A STUDY ON THE RELATIONSHIP OF COGNITIVE DIVERSITY AND DECISION MAKING OUTCOMES AND THE EFFECT OF TASK CONFLICT IN MODERATING THE RELATIONSHIP

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UNIVERSITI TEKNOLOGI MALAYSIA
A STUDY OF THE RELATIONSHIP BETWEEN COGNITIVE DIVERSITY AND DECISION MAKING OUTCOMES, AND THE ROLE OF TASK CONFLICT AS THE MODERATOR OF THE RELATIONSHIP

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ABSTRACT

This study aims to examine the relationship between cognitive diversity and decision making outcomes; in term of decision quality, understanding and commitment of academic staff at Universiti Teknologi Malaysia (UTM), Skudai Johor. The role of task conflict as a moderator is also examined. This study used data collection method by using questionnaires and simple random sampling. A total of 185 questionnaires received were then analysed using Statistical Package for social Science (SPSS) 20.0 software. The findings are presented in the form of percentage and mean, coefficient of variation, correlation and hierarchical multiple regression. The study found that there is high level of cognitive diversity among academic staff and the highest cognitive diversity is in term of UTM’ strategies, following by UTM’s future directions and UTM’s goals while the lowest is in term of UTM’s objectives. Task conflict among academic staff are at moderate level. The findings also found that decision quality in UTM is moderate, while decision understanding and commitment of academic staff of UTM is high. In addition, it is found that there is significant relationship between cognitive diversity and decision making outcomes; in term of quality of decision, understanding and commitment of academic staff. Further, this study found that task conflict do not moderates the effects of cognitive diversity on decision quality, decision understanding and decision commitment.
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1.1 Introduction

This study aims to examine the relationship between cognitive diversity and decision making outcomes; in term of decision quality, understanding and commitment of academic staff at Universiti Teknologi Malaysia (UTM), Skudai Johor. The role of task conflict in moderating the relationship is also examined.

1.2 Background of Study

The current trend has shown the increasing tendency of most modern organization to rely more on teamwork when making important organizational decisions. It is argued that team decision making is potentially more able to achieve desirable outcomes rather than when the decision is made individually by managers (Daft et al., 1993). In other words, team produces better quality decision compare to individually made decision. This is because the mixed combination of expertise in a
team enhances the collective of information and produce better discussions (van der Vegt et al., 2006). Furthermore, it is argued that team could produce more creative alternatives, compared to individuals (Enayati, 2002). Hence, it is not surprising to see that team diversity is now cherished by most organization (Pelled, 1996).

According to Harrison et al. (2002), team composition nowadays is increasingly more heterogeneous than before. Moreover, today organizations are now prefers to incorporate team members from diverse demographic background to work in a group (Pelled, 1996; van Dijk et al, 2012). The diverse team may consists team members that are differ in term demographic characteristics such as personality, race, age, gender, education, functional background or expertise (Cuang et al., 2004).

According to Kilduff et al. (2000), these demographic characteristics will influence cognitive diversity of a team. In other words, the more diverse a team in term of members’ demographic characteristics, the higher the cognitive diversity is. This is based on the assertion that demographically differ team members have different cognitive schema because they tend to see the world differently (Michel & Hambrick, 1992). For example, managers from different areas of expertise may view organizational problem from different views and perspectives (Waller et al., 1995). Thus, managers from different level of expertness may have different approach of dealing with a wide range of issues (Kilduff et al., 2000).

This study is focusing on Olson et al. (2007a) definition of cognitive diversity that is the differences of team members’ views, beliefs, and personal preference on important organizational matter such as organizational goal and objective. According to Olson et al. (2007a), cognitive diversity is a valuable resource and is very important for knowledge-based team like decision making team.

Emergent of global market as well as rapid technological advancement has made decision making become a very important organizational process. Moreover,
Decision making outcomes contribute to organizational performance (Wooldridge & Floyd, 1990). Therefore, decision making has increasingly become the subject of focus by contemporary researchers and scholars. Decision making is a process of solving organizational problem or an organizational effort to improve in certain area for example decision about entering a new business market, human resource decision or total quality control decision (Bartol & Martin, 1994, Parayitam & Dooley, 2011). Decision making is also made in organization in order to achieve organization’ goal and improve firm’ performance. Therefore, it is important to address the decision making aspect carefully and ensure that decision making produce optimum outcomes.

