Pertanika J. Soc. Sci. & Hum. 27 (4): 2417 - 2439 (2019)

PERTANIKA JOURNALS

SOCIAL SCIENCES & HUMANITIES

Journal homepage: http://www.pertanika.upm.edu.my/

Motivation to Graduate on Time: A Case Study in Malaysia

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ABSTRACT

Today, postgraduate students' ability to graduate on time (GOT) has become a much-debated issue. In most cases, failure to GOT involves an array of factors. Nevertheless, identifying and having a good understanding of these factors that affect students' motivation towards GOT is of critical importance so that the necessary measures can be taken to address GOT. Hence, this study aimed to investigate factors affecting students' motivation towards GOT. This study employed a case study research design which involved 191 postgraduate students and 13 supervisors. Data were collected using both quantitative and qualitative research instruments. The findings revealed that first-year students' level of motivation towards GOT level is comparatively higher than their seniors. Secondly, both the first-year students' intrinsic and extrinsic motivation towards GOT level was significantly higher than students in subsequent semesters. Thirdly, the student and institutional factors predicted the motivation towards GOT level. Lastly, both the supervisors and students perceived that it was important for supervisors to be competent in conducting research besides monitoring students' progress, so that students were motivated to GOT. This study has also proposed a tracking online system called Hybrid Supervision to assist supervisors in monitoring and providing motivation to their postgraduate students to GOT.

Keywords: Motivation towards GOT, postgraduate students, supervision

ARTICLE INFO

Article history:
Received: 15 April 2019
Accepted: 15 August 2019
Published: 18 December 2019

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ISSN: 0128-7702
e-ISSN: 2231-8534

INTRODUCTION

In today's keen competitive global environment, there has been an increasing demand for postgraduate study. While universities are promoting their postgraduate programmes, sparking an increase in postgraduate enrollment, the same cannot be said of the rate of completion. In most cases, the low completion rates or failure of graduate on time (GOT) is connected to a complex link of factors. Throughout their postgraduate (PG, hereafter) journey, these students need to be facilitated with different types of support (Hoon et al., 2019). Hence, putting in observation that may arise at the beginning period of their studies is crucial. There is no denying that many students embark on PG study with high motivational levels but once they are confronted with challenges, these motivational levels may slide down to an all-time low, resulting in failure to GOT or complete withdrawal from the programme.

Postgraduate study involves a number of stages. The initial stage of preparation involves the preparation of a research proposal, structuring of the research framework followed by a research proposal defense. The next stage is the data collection and data analysis stages which result in the writing of the Final Report / Thesis. The final stage is the Viva Voce where PG students are required to demonstrate sufficient knowledge of the subject in order to obtain their PG degree. Since all these stages are challenging in nature, motivational factors are important for ensuring success. Nevertheless, motivation level change at different stages of the study and in different situations. For this reason, PG departments at both the faculty and university levels and supervisors must put in effort to ensure motivation to GOT is provided at all stages of PG study. Cognitively, the postgraduate students should primarily focus on the acquisition of research skills and content knowledge which are related to their studies. Independently, the students need to make decisions on their focus and content. Psychologically, the students need more support in terms of enhancing their research skills and guidance from related parties namely supervisors and institutions. Research has indicated that competency in the related field and motivation are associated to each other (Tu & Zhou, 2015). As such, factors that contribute to GOT are becoming crucial for achieving universities' key performance index upon graduation on time. It is envisaged that their adaptation to the environment is highly related to motivation to carry out their studies. To date, PG students' level of motivation has taken a backseat compared to other factors such as supervision, institutional and student factors. Although there have been some attempts to address this aspect (Lynch et al., 2018; Meng et al., 2017; Teowkul et al., 2009), more description of the related variables for the motivational factors are desired, leaving a gap to find comprehensible factors for motivation towards GOT. Hence, this study aimed to investigate postgraduate students' perceptions on the factors (student, supervisor and institutional factors) that had an impact on motivation towards GOT as

well as both supervisors' and supervisees' views on the motivation.

LITERATURE REVIEW

As mentioned above there are an array of factors that can affect PG students to GOT. The following section addresses a few of these factors and their influence on PG study.

