

END USERS' ATTITUDE OF GREEN IT READINESS IN UNIVERSITY

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Abstract— Green IT is one of the hot issues nowadays because IT can help to solve the environmental problems in our world. This has advocated further research in the area of Green IT Readiness for organizations because without a clear understanding of Green IT Readiness, organizations will be getting the undesirable results of Green IT implementations. Hence, there is a need to search the people's attitudes towards Green IT Readiness before implementing it in the organizations. This paper proposes the results of end users' attitude of Green IT Readiness. The objective of these results is to identify the current situation of end users' attitude about the Green IT Readiness in university. UTM end users such as students, academic staff and admin staff will be involved to achieve this objective. The objective achievement will be conducted by distributing the questionnaire as a survey.

Keywords – IT, Green IT, Green IT Readiness, End Users

1. INTRODUCTION

Nowadays, our current global environment undergoes changes and give negative impacts to the world which calls this phenomena as Greenhouse Effects. The greenhouse effect occurred because of the global warming. The gas emissions such as CO₂ induced a high consequence in global warming [1]. This gas increases the temperature in atmosphere gradually every year, which impact our earth's climate patterns and gives adverse consequence to people, oceans and ecosystems.

The advancement of IT usage, such as create changes in business flow, which mean from traditional business into e-business. Enterprises, governments and societies ought IT to improve their standard of living and helps their work become easier. However, most people do not realize that IT is one of the reasons that give the negative impacts to our environment [2]. The unplanned of IT manufacturing, the uncontrolled of IT electricity consumption and the unsupervised of IT disposal will disturb our environmental sustainability.

In contrast, even though IT gives problems for our earth, but it also can be as a problem solver to help our earth from hazard. The combination terms between ITs and the environment to produce a new solution in assisting our world to decrease the environmental problems. The new role of IT now focused on how the usage of ITs can be sustainable and enable a business sustainability strategy [3]. This situation had been identified with the term "Green IT".

As a basic, Green IT is one of the best initiatives which are effectively giving the very minimal impact to our environment. One of the reasons is Green IT can reduce the greenhouse gas emissions (GHG) and total carbon footprint. The aim of Green IT is generally to achieve the energy efficiency, emission reduction, pollution prevention and environmental footprint [4]. Energy efficiency can be affected by reducing the electrical energy power consumption of IT equipment such as utilize a computer or laptop during non peak hour, which indirectly help the IT's greenhouse gas emissions reduction. By managing the disposal of IT equipment such as empty ink printer cartridges, old computer or computer battery properly can help the pollution prevention and environmental footprint. The method of 3R's (Reuse, Refurbish and Recycle) can be applied in this situation [5]. The context of greenness covers the IT lifecycle product which is from sourcing, operations, services and end of IT life management (disposal). Every part of IT lifecycle need to be concerned to achieve the Green IT objective efficiently.

In this paper, the focus is about the Green IT Readiness which discussing the capability of preparedness within the individuals, systems, or organizations in facing a situation and carry out the plan into actions for the IT technical infrastructure, IT human infrastructure and IT management infrastructure. Hence, this paper will only focus in attitude element which is one of the components in Green IT Readiness Model proposed by Molla.

The remainder of this paper is structured as follows: Section 2 discusses the theoretical background, Section 3 explains the methodology adopted by this paper, the results and discussion of the paper are then discussed in Section 4, while Section 5 concludes the paper.

2. THEORETICAL BACKGROUND

A. Green IT Readiness definition

The main objectives of Green IT Readiness were a guideline for organizations to measure the preparedness of Green IT implementation in their company. Five drivers elements were needed to measure the preparedness of Green IT implementation and this all elements were tangible which can be counted and measured [6].