Despite the importance of team decision making, it is not a mere process. In fact, it is a highly complex process as it involves a group of people communicating in order to reach a consensus decision. This is often the case when decisions are made in an organizational setting. Most often organizational decisions are made by a group of managers or team members who are recognized to be an expert in their specific area or knowledge. Furthermore, these individuals are also those who are capable, knowledgeable and experienced due to their knowledge, experiences, expertise and exposure to the environment (Canham, 2008). Due to the differences of knowledge, experience and the way team members perceive the environment; team members usually have different views about organizational matter like organization goal. This personal views and perspectives on organizational matter may in turn, influence the selection of alternatives and solution in decision making process and consequently effects decision outcomes (James & Ashkanasy, 2008).

Olson (2007) stated that a positive decision making outcomes can be assessed based on three dimensions; first are high quality decision, secondly; members’ common understanding towards the rationale of the decision and thirdly; commitment from all members of the team to execute the decision into organizational action.
Olson et al., (2007a) in his study has suggests positive relationship of cognitive diversity and decision making outcomes. Diversity that occurs in every decision making team has provides marketplaces of information and ideas. Wide range of information and ideas are beneficial to the decision making outcomes as it will encourage managers to think in more comprehensive view about the problem they face, thus enhance the possibilities that they would come out with quality decisions that match the complexity of the business problem (Amason, 1996). Wide ranges of ideas and information would also make managers spend more time in analysing and reviewing every standpoints and alternatives during decision making process and thus fosters their common understanding about the task at hands (Kilduff et al., 2000). Indirectly, it would also boost team members’ commitment towards the implementation of the decision as managers are already spending much time and energy to review and analyse every alternatives and being actively involved in the decision making process (Glick et al., 1993).

However, Hambrick et al. (1996) argued that cognitive diversity may only encourage partition that makes the information sharing is more difficult. Supporting this, Mohammed & Ringseis, (2001) argued that, it is difficult to integrate opposing views and information in a diverse team. As a consequence, it may weaken the potential benefits of the diverse views and perspectives and may even result in a negative relationship between cognitive diversity and decision making outcomes.

Researchers are also having concern that diversity and heterogeneity are often leads to conflict. In fact, conflict has become common in any team nowadays. This conflict, if it is not managed well will affect the outcomes of the decision making. Differences in interpersonal style, political preferences and personal tastes of individual could raise the conflicts (Parayitam & Dooley, 2011). However, some researchers argued that conflict is also needed in organization particularly task-related conflicts. Scholars suggest organization should encourage task conflict and avoid relationship conflict. Task conflict has been argued to positively related to decision making outcomes while relationship conflict are often relates to emotional and often bring negative effect that hinder the successful implementation of decision
making (Parayitam & Dooley, 2011). Task conflict is defined as the disagreement among team members about work or task at hands. These disagreements can exist in many forms such as debates, arguments and managers challenging each other’ views (Olson et al., 2007a).

Eisenhardt (1989) stated that managers who are directly involved in the discussion, arguing and challenging other’s view during the decision making process can produce higher quality decision because as they exchange ideas, they gain a broader perspectives of the risks, ambiguities, and action needed to produce a quality decision. Disagreements also encourage an in-depth analysis of every alternative, by this way managers will become more knowledgeable about the task at hands, improve their understanding about the underlying rationale of the decision and encourage common understanding among members of a team (Wooldridge & Floyd, 1990). Managers will also feel satisfied when he is directly involved into the decision making process as they debate their standpoints and views; consequently they will also feel obligated to the outcomes of the decision, thus improve their commitment towards the successful implementation of the decision (Amason, 1996). Martins et al., (2012) asserted that whether diversity could enhance decision making outcomes or vice versa, it is depends greatly on how managers are able to raised opinions, standpoints and challenge others’ views.

1.3 Background of Organization

Universiti Teknologi Malaysia (UTM) is a public university with global outlook located in Skudai Johor Bahru, the southernmost region of Peninsular Malaysia and is bordered by Singapore. It is also strategically located in Iskandar Malaysia Region which is an important economic centre in South Johor.
UTM is chosen as the place of this study because it has undergone a major change in its leadership as the vice chancellor is changed. Besides that, UTM is going through a rapid transformation phase in order to achieve the status of Global Brand University. Numerous decisions are made both at faculty and university level as to achieve UTM’s goals and these decisions are and will definitely have significant impact on UTM’s future directions.