Challenges towards Graduate on Time

It is a common scenario among universities in the world where many students are facing difficulties during their thesis writing process. According to Miller (1995), students' attitudes in terms of student persistence highly contributed to the attrition rate. Students usually start the dissertation phase with a strong steady pace, but their progress becomes slower after the research proposal stage if the research proposal needs a lot of correction. Their persistence is hindered by the challenges in the stages of postgraduate study from various aspects such as student, supervisor and institution (Manchishi et al., 2015). Among these aspects, it is crucial for them to stay persistent so that they are ready to accept any quality of supervision (Girves & Wemmerus, 1988). Only students who interpreted their difficulties as challenges are aware of the needs of facing the difficulties. These students display good habits of mind that promote perseverance and subsequently putting in effort for improvement (Costa & Kallick, 2005). The challenges of improvement are related to many different skills of writing thesis or research. Studies have been conducted to identify challenges encountered during the process of completion (Baharudin et al., 2013; Costa & Kallick, 2005) as well as strategies to complete a research dissertation and thesis (Majid et al., 2010). It is commonly reported that student's challenges in completion of thesis could be affected by students' factors (Ho et al., 2010), including the skill of time management (Nzewi et al., 2016), supervisor factors (Lategan, 2008; Van der Linde, 2012). As such, there is a research gap in addressing the challenges from the perspective of prominent factors (student, supervisor and institution) which influence the students' motivation towards GOT and then affect the time taken to complete the study.

Student Factors towards Graduate on Time

On the students' engagement, their individual practices and experiences also influence their study. Sidhu et al. (2017) succinctly pointed out students as key players in the successful completion of postgraduate study needed to keep in mind a number of aspects. First and foremost, they must be aware of their roles and responsibilities as a postgraduate student. Besides that, they need to learn to work towards developing an engaging, meaningful and positive working relation with their supervisors. Finally, they need to ensure their readiness and competencies required in undertaking a postgraduate degree as emphasized by Jeyaraj (2018). Their study also revealed whilst students perceived themselves as

possessing moderate readiness in terms of their critical reading, writing, research and conceptual skills, their supervisors felt otherwise. The supervisors highlighted that majority of postgraduate students possessed limited readiness and competencies required to handle a postgraduate study. In this context, it is more important to define the students' readiness to carry out research work which in turn motivates them throughout the process. The students may be in different states of emotion when they register as postgraduate students. Students with high awareness on perception of challenges may develop more skills (Picken, 2015). So, their emotional states need to be taken care of. Putting too high expectation in the challenges may become worse in developing their required skills in writing. Students' willingness and commission in research also depends on attitudes. Their attitudes must be built among postgraduate students at the beginning of their study (Papanastasiou, 2005; Siamian et al., 2016). Similarly, sharing and caring on emotions, beliefs, behaviors and their interaction will determine the positive attitudes in doing research work (Zan & Martino, 2007). In short, postgraduate students need to work within a communicative society. The role of the society aims to promote the useful of conducting research in terms of contribution to life and relevancy besides reducing the anxiety to face difficulties of conducting research. The most important is to experience emotional freedom within the study environment (Varvogli & Darviri, 2011). Thus, the students need more communication and support among each other as well as with institution.

Institutional Support

Institutional support plays a very important role to enhance university research goals (Department for Business, Innovation & Skills, 2015). An institution has direct connection with its' community. The community comes from staff and student. Henceforth, the flow of information has to be good in terms of latest rules, procedures and grants. Besides that, since both supervisors (staff) and postgraduate students are directly involved in conducting research, it becomes a culture in most educational institutions that both universities and supervisors bring in research grants to further develop their respective fields of interest. They are often encouraged to conduct their research pursuits with the help of postgraduate students. Sidhu et al. (2015) however, highlighted that more transparency was desired from institutions of higher learning in terms of research grants and fellowship applications. Such aid and support are important as supervisors who possess research grants often offer certain aspects of their research as students' research topics. On the other hand, both institutions and supervisors may play a role to assist support for any current research with funds from postgraduate programmes. with the existence of postgraduate programmes, the university in responsible to support the development of research. Effort of developing research culture can come from many different sources such as

intellectual community, research funding, and collaborative research (Cheetham, 2014). Lecturers in any university have their responsibility to apply for any grant to contribute knowledge in research, but institutions also look forward for any opportunity to allocate funds for research as well as adequate resource (Amran et al., 2014). Universities are heavily reliant on knowledge development and knowledge sharing in the society. The main aim of producing research work is also seen in terms of transforming existing knowledge (Laal, 2011). While emphasising on GOT, institutions put in a lot of effort to achieve the target number of GOT. Among the efforts, training courses related to research are popular actions taken. Their effort on GOT has increased the students' completion rate.

