

Research Unit: Definition and Resurrection Strategy

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Abstract: Research unit is a pillar to the success of a university's vision. Although, the impact and encouragement from management is necessary in helping the university achieve the goal but it should also be nurtured from the basic level. Research unit refers to the individual as a lecturer who heads research in their expertise field. Facilities and support, both physically and spiritually is important in facilitating and catalyzing the success of a strategy developed by a research unit. However, real success lies in the research unit. If this research unit mature, motivated and able to compete, it will bring a university to achieve glory. This study will provide the definition of the research unit and its role in achieving the mission and vision of a university. But as great as the platform built by the management of a university, it would not be progress if the research unit is in the passive state. Therefore, this study proposes measures and strategies that can be done by a research group to form a strong group. In order to create a strong and excellent research unit, this study also proposes actions to be performed by the university which all efforts will be realized accordingly. Thus, the role and initiatives of the university's management center (such as graduate, research and innovation) is important to create a better research unit (researchers and students) in term of quality.

Key words: Research unit, strategy, resurrection planning, university, researchers, student, Malaysia

INTRODUCTION

One thing that is important in dealing with global challenges in the current research is to determine the future direction and strategies for research and development activities in science and engineering. A well managed planning is necessary to ensure that a research group can compete globally and thus ensure that the research products produced can contribute towards improving the image of the university. Along with university status as a recognized research university, the research activities should be in line with this recognition. Achievements of research in the department can be seen through the involvement of researchers in various competitions. Through this competition, people can learn about the achievements of the researchers. One alternative way to reach out to the public on the

achievements of the research is through writing. Journal, post-conference or magazine is one of the main platform for researchers to disseminate information on their research to the community (Ab-Rahman *et al.*, 2011b; Ab-Rahman and Zalmi, 2012a; Zain *et al.*, 2011). Through publications, new information about a technology, new discoveries, new treatment or medicine could be informed to the community.

A quality research can be expressed in terms of how much contribution has influenced other research where it is usually expressed in number of references (citations). The presentations in writing is also important to ensure that knowledge can be fully extracted or understood generally. Therefore, it is important for students and researchers to be exposed with the correct technique of writing in order to produce the high-impact manuscripts (Ab-Rahman *et al.*, 2012a, b). One of the criteria that can

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help to increase the university's position in the world best universities ranking is to increase the number of publications, especially in publishing the articles in journals indexed (Ab-Rahman *et al.*, 2011c). The higher the quantity of publications, the greater the probability that the article will be read and understood. Therefore, by implementing the workshop as one of research strategy is a good initiative by a research group with integrated support from the department to support the aspirations of the university and faculty in general (Ab-Rahman and Zalmi, 2012b; UNISA, 2011).

DEFINITION

Research Unit (RU) is refers to a small group of researchers in a university. Usually, it consists of Lecturer/Head researcher serving as project leader, co-researcher, research assistant, students as researchers of graduate students from the Masters (thesis) and Doctor of Philosophy. It is reinforced by the presence of graduate students (course work) and undergraduate students. They are playing an important role in research work where their strength, intellectual and durability will determine whether a university's vision will be achieved or not (Ab-Rahman *et al.*, 2012b). Usually, research unit is placed in a cluster of research groups. Each research group will consist of several main researchers from the research unit. The combination of several research groups will be formed clusters and usually a university has a number of clusters that also determine the research focus and strength of a university. Each cluster must strive to uphold the reputation of the university by their respective research fields. Figure 1 shows the hierarchy of the cluster, the research groups and research units.

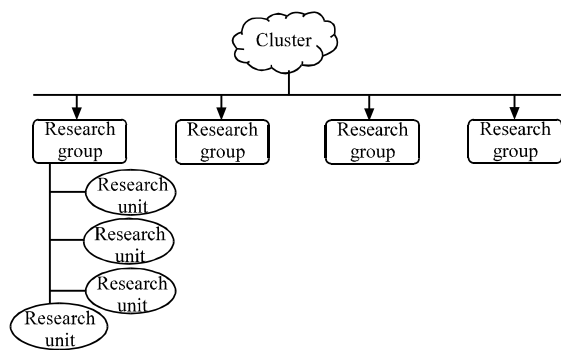


Fig. 1: The combination of the research units will develop a research group and subsequently combined with other research groups to form a cluster

THE BEGINNING OF RESURRECTION PLANNING

The following are some suggestions on the resurrection planning of research unit.