1.4 Problem Statement

There are few studies that have been done to examine the effects of diversity on decision outcomes. Some studies found positive relationship of cognitive diversity on decision making outcomes; however, there are also a few studies that have found a negative relationship between cognitive diversity and decision outcomes (Horwitz & Horwitz, 2007; Canham, 2008; Harrison & Klein 2007; van Knippenberg & Schippers, 2007; Mannix & Neale, 2005).

Some scholars argue that these inconsistencies findings are due to the use of demographic variables as proxies to indicate cognitive diversity (Martins et al., 2012). Supporting this, Olson et al. (2007a) stated that the inconsistency occurs because previous cognitive studies are focusing too much on the demographic characteristics. According to Kilduff et al. (2000), observable demographic data is not an accurate measurement for cognitive diversity. Therefore, Kilduff et al. (2000) has calls for cognitive studies in term of psychological characteristics such as belief, views and preference of individuals. In fact, cognitive diversity research in term of beliefs and preference is very rare compared to cognitive studies in term of demographic characteristics. Consequently, researchers have concluded that more research is needed in that area (Kilduff et al., 2000; Olson et al., 2007a). Hence, this study is focusing on the psychological aspect of cognitive diversity which is views
and preferences of individuals, thus the effects the cognitive diversity on decision making outcomes will be examined.

In order to clarify these mixed results regarding the association between diversity and team performance, some scholars has examine the mediator effects of team process by which diversity influences the outcomes. Finally scholars came into consensus that the relationship of diversity and team outcomes such as decision making are best explained using a third variable which is task conflict as an important group process (Glick et al., 1993; Jehn, 1995; Pelled, 1996; Pelled et al., 1999; Lawrence, 1997; Williams & O’Reilly, 1998). For example, Jehn et al., (1999) has study the mediating effects of task conflict on diversity and team performance and found that task conflict mediate the effects of diversity on team performance. Olson et al., (2007) on the other hand has study the mediating effects of task conflict on cognitive diversity and decision making outcomes; in term of quality, understanding and commitment and found that task conflict fully mediate the effects of cognitive diversity on decision understanding and decision commitment, and partial mediation of task conflict on cognitive diversity and decision quality relationship. According to Ainoya (2004), though there is consensus agreement among scholars on the positive effects of cognitive diversity on decision outcomes through team process like task conflict (Jehn, 1995; Jehn, 1997; Pelled, 1996; Pelled et al., 1999), however, it still needs more clarification in order to enhance our understanding and knowledge on the benefits of diversity. Hence, Ainoya (2004) has calls for more refinement in the literature.

Simons, Pelled, and Smith (1999) noted that future research must consider the importance of moderator factors in explaining the effects of diversity on team outcomes. Therefore, this study would further examine if task conflict may functions as a moderator that could enhance the magnitude of the effects of diversity and decision making outcomes when both variables correlated.
Prior study on cognitive diversity, task conflict and decision outcomes was conducted by Olson et al., (2007a) among medical staff in 85 U.S hospitals in healthcare industry. Hence, researcher aims to conduct similar study in term of UTM perspectives. This study hereby is conducted among the academic staff from 14 faculties of UTM, Skudai. Further, this study is focusing on three dimensions of decision making outcomes; which are the quality of decisions, the understanding of the decision and the commitment the decision should receive. These dimensions are based on Olson et al. (2007a) study. It is chosen because its comprehensiveness compare to other studies. Amason (1996) has examined the dimensions of decision outcomes in term of decision quality and decision consensus. Janis (1982) has examined the decision making outcomes in term of decision quality only while other decision making scholars are focusing on decision making styles (Ainoya, 2004).