Within the institutions too, support and guidance should be provided to postgraduate students (Abiddin, & Ismail, 2011; Manchishi et al., 2018; Polonsky & Waller, 2018; Raffing et al., 2017; Sidhu et al., 2015; Singh, 2018). A study conducted by Sidhu et al (2015) involving 121 PG supervisors and 209 PG students from two institutions revealed that both parties were only moderately satisfied with information provided by their respective institutions. Both PG departments and supervisors are important parties to help institutions to assist students in terms of clarifying and providing the latest information about their studies. Institutions need to always remind supervisors to play a role as academic advisors. Therefore, institutions need more advanced system too in monitoring supervision tasks. On the other hand, universities need to provide quality education to produce quality individuals with the highest individual potential developed. Proper guidance and effective education are always referred as main factors in determining individual success (Tinto, 2007). Among the criteria rated for effective education is the institutions' effort to promote students' learning in multiple ways.

The role of the environment, particularly the student's institution has been recognised as a crucial factor in completion of study (Tinto, 2007). Students need a good environment in their participation. Library services are one of the required services to complete postgraduate studies. In addition, accessing to library is an important element in conducting research, producing research paper and completing postgraduate studies. Since library resource is part of their success factor in completing research, investigation on the library services are crucial for the institution to refer as a guideline to provide an up to grade service. It was revealed that the role of library in facilitating research is always acknowledged among postgraduate students (Rasul & Singh, 2010). To this Sidhu et al. (2015) added that findings revealed that institutional support was not only lacking in terms of facilities but also in terms of professional development and opportunities for setting up learning communities. This was also reiterated by supervisors who expressed the need for better postgraduate facilities and

professional development for supervisors to enhance their supervisory practices.

Supervisors' Support

According to Abiddin (2007) postgraduate students not only require good facilities to support their study but they also look for high quality supervisors. The importance of good supervision is corroborated in a survey conducted at an institution of higher learning in 1997. Other findings also indicated that students viewed time spent and input from supervisors as the most important factors that contribute to successful studentship (Atzinger et al., 2014; Cryer & Merten, 2003). This suggests that for successful completion of graduate study, it is essential to balance the interests of both supervisor and student.

The global diversity in terms of applying technology in any working environment certainly makes a different guidance in supervision. Nevertheless, building positive supports, expectation in multicultural environment avoid the presence of resentment (Bennett, 1995). The most important is the cooperation between supervisors and supervisees. They need to gain an understanding of each other to support a learning environment culture. The difference between supervisors' tasks and supervisees' tasks is to provide different supports from supervisors' and to show willingness with full perseverance from supervisees. Sidhu et al. (2013) highlighted that PG students were moderately satisfied with their supervisors' supervisory practices, but a majority indicated a preference for a 'people' oriented supervisor. They felt an effective supervisor was one who was not only an expert in his area, but one would motivate and respect them as fellow-researchers and be willing to transfer his/ her knowledge in a flexible and non-threating learning environment. Therefore, supervisors' role in providing support is important since giving different forms of support may lead to academic independency and enhance intellectual maturity (Osborne, 1998). Studies have shown that the supervision process which involves both parties namely supervisors and supervisees needs to be designed practically to achieve GOT. A significant and recognized design should be introduced with an effective significant concept.

Motivation towards Graduate on Time

Motivation is the most important factor for any success of learning. It has been witnessed that students' needs and desires are complex in this new era 21st century of learning environment. Williams and Williams (2011) had suggested five key ingredients that impacted student motivation. They were student, teacher, content, method/process, and environment factors (Williams & Williams, 2011). Postgraduate students are also having the same feeling. They need motivation to be successful in getting their research done (Van Rensburg et al., 2016). In their learning environment also involves teachers who are known as supervisors, content and process which are seen as the knowledge and skills gain with process of completing their thesis (Mellard et al.,

2013), and environment which involves support from institution, supervisors and family members (Abiddin, & Ismail, 2011; Manchishi et al., 2018; Polonsky, & Waller, 2018; Raffing et al., 2017; Singh, 2018). Hence, investigation of postgraduate students' motivation towards GOT should take the considerations of the key factors. The key factors are the main source of providing supports to postgraduate students. The students need the support since the educational contexts of postgraduate studies are challenging. The Self-Determination Theory (Deci & Ryan, 1985) is the major provision for the justification of defining the domain in this study. The theory supports the view that basic psychological needs such as supervisors' supports are determinative among postgraduate students. The supports provide good experience of learning and hence motivate the students to progress.