Eventhough each of this all five drivers had their own job but there are very interrelated between each others. The Green IT Readiness can not be measured efficiently in the organizations if they only focus on one element only. The measurement of the five drivers elements can help the organizations to know which elements is/are weak. So, they can plan clearly what are the next strategies they should do. Moreover, the Green IT Readiness aim can be fulfill when implement the five drivers elements in the IT Infrastructure across the IT product life cycle. [4]

As a conclusion, the combining between the five drivers elements of Green IT Readiness (attitude, practice, policy, governance, technology) with the IT Infrastructure (IT Human Infrastructure, IT Management Infrastructure, IT Technical Infrastructure) and the IT product life cycle (sourcing, operations, disposal) were very important to achieve the desirable results of Green IT implementation. Currently, the existing Green IT Readiness Model had been developed by others researcher such as GITAM, GITOL and etc.

B. Existing Green IT Readiness Model

Currently, existing Green IT Readiness Model had been developed. Some of the components on these all model are same. The table 2.1 show that the six different models which have different purpose.

TABLE 2.1: The Existing of Green IT Readiness Model

Green IT Readiness Model	Authors	Purpose
GITAM: Basic Model [7]	Molla, 2008	A systematic model to investigate Green IT adoption..
G-Readiness Framework [8]	Molla and Cooper, 2009	Identifies five main areas of Green IT capability to help organizations evaluate their maturity for Green IT.
GITOL Framework [9]	Cooper and Molla, 2010	Understanding how IT organizations learn to develop their Green IT Readiness during the intuiting, interpreting, integrating and institutionalization processes of organizational learning.
G-Readiness Model [10]	Molla, Cooper and Pittayachawan, 2011	Explain Green IT capabilities of organizations and the maturity of those capabilities.
Nomological Structure of G-Readiness [5]	San Murugesan & Gangadharan, 2012	Capture the input, transformational and output capabilities that organizations need in sustainable management of IT.
Extended Molla's Green ICT Readiness [11]	Wabwoba, Omuterema & Wanyembi, 2013	Investigate the relationship between ICT personnel's gender, age and training with the G-readiness variables as proposed in Molla's G-readiness model.

3. METHODOLOGY

A. Model Development

The design of the model is based on the reviews of the Green IT Readiness models proposed by previous studies. Researcher map each of the components found with the related criteria. Researcher categorizes the components based on the component aims and the practice examples. These components are divided into two categories which are subjective motivation and subjective capability. The components that fall into subjective motivation are concerned, aware and believe. While subjective capability includes the components of commitment and experience. All of these components, sub-components and items had been listed in figure 3.1.

END USERS' ATTITUDE OF GREEN IT READINESS MODEL

<u>SUBJECTIVE MOTIVATION</u>		
<p style="text-align: center;"><u>CONCERN</u></p> <p>Item 1: Climate change issues</p> <p>Item 2: Energy efficiency</p> <p>Item 3: Pollution prevention</p> <p>Item 4: IT contribution to the environment</p>	<p style="text-align: center;"><u>AWARE</u></p> <p>Item 5: IT planning for environment</p> <p>Item 6: Green IT implementation in university</p>	<p style="text-align: center;"><u>BELIEVE</u></p> <p>Item 7: IT impact to the environment</p> <p>Item 8: End users responsibility in environment</p> <p>Item 9: IT's roles for environment</p> <p>Item 10: End users roles in environment</p> <p>Item 11: Trending of Green IT</p> <p>Item 12: Green IT as a main factor</p>
<u>SUBJECTIVE CAPABILITY</u>		
<p style="text-align: center;"><u>COMMITMENT</u></p> <p>Item 13: Giving a contribution for Green IT implementation</p> <p>Item 14: Know about Green IT issues</p>	<p style="text-align: center;"><u>EXPERIENCE</u></p> <p>Item 15: Participating in Green IT Conference</p> <p>Item 16: Attend the seminar or workshop on Green IT</p> <p>Item 17: Subscribe the Green IT email</p>	

FIGURE 3.1: End Users' Attitude of Green IT Readiness Model

Below are the details explanation of each component found for this model:

Subjective Motivation is more about the user internal spirituality that are based on their desire to do something such as personal feelings, tastes, or opinions. The decision of individual to join Green IT is depending on their level of concern. The higher the concern, awareness and believe about Green IT, the higher the chances of the individual to involve in Green IT practices. Concern means something that interests you because it is important or affects you. There are four criteria for concern which are a climate change issue, energy efficiency, pollution prevention and IT contribution to the environment. Researcher wants to know whether end users are concerned or not about these four criteria. Aware means having knowledge, understanding, realization or perception of a situation or fact. This sub-component contains two criteria. The first is about IT planning for the environment. The second is about the Green IT implementation in a university. In this part, researcher wants to know whether end users are aware or not that these two criteria are very important. Believe means

feeling confident about something or accept that as true especially without proof. This is the third sub-components in this Subjective Motivation. The criteria for this component are about IT impact to the environment, end user's responsibility for environment, IT role for environment, end user roles in universities, trending of Green IT, Green IT as a main strategy. Researcher uses these criteria to evaluate the user's believe in Green IT.

Subjective Capability is related to the external spirituality of the individual which is meant the internal spirituality (subjective motivation) turn into a set of actions (subjective capability). As an example, when the users feel that Green IT is important to them (internal spirituality), they will participate in the practices (external spirituality). Based on this situation, this means end users will only willing to give a commitment or get an experience about Green IT when they concern, aware and believe about this issue. Commitment means the act of binding yourself (intellectually or emotionally) to a course of action. Giving a contribution for Green IT implementation and know about the Green IT issues are the two criteria of commitment. The example of giving contributions were likes giving a fund or donation, be a volunteer or participant person, and maybe some ideas. Being Green IT club members can be the example of commitment to know about the Green IT issues. Their willingness to give a commitment in these two criteria is determined in these sub-components. Experience means the content of direct observation or participation in an event or activities. This is the last sub-component which is needed for this model. Participating in Green IT Conference, attend the seminar or workshop on Green IT and subscribe the Green IT email are the three criteria of experience. In this sub-component, the researcher finds out their willingness to get experience in gaining knowledge about Green IT.

B. Questionnaire Development

The example of questions from the previous research had been adopted in order to design the questions. Researcher maps each component according to their related items. Each component contains different items, but interrelated with each others. Then, researcher interprets all the example questions that are suitable to the end user level. The questions will be used for the data collection survey.

Researcher finds seventeen questions that linked with this, all components; four questions for Concern, two questions for Aware, six questions for Believe, two questions for Commitment and three questions for Experience. The table 3.1, table 3.2, table 3.3, table 3.4 and table 3.5 explained in details about the source of questions, the original questions that were adopted and the interpreted questions. This seventeen questions had been distributed to all end users in UTM and the percentage of results will be discussed in the next chapter.

The questionnaire had been divided with 3 parts; part 1 is about demographic profile, part 2 is about the five sub-components and part 3 is about the open-ended questions. The content validity process has been conducted before distributing the questionnaire, by asking a lecturer in faculty of computing in UTM, to make sure that the questionnaire is well organized and the questions are easy to understand. The questionnaire is measured by a five-point Likert scale (ranging from "Strongly Disagree" to "Strongly Agree") which can be coded easily as 1, 2, 3, 4, and 5. Respondents need to answer all the questions by completing the Likert scale which best describe themselves.

TABLE 3.1: The Questions for Concern

Components	Items	Source	Original Items	Interpret Items
Concern	1-4	[8], [12], [4], [10]	I am concerned about climate change.	I am concerned about climate change issues.
			I am very concerned about reducing its power consumption.	I am concerned about reducing the electrical energy power consumption of using IT equipment (exp: computer or laptop).
			Our organization is concerned about the environmental impact in discarding IT at the end of its life.	I am concerned about the environmental impact in discarding IT equipments which is has already been used (exp: ink printer cartridges, old computer or computer battery).
			Our organization is concerned about IT's contribution to greenhouse gas emissions.	I am concerned about its contribution to greenhouse gas emissions (exp: reducing a carbon footprint).