According to Zaini (2010), UTM has long been practising the culture of teamwork in any work-related fields particularly in decision making. Organizational decision making is made usually through meetings, discussion sessions and discourse among academic staffs. Decision making is made to solve any organizational problems and to identify new opportunities and initiative. Zaini (2010) highlighted that it is important for academic staff working to achieve consensus decision and not subjected themselves to the well-known stigma that people in academic line is likely to prioritize individual ideas over the team benefit, and, that an academic staff can’t be a good manager. According to Zaini (2010), decision making process can sometimes become more like a seminar or a briefing session that involves only one way of communication or the battlefield of ideas and ego. Zaini (2010) further contended that the differences of personality, attitude, exposure, experience, knowledge and ability among academic staff should be directed to benefit the success of the organization. Therefore, in this study, the following research questions are postulated.
1.5 Research Questions

RQ1: What is the level of cognitive diversity among academic staff of UTM Skudai?

RQ2: What is the level of cognitive diversity among academic staff on four important organizational matters; in term of UTM’s strategies, goals, objectives and future directions?

RQ3: What is the level of decision quality in UTM Skudai?

RQ4: What is the level of decision understanding among academic staff of UTM Skudai?

RQ5: What is the level of decision commitment among academic staff of UTM Skudai?

RQ6: What is the level of task conflict among academic staff of UTM Skudai?

RQ7: What is the relationship between cognitive diversity and decision quality?

RQ8: What is the relationship between cognitive diversity and decision understanding?

RQ9: What is the relationship between cognitive diversity and decision commitment?

RQ10: Will task conflict moderate the relationship between cognitive diversity and decision quality?

RQ11: Will task conflict moderate the relationship between cognitive diversity and decision understanding?
RQ12: Will task conflict moderate the relationship between cognitive diversity and decision commitment?

1.6 Research Objectives

The objectives of this research are:

RO1: To determine level of cognitive diversity among academic staff of UTM Skudai.

RO2: To determine level of cognitive diversity among academic staff on four important organizational matters; those are UTM’s strategies, goals, objectives and future directions.

RO3: To determine the level of decision quality in UTM Skudai.

RO4: To determine the level of decision understanding among academic staff of UTM, Skudai.

RO5: To determine the level of decision commitment among academic staff of UTM, Skudai.

RO6: To determine the level of task conflict among academic staff of UTM, Skudai.

RO7: To determine the relationship between cognitive diversity and decision quality.
RO8: To determine the relationship between cognitive diversity and decision understanding.

RO9: To determine the relationship between cognitive diversity and decision commitment.

RO10: To determine the moderating effects of task conflict on the relationship between cognitive diversity and decision quality.

RO11: To determine the moderating effects of task conflict on the relationship between cognitive diversity and decision understanding.

RO12: To determine the moderating effects of task conflict on the relationship between cognitive diversity and decision commitment.

1.7 Hypothesis

This study will further test these following hypotheses:

H1: There is a significant relationship between cognitive diversity and decision quality.

H2: There is a significant relationship between cognitive diversity and decision understanding.

H3: There is a significant relationship between cognitive diversity and decision commitment.
H4: Task conflict moderates the relationship between cognitive diversity and decision quality.

H5: Task conflict moderates the relationship between cognitive diversity and decision understanding.

H6: Task conflict moderates the relationship between cognitive diversity and decision commitment.

1.8 Scope of Study

This study is focusing on academic staff from all 14 faculties in UTM Skudai, Johor Bahru. The 14 faculties are Faculty of Built Environment (FAB), Faculty of Biosciences and Medical Engineering (FBME), Faculty of Civil Engineering (FKA), Faculty of Computing (FC), Faculty of Electrical Engineering (FKE), Faculty of Chemical Engineering (FChE), Faculty of Mechanical Engineering (FKM), Faculty of Geoinformation and Real Estate (FGHT), Faculty of Education (FP), Faculty of Management (FM), Faculty of Science (FS), Faculty of Islamic Civilization (FIC), Faculty of Petroleum and Renewable Energy Engineering (FPREE) and Language Academy (LA).

Though there are many different dimensions of cognitive diversity is mentioned in other study, this study is focusing on Miller et al. (1998) definition of cognitive diversity that is managers’ belief and preference of managers on important organizational matters. The dimension of cognitive diversity in this study includes differences of academic staff’s views on issues such as UTM’s strategies to become a global brand university, UTM’s institutional goal, objective and future direction.
Further, the dimensions of decision making outcomes for this study are decision quality, team understanding of the decision and members’ commitment towards the implementation of the decision. This is based on the dimensions of decision making outcomes as stated in Olson et al. (2007) study.