The description of the completion on time is doubted to evaluate during the study time. This is when motivation takes place to predict the possibilities of completion. How motivation plays significant roles and these determinant factors affect the students' progress in their different stages becomes important aspects to be investigated to achieve GOT. So, this study was conducted among 191 postgraduate students to examine their motivation level. It also aimed to determine factors of motivation towards GOT.

Graduate on Time and Employment

The demand of postgraduate studies is increasing globally. It was believed that the increase in number has a relationship with employability. Internationally, about 86% of companies hire workers with a postgraduate degree (Meikeng, 2017). The wider opportunities to get a job by undertaking postgraduate studies has encouraged more students to enroll into postgraduate programmes. Nevertheless, owning a postgraduate degree is not enough in employment since it is just a paper qualification (FindAMaster, 2016). More skills and abilities are needed in employment to meet career development. In brief, earning any post-graduate studies does not necessarily equate to employment prospect. But there is a prospect for them to have a better salary than those who own a basic degree. It was reported that those with a master's degree earn an average entry level salary higher compared to the bachelor's degree holders (Meikeng, 2017). A person's salary is determined by the requirements of the position which can be fulfilled with ones' abilities. How a student in postgraduate program manage themselves and solve problems as well as going through the process of study carries more points than obtaining the certificate. Their process of learning can be observed in the on-time completion of their studies since their abilities of going through the endeavor in their studies bring valuable experiences. If a student successfully achieves GOT, it indirectly indicates the student has proficiency to address all challenges of life as well. A postgraduate programme thoroughly provides opportunity for students to become strong and showing their

capability in their employment since they would have gone through experiences in solving difficulties of learning in a stipulated time which carries the means of GOT. Ryan and Zuber-Skerritt (2017) who reviewed factor of low completion rate, found that students' difficulties and their experiences of handling studies needed a lot of attention before supervisors could properly supervise them. It indicates that students' factor (challenges and experience) plays a major part in GOT and this influences students' prospect in their future employment. The impressive experiences gained during their studies was also claimed in a study done by Grebennikov and Shah (2017).

METHODS

Research Design

This research employed the case study design with mixed method approach involving both quantitative and qualitative research methods.

Sampling

Quantitatively, a group of students was randomly selected to answer the questionnaires. The samples were selected from postgraduate students and thesis supervisors from two universities in the Klang Valley. A total of 191 students participated and answered the questionnaire. In addition, a total of 11 students and 13 supervisors were selected purposively to participate in an interview.

Instrumentation

A questionnaire survey for postgraduate students was used to obtain responses from the respondents and was divided into seven sections. Section A explored the demographic profile of the respondents and examined aspects such gender, age, marital status, mode of current study, current year of enrolment and research focus, Section B comprised 19 items (18 quantitative and 1 qualitative) representing the contribution of supervisory factors towards the timely completion of PhD, Section C consisted of 33 items (32 quantitative and 1 qualitative) representing student factor for thesis completion. Section D containing 14 items (13 quantitative and 1 qualitative) investigated the institutional factor whilst Section E comprising 9 items (8 quantitative, 1 qualitative) explored motivational factors. Finally, both Section F which consisted of 27 items (26 quantitative, 1 qualitative) and Section G explored overall comments.