TABLE 3.2: The Questions for Aware

Components	Items	Source	Original Items	Interpret Items
Aware	5-6	[8], [12]	Environmental concern in planning IT operations is very important.	I'm aware that environmental concerns in planning IT operations is very important.
			I am aware of the ACS's green ICT policy.	I'm aware that the Green IT implementation in the university is very important.

TABLE 3.3: The Questions for Believe

Components	Items	Source	Original Items	Interpret Items
Believe	7-12	[12]	I believe that IT equipment and systems contribute to greenhouse gas emissions.	I believe that IT equipment and systems contribute to the greenhouse gas emissions.

			I believe that IT management should be responsible for reducing its greenhouse gas emissions.	I believe that end users also should be responsible for reducing its greenhouse gas emissions.
			I believe that IT can be used to reduce a business's total carbon footprint.	I believe that IT can be used to reduce a carbon footprint in university.
			I believe that IT professionals can play significant roles in helping businesses tackle their carbon footprint.	I believe that end users also can play significant roles in helping the university, reducing their total carbon footprint.
			I believe that Green IT is just a fad and not important to business.	I believe that Green IT is not just a trend and very important to the university.
			I believe that tackling the carbon footprint of IT systems should be a core part of a green business strategy.	I believe that reducing the carbon footprint of IT systems should be a core part of university strategy for Green IT implementation.

TABLE 3.4: The Questions for Commitment

Components	Items	Source	Original Items	Interpret Items
Commitment	13-14	[8], [12]	My company will have a Green IT budget in the next three years.	I'm willing to give a commitment in giving a contribution for Green IT implementation in a university (e.g. : fund, donation, volunteer, participant, an idea, equipment).
			The issues of green IT is on my company's radar.	I'm willing to give a commitment to know about the Green IT issues (e.g. : being a Green IT Club Member).

Table 3.5: The Questions for Experience

Components	Items	Source	Original Items	Interpret Items
Experience	15-17	[12]	I participate in green IT discussion forums.	I'm willing to participate in the Green IT Conference.
			I subscribe to green IT e-mail distribution lists.	I'm willing to subscribe to the Green IT e-mail distribution lists.
			I have purposely attempted to attend a seminar or workshop on "Green IT".	I'm willing to attend a seminar or workshop on Green IT.

C. Data Collection

This paper used quantitative method for collecting data. The questionnaire has been distributed online using a Google Drive tool. The sample size of the respondents after distributing the final questionnaire is 160 respondents, and the time for collecting the data was around two weeks. The respondent pool are students, admin staffs and academic staffs in UTM.

4. RESULTS AND DISCUSSION

The questions in the survey were about the UTM end users' attitude in Green IT Readiness. The data analysis will be divided into three parts which are part A is about the analysis of demographic profile, part B is about the parameter analysis, part C is about descriptive statistics analysis, part D is about the open-ended comments from end users and part E is about the discussion of the results.

A. Demographic Analysis

Part A of the questionnaire consists of five close-ended questions related to the respondent's background, such as position, gender, age, educational level and faculty. The charts below show the details of respondents' information.

The figure 4.1 below explains the results for end user respondents in UTM. Researcher only focused on the student, academic staffs and admin staffs. Most of respondents whom answered the questionnaires were student which was 68%. The academic staff in the details were lecturers or tutor that only covers 21% of the pie. Lastly, researcher only able to obtain 11% of respondents for admin staff such as officer, librarian, technician, or others; because it is hard to coax them to answer.

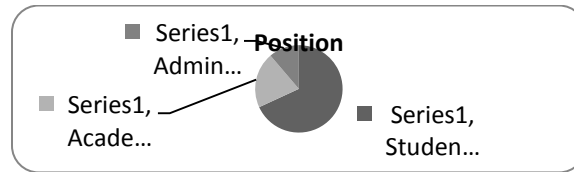


FIGURE 4.1: Information about Respondent's Position

The researcher divided level by age into four categories. Based on the results on figure 4.2, the majority of the respondent ages in the form of 65% was represented by the range between 20 to 30 years old and smallest percentage which was 4% of the pie represented the ages more than 50 years old. The rest of respondents ages which between 31 to 40 and 41 to 50 were 21% and 7% respectively.