Give the name of research group/define the identity of the research:

The identity of the research group is one of the important things should be done by a head researcher. The name used will represent the field of research and its direction. The name used will represent the field of research and its direction. Thus, it is better if each research group has its own logo and the logo must represent the group identity. The logo will also be registered as the property (trade mark).

Identify the strength and resources:

The researchers are the important center of experience to participate in a wider field of co-subjects where their development is important in expanding the knowledge (Marshall and Reason, 2007; Senge *et al.*, 2005). Therefore, by listing and identifying the strengths and resources that available in a researcher involved will help them to generate the information and scientific data (Ab-Rahman *et al.*, 2011a). This listing is important to measure one's strength which enabled researchers to organize the next strategy to produce the manuscripts later. Figure 2 shows examples of strengths that can be used to generate information and scientific data. These resources already exist in the lecturer themselves and depending on how they evaluate and use it. The more of these resources, the more journals are able to publishes. All researchers already have these resources but the question is how a researcher can use these resources effectively and maximum.

Build research management strategies:

Excellent research group is the group which has a strong and organized strategy. In addition, it also has the initiative to think about the research direction and moving toward the target. A strong strategy contains a variety of management systems and comprehensive to ensure that research can be done in order. Among the systems considered as essential in bringing a research group into more productive directions are as follows:

- Laboratory
- Monitoring and supervision system
- Publication catalyst system
- KPI monitoring system
- Student management system
- And other matters which may help to achieve the research vision

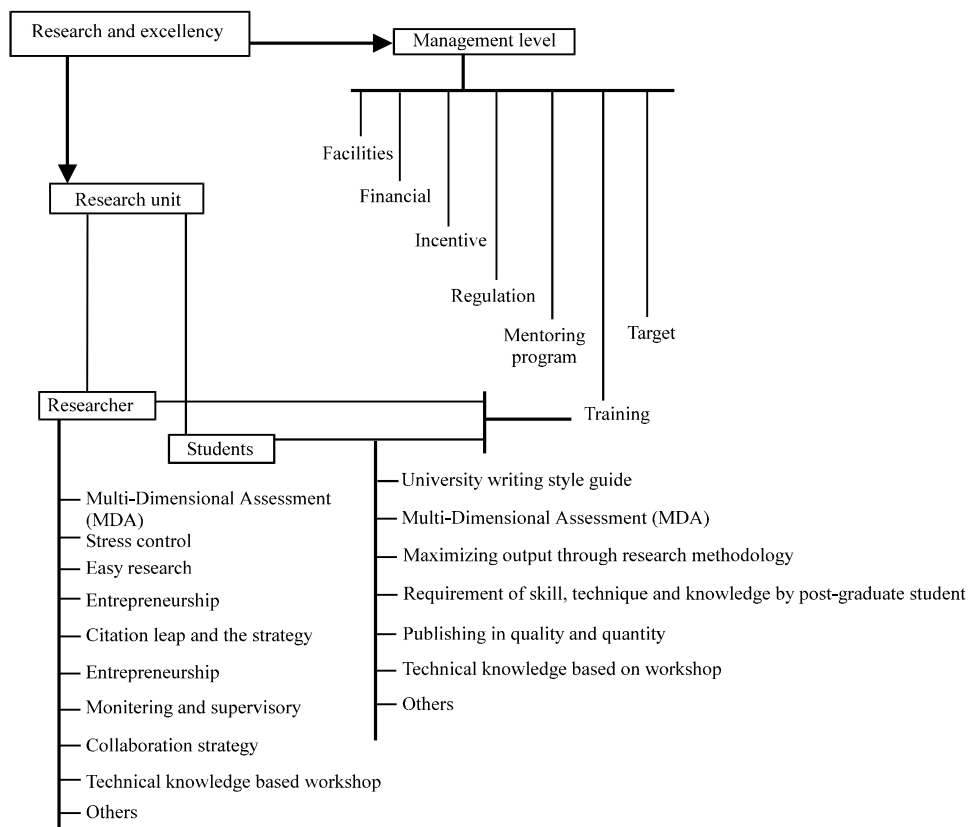


Fig. 2: The initiative needs to be done by the university management center (graduates, research and innovation) in the research unit produces a more viable, robust, competitive and quality