Besides the quantitative approach, this study also employed the qualitative approach as qualitative studies allow researchers to interpret a phenomenon in its natural settings (Denzin & Lincoln, 2011). More importantly, qualitative research is based on human experiences and in this case the exploration was done on real live experiences of postgraduate students' experiences and observations on postgraduate supervision which is often neglected in quantitative studies (Patton, 1991) . For the qualitative approach, the data was collected via semi-structured interviews which combines a pre-determined set of

open-ended questions and at the same time it provided the researchers the flexibility to prompt and further explore particular responses and themes highlighted by the respondents (Cohen & Crabtree, 2006). The data collected was transcribed and analyzed thematically to identify patterns and themes using both inductive and deductive analysis. Nowell et al. (2017) cautioned that a lack of rigour in qualitative analysis could have implications in terms of credibility of the process and analysis. To enhance the internal validity of the qualitative data collected, two main steps were taken. First a member check was conducted to confirm that data presented was what the respondents actually said and meant. Secondly, a reliability test was carried out to ensure consistency in the process of data analysis (Lombard et al., 2010). Besides, in this stage, factor analyses were conducted to validate the construct validity too. Table 1 displays the results of factor analysis for instrument questionnaire for postgraduate students.

The analysis presented in the table above shows the results of percentage cumulative for rotation sums of squared loading (PCRSSL). The PCRSSL for factors motivation towards GOT, students' factor, supervisors' factor and institutional factor are 63.786%, 74.984% and 76.845% respectively. This indicates that the instrument was a reliable instrument.

Table 1

Results of factor analysis (construct validity)

Factor	Construct	Number of items before factor analysis	Number of items after factor analysis	Rotation Sums of Squared Loadings (% of Variance)	Rotation Sums of Squared Loadings (cumulative %)
Motivation towards GOT	Intrinsic	3	4	32.797	32.797
	Extrinsic	5	4	30.989	63.786
Students' Factor	Research Skills	7	7	17.865	17.865
	Personal Skills	8	8	17.721	35.586
	Writing Skills	6	6	16.109	51.695
	Critical Reading Skills	5	5	12.610	64.304

Table 1 *(Continued)*

Factor	Construct	Number of items before factor analysis	Number of items after factor analysis	Rotation Sums of Squared Loadings (% of Variance)	Rotation Sums of Squared Loadings (cumulative %)
	Conceptual skills	6	6	10.680	74.984
Supervisors' Factor	Supervisory Practices	9	6	28.008	28.008
	Supervisors' Role & Responsibilities	4	7	25.660	53.668
	Supervisors' Competency	5	5	23.177	76.845
Institutional Factor	Institutional support	5	8	38.298	38.298
	Institutional facilities	6	3	28.365	66.662

RESULTS AND DISCUSSION

The main analysis is presented below to answer the research questions.

Research Question One: What are the postgraduates' levels of 'motivation towards graduate on time' (MGOT)?

Research Question Two: Is there any difference in MGOT between students in 1st semester and other semester students?

This study aimed to construct models on GOT, focusing on motivation towards GOT. The motivation towards GOT was the main variable in this study. Table 2 shows that the first semester students rated their intrinsic motivation level (mean=4.2922, standard deviation=0.57412) higher than their seniors (mean=4.0504, standard deviation=0.75050). Similarly, their (1st semester) extrinsic motivation was rated higher (mean=3.8019, standard deviation=0.85006) than their senior (mean=3.6162, standard deviation=0.86742) too. As overall, the 1st semester students' motivation level towards GOT (mean=4.0471, standard deviation=0.62271) was higher than their senior (mean=3.8333, standard deviation=0.73202). This study found that higher semester students had less motivation towards GOT. It indicated that the students faced more challenges when they entered a higher semester. They had more challenges in writing when it came to a higher stage, especially they started preparing more to complete their writing. These challenges are always highlighted among educators. When Jeyaraj (2018)

shared on her research findings, she also underscored that students' research writing was challenging and it acted as a barrier to timely completion. It was observed that the barrier increased when they entered to a higher semester with more writing skills needed, causing their motivation level to be lower. Academically, Mellard et al. (2013) also highlighted that self-perceptions of competency such as skill of writing was also a barrier to promote motivation.

Based on the analysis (Table 3), there is a significant difference of motivational levels between the different years of students. The results also show that in their first semester, students' motivational level is significantly higher than the motivational levels in the subsequent semesters (i.e. Semesters Two to Semester Six).

Research Question Three: Do the independent variables (student, supervisor and institutional factors) predict MGOT?

