III-Gold award in APACC accreditation. This shows the concept of AIMS which includes TQM, Deming and the use of ICT as a medium of information and communications delivery has put POLIMAS at the GOLD status recipient list and ranked second in the APACC accreditation list. A total of 75 percent of planned activities in the APACC activity Gantt chart are in accordance with the schedule. Likewise, each working group of criteria has achieved an increment of scores from every series of mock audits performed.

7.0 Reference

- [1] Marshall, C. & Rossman, G.B. (2006) *Designing qualitative research (4th. Ed)*. London
- [2] Kanji, G. & Wong, A.(1998), *Business Excellence Model for Supply Chain Management, Total Quality Management*, vol. 10, no.8, pp. 1147-1168.
- [3] Deming, W. E. (1982). *Quality, Productivity and Competitive Position*. Cambridge, MA: Massachusetts Institute of Technology, Center for Advanced Engineering Study.
- [4] Siti Ezaleila.(2016), *Penggunaan laman sosial dan impaknya terhadap hubungan persahabatan dalam talian, Jurnal Komunikasi Malaysian Journal of Communication Jilid 32 (2) 2016: 65-81*
- [5] Farzana et,al (2015) *Komunikasi Merentas Sempadan Kerja Melalui Teknologi dan Media Sosial: Kesan Terhadap Peningkatan Konflik Kerja-Keluarga MyJICT - Malaysian Journal of Information and Communication Technology Vol 2 2017, Issue 1*
- [6] Sabitha Marican. (2005). *Kaedah Penyelidikan Sains Sosial*. Petaling Jaya, Selangor: Pearson Prentice Hall.
- [7] Fraenkel, Jack R. & Wallen, Norman E. (1993). *How To Design and Evaluate Research in Education*. New York: McGraw-Hill.