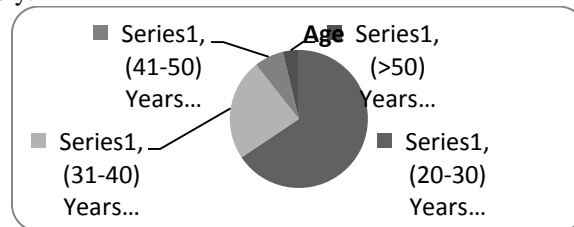


FIGURE 4.2: Information about Respondent's Age

Most of the respondents were female, 113 students out of 160 which represent 71% of the respondents where the rest of the respondents were male with approximately 29% as seen in figure 4.3.

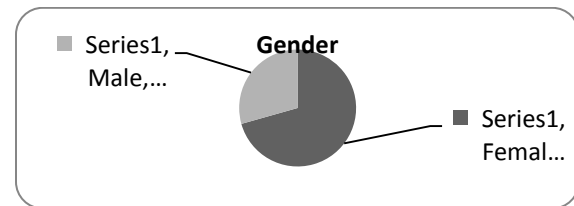


FIGURE 4.3: Information about Respondent's Gender

Figure 4.4 shows the level of education of the respondents, and the highest number of the respondents were on the Masters level which represent 49% of the total respondents, where 24% of them are on the PHD level and 22% are on the Degree level. While the rest was 5%, which were STPM and SPM level.

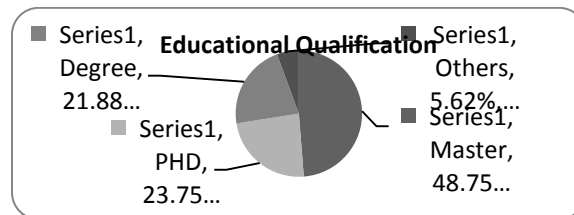


FIGURE 4.4: Information about Respondent's Educational Qualification

Researcher distributes the questionnaires randomly to all faculties in UTM. Accordingly, the figure 4.5 shows that the Faculty Computer (FC) was the majority respondents with 35%. Next, Faculty Education (FP) gotten the percentage results above 10% which was 17.50%. Three faculties got the percentage of respondents below 10%, which were Faculty Electrical (FKE) (6.88%), (FBME) (9.38%), and Faculty Mechanical (FKM) (8.75%). Moreover, there were also the faculties which got the results of percentage below 5%. This means the total of respondents for these faculties were very few and minor. The faculties are (FKA) (1.88%), Faculty Management (FM) (3.75%), Faculty Science (FS) (4.38%), (FGHT) (3.75%), (FCHE) (1.25%), (FPREE) (0.62%), (FAB) (2.50%). Lastly, we only gathered 4.38% of respondents from other groups. This was actually respondents from staffs that did not work at any faculties like a library officer or any other unit.

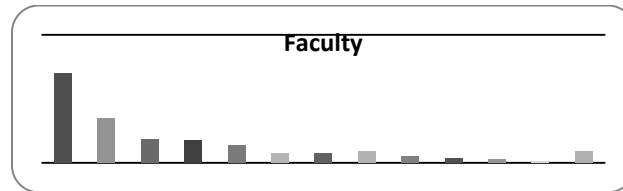


FIGURE 4.5: Information about Respondent's Faculty

The survey was distributed randomly without any sort of strict restriction of amount of position, age, gender, educational qualification and faculty. But, the criteria of respondents must fulfill researcher scope which was end users required to either studied or work at UTM Skudai.

B. Parameter Analysis

In order to validate the collected data from the questionnaire, the SPSS statistical analysis software has been used in this research. The first analysis was using the Cronbach's alpha method to analyze the reliability of the questionnaire.

The Cronbach's alpha method used to measure the internal consistency, which means how closely the item are related to each other as a group. On Cronbach's alpha the reliability should be more than .70 in order to be considered as the items. The result of Cronbach's alpha reliability analyze is shown below.