In the regression analysis, a few determinant factors were included as independent variables. It was found that student and institutional factors contributed to MGOT. Table 4 describes the descriptive statistics for the dependent variable (motivation) and the independent variables (supervisor factor, student factor and institutional factor). It shows that the level of dependent variable (namely motivation) is at mean 3.9195 with standard deviation 0.69631. The level of independent variables namely supervisor, student and institutional factors are 4.0991, 3.6626, 3.5459 with standard deviations 0.77562, 0.60807, 0.70723 respectively. The students rated supervisor factor higher than other factors. Nevertheless, it was revealed in the regression analysis that the supervisor factor is not a significant factor as shown in Table 7.

Table 2

Group statistics for motivation as perceived by the students

	Registered Year & Other	N	Mean	Std. Deviation	Std. Error Mean
Intrinsic Motivation	1st semester	77	4.2922	0.57412	0.06543
	Subsequent Semesters	114	4.0504	0.75050	0.07029
Extrinsic Motivation	1st Semester	77	3.8019	0.85006	0.09687
	Subsequent Semester	114	3.6162	0.86742	0.08124
Motivational Factor	1st Semester	77	4.0471	.62.271	0.07096
	Subsequent Semester	114	3.8333	0.73202	0.06856

Table 3

Independent samples t test for motivational level

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Intrinsic Motivation	Equal variances assumed	3.609	0.059	2.393	189	0.018	0.24177	0.10105	0.04243	0.44110
	Equal variances not assumed			2.518	186.017	0.013	0.24177	0.09603	0.05232	0.43121
Extrinsic Motivation	Equal variances assumed	0.688	0.408	1.463	189	0.145	0.18572	0.12693	-0.06466	0.43610
	Equal variances not assumed			1.469	165.453	0.144	0.18572	0.12643	-0.06390	0.43534
Motivational Factor	Equal variances assumed	3.321	0.070	2.100	189	0.037	0.21374	0.10180	0.01293	0.41456
	Equal variances not assumed			2.166	179.128	0.032	0.21374	0.09867	0.01903	0.40846

Table 4

Descriptive statistics for the variables

	Mean	Std. Deviation	N
Motivational Factor	3.9195	0.69631	191
Supervisor Factor	4.0991	0.77562	191
Student Factor	3.6626	0.60807	191
Institutional Factor	3.5459	0.70723	191

In the regression analysis, the ANOVA (Table 5) analysis ($F=20.843$, $p< 0.05$) shows that the model (MGOT as a dependent variable and the other variables are assigned as independent variables) is significant. Regression analyses were conducted separately to 1st semester and subsequent semester students, the results were the same as in the overall group. Hence, the discussion below aims to highlight some reasonable reasons.

Table 5

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	23.085	3	7.695	20.843	0.000[b]
1	Residual	69.037	187	0.369		
	Total	92.122	190			

Note:

a. Dependent Variable: Motivational Factor/

b. Predictors: (Constant), Institutional Factor, Supervisor Factor, Student Factor

Table 6 shows that the percentage of variance explained is 25.1% with RSquare =0.251.

The analysis in Table 7 also shows that student and institutional factor contribute to the regression model.

Table 6

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.501[a]	0.251	0.239	0.60760	0.251	20.843	3	187	0.000

Note: a. Predictors: (Constant), Institutional Factor, Supervisor Factor, Student Factor

Table 7

Coefficients in the regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.509	0.336		4.489	0.000
	Supervisor Factor	0.055	0.059	0.062	0.930	0.353
	Student Factor	0.318	0.080	0.278	3.967	0.000
	Institutional Factor	0.287	0.070	0.292	4.092	0.000

Note: a. Dependent Variable: Motivational Factor

More specific models have been analysed for more interpretation of the findings. Table 8 and Table 9 show results of analysis based on two main software namely AMOS and SPSS. The result in Table 8 illustrates that institutional factor plays a role in promoting students' motivation towards GOT by providing support while facilities in institution contribute indirectly to the motivation level. It is understood that even though facilities are important to create a conducive environment and preparing research tool, but more support is needed as agreed by previous researchers that institutions have responsible to provide support in terms of guidance such as applying a grant for research, workshops, financial services and library services (Abiddin, & Ismail, 2011; Manchishi et al., 2018; Polonsky, & Waller, 2018; Raffing et al., 2017; Singh, 2018). This study also revealed that research skills and personal skills such as self-management are crucial for the students to complete their study. The intrinsic motivation drives them to the direction of completion of their study provided that they possess personal skills on managing themselves to be persistent in facing all the challenges (Girves & Wemmerus, 1988). Only students who interpreted their difficulties as challenges are aware of the needs of facing the difficulties. Thus, with the personal skills, they can challenge themselves with all the research skills. Later, supervisors' role may play an important part when the students are ready to challenge themselves.