Besides that, task conflict will be assessed based on Jehn (1995) definition of task conflict that is disagreements of managers related to their work. For this study, it is assumed that cognitive diversity will eventually leads to task conflict; defined as constructive disagreements of diverse viewpoints. Managers are expected to be experienced, capable and rational; hence they would definitely question others’ standpoints if it is different from their own. Although these differences of opinion may lead to destructive conflict such as relationship conflict, task conflict have higher tendency to occur in the decision making process because rationally managers would limit their emotional feelings, encourage the exchange of healthy debates and contribute idea. This argument is supported by past research and findings that stated that cognitive diversity is more strongly related to task conflict rather than relationship conflict (Olson et al. 2007).

1.9 Significance of study

Firstly, this study provides an insight about the direct measurements of cognitive diversity, which is the psychological aspect of individuals such as views, beliefs and preference on important organizational matters; which is a bit underdone. Next, this study improves our understanding and knowledge about the effects of cognitive diversity on decision outcomes; in term of decision quality, understanding and commitment, since prior studies on the area have been generated mixed findings due to the use of demographic features used as proxies to indicate cognitive diversity. Thus, the study provides a better understanding on task conflict as an important group process in performing complex task, such as decision making.
In term of practical standing, this study gives better picture to UTM about its’ decision making outcomes particularly related to their level of decision quality, academic staff’s understanding of the decision making and their commitment towards the implementation of the decisions. This study also provides new insights to UTM on how to improve the decision making outcomes. Most importantly, this study will give an insight on the potential benefits of cognitive diversity and task conflict among academic staff. Consequently, diversity and conflict would be more appreciated in a positive way in future thus will be directed to achieve consensus decision among academic staff of UTM.

1.10 Limitation of Study

This study is focusing on the academic staff of UTM Skudai. This includes all academicians from all 14 faculties from professors, associate professors, senior lecturers and lecturers who are directly involve in the decision making process at faculty as well as university level. Academic staff in UTM who belongs to other school, unit or division other than 14 faculties are not included neither non-academic staff of UTM.

This study is assessing cognitive diversity, task conflict and decision making outcomes; in term of decision quality, understanding and commitment among academic staff of UTM, Skudai Johor. The other aspects of the study will not be addressed in this study and can’t be generalized to other organizations. This study is time base and therefore may accurate for only temporary period of time. The findings of the study can only be made as a reference in future, and not relevant to depict the real situation because the time is changed. Therefore, this study should be remade over time and change the policy used.
In addition, the accuracy of this study will depend on the honesty of the respondents to give real feedback without any prejudice. Respondents may be influenced by several factors such as emotions and environment. This will affect the answers given.

1.11 Conceptual and Operational Definition of Terms

1.11.1 Cognitive diversity

Conventionally, cognitive diversity is assessed by demographic characteristics of team members of a decision making team. According to Hambrick & Mason (1984), cognitive diversity can be defined as the differences of information and knowledge possessed by managers in a team due to the demographic diversity occurs in a team such as age, tenure, functional background, education, socioeconomic roots and financial position. To the same extent, van Knippenberg & Schippers (2007) has defined cognitive diversity as differences of information, knowledge and perspectives of managers. van der Vegt et al. (2006) have defined cognitive diversity as the extent to which team members differ in term of the type of expertise or their level of expertness (Martins et al., 2012). On the other hands, Hough and Ogilvie (2005) have defined cognitive style as individual differences in preferred ways of organizing and processing information and experience and to arrive at judgments or conclusions based on their observations of situations while Olson et al. (2007a) has defined cognitive diversity as differences of views, beliefs concerning the cause-effect relationships relating to various goals of the organization as well as managers’ preference on organizational matters.

Cognitive diversity in the context of this study is referring to the differences of views, beliefs and preference of academic staff. Basically, academic staff is the
manager of an institution. This is because they involved in the decision making process or problem solving of the university, at faculty level as well as university level. Both decision making at faculty and university level are important and determine the direction of UTM.

Therefore, this study is assessing academic staffs’ views, belief and preference on important UTM organizational matters. Among important UTM organizational matter is UTM’s strategy to become a Global Brand University, UTM’s goal, UTM’s objectives and UTM’s future direction. These organizational matters have a significant impact to UTM. For instances, to become a Global Brand University is a new strategy for UTM. It determines the new direction of UTM. Therefore, many recent decisions making are related to these new strategy and direction of UTM. It draws various responses from the academicians itself, and eventually would affect the decision making outcomes.