TABLE 4.1: Processing Summary

		N	%
Cases	Valid	160	56.9
	Excluded ^a	121	43.1
	Total	281	100.0

TABLE 4.2: Reliability Statistics for Questionnaire

Cronbach's Alpha	N of Items
.931	17

According to Table 4.1 and 4.2, the result above shows the Cronbach's Alpha is .931 which means that all the parameters in the questionnaire demonstrated acceptable reliability for this research.

C. Descriptive Statistics

This section shows the Descriptive statistics Analysis for the components and items.

i. Results for each Item in the each Sub-Components

In this part, the means from item 1 until item 17 had been calculated. The details results for each item will be shown by using a graph with the justification also.

Based on the figure 4.6, researcher finds that item 1 get the highest means which is 4.2, follows by items 2 and item 3. So, researcher can conclude that most end users in UTM are very concern about the climate change issues. This basic knowledge is very important for end users to concern in the way of implementing the Green IT Readiness in UTM. This is because climate change issues are the main reason why we need to be 'green' for the environment. However, only some of the end users which are concern about the IT's energy efficiency and the pollution prevention of IT. Item 4 get the lowest means results in this sub-component which is 3.9, majority end users in UTM still lack of concern about the IT's contribution to the environment. They still have a very limited knowledge about how IT can help in reducing a total carbon footprint.

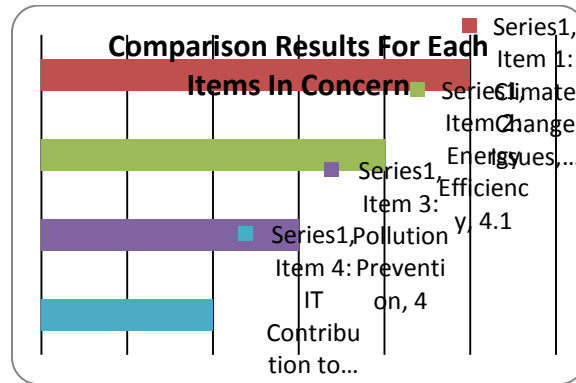


FIGURE 4.6: The Results for Concern

The differences of means results between item 5 and item 6 are not so far. However, the means of item 5 is lower than item 6. From this result, researcher can say that the awareness about the importance of environmental concerns in planning IT operations are really needed to be increased. This is because without higher awareness, end users will just ignore about the effect of using IT in our environment. The means result for item 6 show the positive feedback which means the Green IT can be implemented in university very easily because of the high awareness among end users about the importance of Green IT. The figure 4.7 shows about the results for aware.

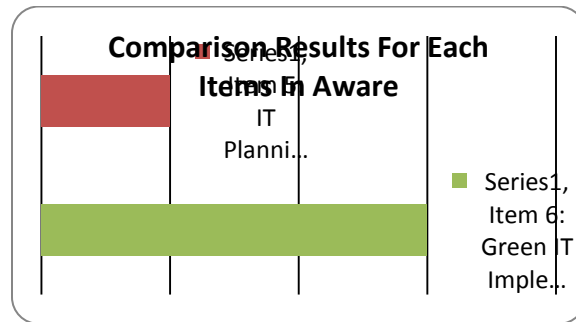


FIGURE 4.7: The Results for Aware

The figure 4.8 shows that, item 8, item 10, item 11, and item 12 get the results more and equal to 4 except item 7 and item 9. These two items contain different aim, but support each others. For item 7, the aim is end users believe that IT can be impact to our environment while for item 9, the aim is end users believe about IT as a role to help our environment. So far, based on this average result, the fact about IT can impact our environment by greenhouse gas emissions, but IT also can be as a resolvable problem to help our environment in reducing a carbon footprint are getting the lowest percentage of believe among end users. This situation can give hard to university to get support from the end users for Green IT implementation because of their low trust level. By the way, they are very believed about the end users responsibility for the environment, the end users roles in the university, the trending of Green IT and the Green IT as a main strategy.