Application of K+ component and innovation: The components of K+ or creativity applied to ensure that research results can be published to the maximum. K+ is an important component in ensuring that every article that was developed has different strengths and focus. Research results as graphs and tables can be reproduced if the description and the focus of this study with previous studies are different but it should be mentioned and referred to the source. Besides, K+ is an important component in implementing MDA. As for example, MDA also applies to the undergraduate students in teaching by the researcher. The researcher has introduced an algorithm which represents a system and students are required to study the correlation of each parameter, determining the validity of the developed mathematical formula and then find the maximum value or limitations that can be achieved by the system. Based on the technical report submitted, the researcher feels that there is value and quality on the assignment. Therefore, based on reports submitted and strengthened with improvement work carried out by research assistants, we managed to contribute about four journals indexed in scopus. Many

benefits are obtained if there is initiative and creativity in them and their work. Apart from contributed about 0.01% to the publication of the University KPI, innovative teaching system also can be applied in improving teaching and learning.

Research network: Human strength is limited and this can be overcome by strengthening research such as working with other researchers. The facilities available in universities is limited and usually a research grant does not allow the purchase of equipment >40% of the total grant. The facilities available in universities is limited and usually, a research grant does not allow the purchase of equipment >40% of the total grant. A small grant can lead to limitations of the progress of a research project. By having collaboration, it can empower and strengthen a research group.

Projection: Projection is a method of forecasting in which current information is used as a basis for estimating a result (e.g., revenues and expenditures) (Encyclopedia of Business, 2012). For a research unit, projection is a

forecast that forms a vision. Targets to be achieved must be valid and the effect of that vision should be a great impact to the success of a university. Thorough planning must be done to achieve each target parameters. A graph should be developed to link between current performance and target achievement which it will be able to determine what needs to be done to achieve the target. Projections are important to determine the direction of a research group because without vision there is no target. Achievement levels should be analyzed regularly to assess whether the efforts are sufficient or still require extra effort.

RESURRECTION STRATEGY

Excellence in research is determined by two factors that support from management as well as cohesive effort by the research unit. The management role is to provide a research platform that is conducive by research providing better facilities and infrastructure such as facilities, finance, space, incentives and other things as well as by setting goals and targets to be achieved by the university community. However, strong and good platforms will not necessarily achieve the vision of the university if the citizens do not stand united and show a progressive efforts to achieve the best. The main players to achieve the vision is a researcher and university students. These two entities that define excellence in universities and in which the position will be placed in the list of world-class university. These were the people who will maintain the RU status held by the university and will produce research outputs that influence other research around the world through high use of terms. Therefore, the main parameter in determining the excellence of a university is a research unit which consists of lecturers and students. These were the people that need to be strengthened so that the research will generate revenue, in high quantity and quality.

Figure 2 shows the determinant factors of excellence and the efforts that can be made by the university to empower the physical and mental strength of the lecturers and students. Graduate Management Centre, Centre for Research Management and Collaborative Innovation Center and Academic Management Centre is one of the bodies established in the university can contribute ideas and efforts in training and workshop series that can transform the personality, creativity and motivation of a unit research. Various workshops and training can be conducted such as the University Writing Style Guide, Multi-Dimensional Assessment (MDA), maximizing output through research methodology, requirement of skill, technique and knowledge by post-graduate student,

stress control, easy research and the other as shown in Fig. 2 (Ab-Rahman, 2011; Ab-Rahman *et al.*, 2011b, d).

Each research in a university can be polished and very useful to be developed if high values as a researcher can be embedded in each of the lecturers and students. Each research in a university can be harnessed and strengthened if the high values as a researcher can be embedded as the attitude of each lecturers and students (Ab-Rahman *et al.*, 2011c).

CONCLUSION

This study discusses the deeper meaning of the research unit and its relationship with research groups and clusters in the structure of research at a university. Research unit is important to be developed because it is the backbone to a research. It is also regarded as the root of the research and if this layers are not properly developed, it would waste all the efforts undertaken by the top level.

This is because no matter how great the platform is built by the management of a university, research would not have advanced if this layer (research unit) is in the passive state. Therefore, this study proposes several measures that can be implemented by the university so that every effort could be realized due to the existence of a strong and excellence research unit.

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