1.11.2 Decision Making Outcomes

According to Murnighan & Mowen (2002), positive decision making outcomes can be refer to the outcomes of the decision making process that unfolds smoothly and efficiently. Dean & Sharfman (1996) has defined decision making outcomes as the outcomes when managers carry out the selected course of action and meet the objectives established during a decision making process. Further, Elbanna et al., (2011) stated that decision outcomes can be refer to the outcomes acquired by managers after they made the choice regarding appropriate alternatives of decisions and finally accomplished achieving decision making objectives.

Wooldridge & Floyd (1990) has asserted that a good decision outcomes can be refer to superior organizational performance due to high-quality decisions made efficient manner and consensus built to facilitate implementation. According to Riel and Allard (2003), positive decision-making outcomes is when the decision are
implemented successfully throughout the organization and helps organization to achieve its goal and leads to improved organizational performance. According to Olson et al. (2007), good decision outcomes can be refer to a decision that is quality, understand by team members of decision making team and received appropriate commitment from the team members to implement and execute the decision.

Decision making outcomes in the aspect of this study of this study is referred to the outcomes of the decision made by the group of academic staff at faculty level. The dimensions of the decision making outcomes are decision quality, understanding and commitment.

Decision quality in this study refers to the degree of rationality or quality of decision made at faculty level. Basically, decision quality at faculty level will also reflects decision quality at university level; hence, decision quality in this study are assessed based on the perception of academic staff on the impact of the decision made within the faculty to the university, the extent of the decision made is up to their expectation, their level of satisfaction over the decision made, the degree the decision made covers relevant issues, and whether decisions’ rationale was well structured and reflective of all relevant issues.

Next, decision understanding in this study is referred to the extent to which academic staffs at the faculty level understand about the importance of UTM’s key areas of strategic plan. Decision understanding in this study is assessed based on the understanding of academic staff on the importance of six key areas as stated in UTM’s strategic plan (Zaini, 2012). These six areas are extremely important to UTM as UTM is moving towards to achieve the status of Global Brand University by 2020. Therefore, academic staffs were expected to address these highly importance of these six strategic areas that regards to (1) quality of education, (2) excellence of research, innovation and graduate education, (3) professional training and lifelong learning, (4) international standing, (5) community outreach, and (6) quality management and effective risk management.
Last but not least, decision commitment in this study denotes the degree of willingness of team members to make sure that the decision was properly implemented and executed throughout every level of the organization. Therefore, decision commitment in this study is assessed based on academic staff perception on team members' commitment to implement decision throughout faculty and university level. Generally, the successful of implementation of the decision at faculty level will ensure the implementation of it at university level. Therefore, decision quality in this study is assessed based on the extent to which academic staff or faculty members are willing to cooperate to implement the decisions that were made, the degree to which decisions made is consistent with members’ personal priorities and interests, the degree decision made has inspired faculty members to work hard and enthusiastically, the degree faculty members are happy with the final decisions, the degree that the decision benefit the organization, and whether the decision made represented the best of all the possible alternatives.

1.11.3 Task Conflict

According to Olson et al. (2007), task conflict can be defined as conflict or disagreements over a decision. Robbins & Coulter (2005) referred task conflict as disagreements about how work gets done. On the other hands, Jehn (1995) has defined task conflict as the disagreements of managers on the content of the task. To the same extent, De Dreu (2006) defined task conflict as managers’ disagreements on task issue such as decision goal and objective.

Operationally, task conflict in this study is referred to the disagreements among UTM academic staff about the content of the work for example about how work is done. These disagreements can take form as differences of ideas/opinion about work among faculty members, disagreements over these different ideas, work-related issues faculty members have to go through and disagreement about how work is being done.
1.12 Conclusion

In conclusion, this chapter discuss about the background of the study, problem statement, research questions, research objectives, significance, limitation and scope of study followed by conceptual and operational definition of terms. This study aims to examine the relationship of cognitive diversity and decision making outcomes among academic staff of UTM as well as to investigate the role of task conflict as a moderator.
BIBLIOGRAPHY