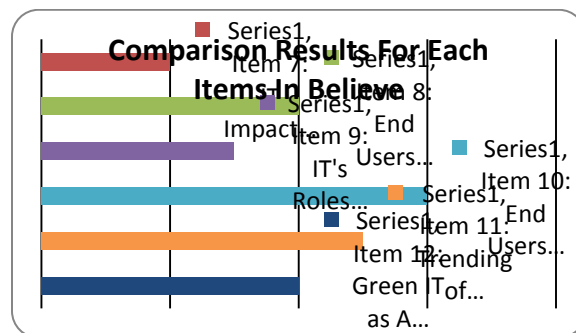


FIGURE 4.8: The Result for Believe

This sub-component only contain two items. The means results between item 13 and item 14 are same. This means there are no contrast between these two items. End users can willing to give a commitment for contribution to Green IT implementation likes neutrally willingness in giving fund or volunteer and also can willing to give a commitment to know about the Green IT issues likes neutrally willingness in being a Green IT Club Member. The figure 4.9 shows about the results for commitment.

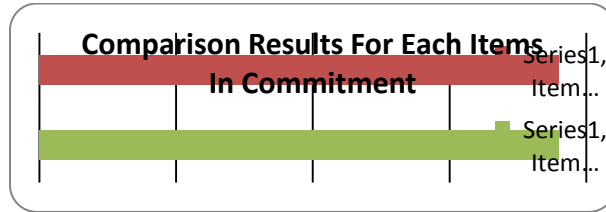


FIGURE 4.9: The Result for Commitment

Based on the figure 4.10, item 15 and item 17 get the same means result of experience. End users only have high willingness in getting experience to increase their knowledge about Green IT by participating in the Green IT Conference and attend a seminar or workshop on Green IT. Unfortunately, they are low of willingness to gain knowledge about Green IT by subscribing to the Green IT email distribution lists.

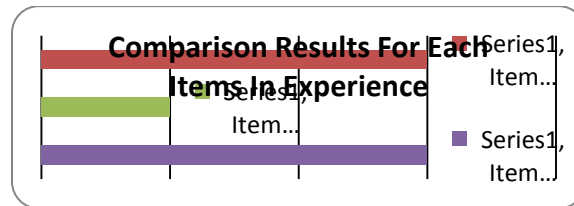


FIGURE 4.10: The Result for Experience

ii. Results for each Sub-Component

This means results for each sub-components in attitude are very important because researcher can know which one of the sub-components that get the very low means results. Based on the figure 4.11 shows that this all sub-components are very interrelated between each others. This is because without feeling aware, end users will not feel concern and believe. Moreover, without feeling concern and believe, end users will not willing to give a commitment and get experience about Green IT. By the way, researcher can conclude that the UTM End Users are very high awareness about Green IT, medium concern and believe about Green IT, and very low willingness to give a commitment and experience.

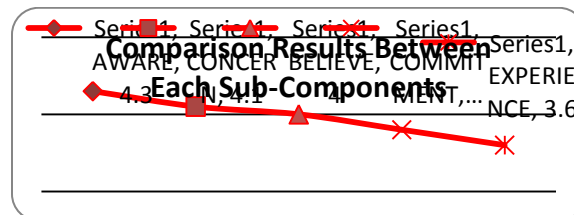


FIGURE 4.11: The Result for Each Sub-Components

iii. Results for each Component

Based on the comparison of means results for each component in figure 4.12, researcher can conclude that the means results of subjective motivation of end users are higher than the subjective capability of end users. This means end users only feeling motivated, but not capable to take action. They were really motivated in feeling concern, aware and believe about Green IT but they are not really capable to take action in willing to give a commitment and get experience for Green IT issues. In this part, the means of Subjective Motivation and Subjective Capability had been calculated by using the equation below.

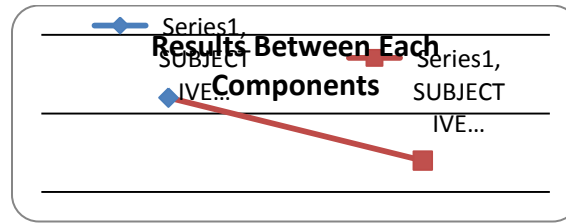


FIGURE 4.12: The Result for Each Component

D. Open-ended Comments Analysis from End Users

The survey result also contains an open-ended question to end users. This open-ended question contains sentiment component. They can give any comments or suggestions that good for this research. Researcher has categories the answers with three types; positive comments, eager to know comments and suggestion comments. This answer is very needing because researchers can know about the feedback from end users. Either they support for this Green IT implementation nor negative perception.

In the *positive comments*, most end users understand about the importance of Green IT. They are all support for the Green IT implementation in a university. Some said that this research is very significant because consider IT as a tool for a green environment. These all positive feedbacks from end user help researcher can figure out roughly that end users' attitude about the Green IT Readiness are on the good level.

In the *eager to know comments*, most end users are kept questioning in their mind how IT can help to solve problem for our environment. They really need to know what does Green IT really means and its objectives. Some of them feel curious to believe about the IT impact, IT roles, and IT contribution to our environment. They are still lack of understanding and knowledge about this Green IT issue because some of them never heard about this term.

In the *suggestion comments*, most of them give the really good idea that will help the Green IT implementation in university become more effective. Provide any educational sessions about Green IT to raise awareness among end users is one of the very good suggestion.

E. Discussion About The Results

The results above mostly shows the positive results. This is because all of the means results are not below than 3 and near to 4 which is meant mostly respondents are agreeing and strongly agree about Green IT Readiness in UTM. These positive results prove that end users are very ready for the Green IT implementation. In this part, researcher will discuss about overall of the survey results.

Based on the survey results, the researcher knows the current situation for end users' attitude in respect of the Green IT Readiness. Mean results for each sub-component in attitude prove that most end users are very well aware, medium concern and believe, but very lack of willingness for commitment and experience; granted and of course, the increasing of components like concern, aware, believe actually can help to increase the willingness of end users to give commitment and gain experience. If the end users possessed knowledge on Green IT, they will feel concern, awareness, and believe in Green IT implementation. So, it is not impossible for the components of commitment and experience to get the increase means results in the next five years. Based on the figure 4.13, researcher divided the conclusion of the result by two points of view.

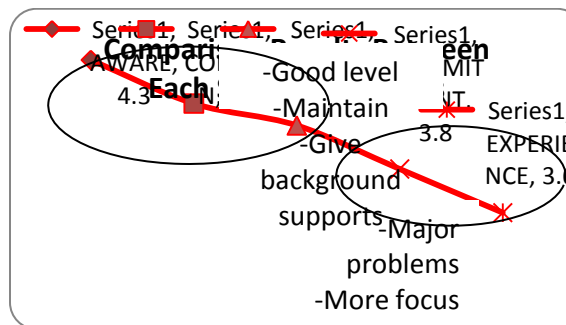


FIGURE 4.13: The Conclusion Results by Sub-Components

First, the researcher concluded that the sub-components of commitment and experience were the major problems and UTM need to focus on solving these problems. UTM end users had two major problems which were (i) low of

willingness in giving commitment and (ii) low of willingness in getting experience. The main reason why these two components were low because of; (i) the lack of Green IT activities in UTM and (ii) community not well aware the benefits for themselves if they join any Green IT activities. UTM need to use new initiative practices as a new strategy [13]. Therefore, UTM should provide some solutions for instance (i) providing more interesting activities for encouraging them to give commitment [14] and (ii) giving recognition to anyone who has experience about Green IT [15].

Second, the researcher concludes that the sub-components of awareness, concern and believe were on the good level. UTM need to maintain the three sub-components by (i) finding the background supports [16] and (ii) providing a suitable place in UTM to implement Green IT.

5. CONCLUSION

For the future research, researcher suggests that the discussion about some recommendation for best practices to help all the attitude components to maintain and improve by implementing the example of others university have done for green implementation.

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