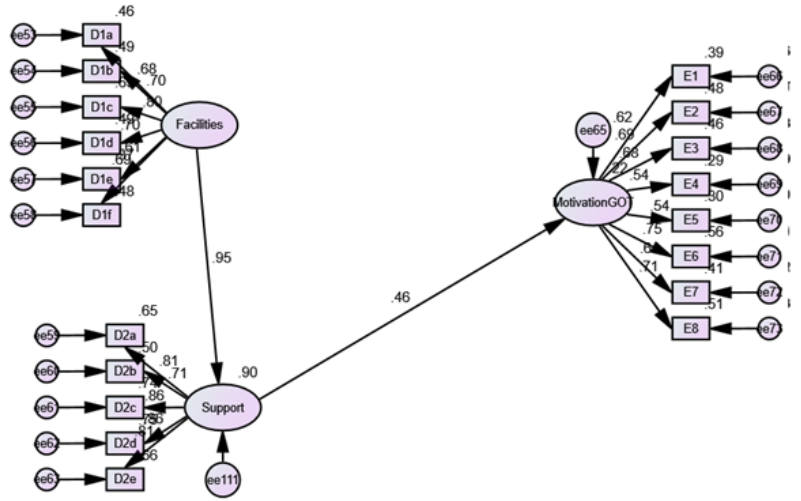
(a) Model for institutional factors (Table 8): Both results show that institutional factors in terms of support significantly and directly contributed to model on motivation towards GOT.

(b) Model for student factor (Table 9): Both results show that student factor in terms of Research Skills and Personal Skills significantly and directly contributed to model.

Table 8

A model for MGOT with Institutional factors as independent variable

Results (Analysis in AMOS): The following model was modified to get a better interpreted model. The following figure shows that 'facilities' does not directly contribute to 'motivation towards GOT (MGOT)'. Only 'support' shows a higher standardized coefficient for the contribution (r= 0.46) to 'MGOT'. However, 'facilities' has an influence on 'support'. Hence, 'support' is interpreted as a mediating variable towards 'MGOT'.



Results (Analysis in SPSS): The following models show that 'facilities' does not contribute to 'MGOT'. 'Support' contributed to the model. The model 1 was taken as an outcome of the analysis) construction of the model 'MGOT'). Nevertheless, the result reported that only 19.5% variation in MGOT is explained by the factor 'support'.

Coefficients[a]

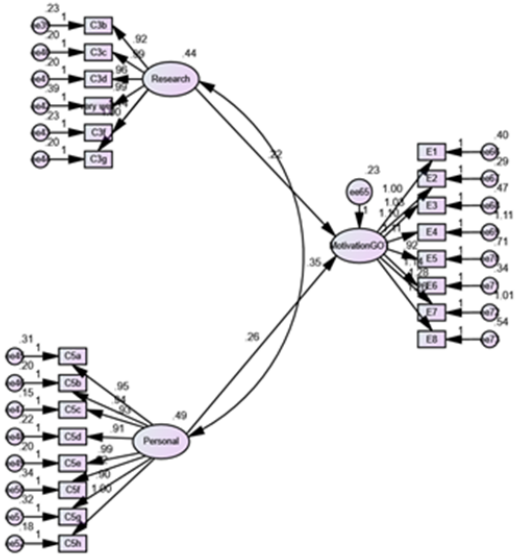
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.655	0.193		13.784	0.000
	Support	0.374	0.055	0.441	6.756	0.000
2	(Constant)	2.657	0.263		10.119	0.000
	Support	0.375	0.106	0.442	3.543	0.000
	Facilities	-0.002	0.131	-0.002	-0.013	0.989

Note: a. Dependent Variable: Motivational Factor 2

Table 9

A model for MGOT with student factors as independent variable

Results (Analysis in AMOS): The following analysis on construction model shows that these two factors namely 'research' and 'personal' skills have contributed meaningfully towards MGOT. However, these two factors show lower coefficients compared to other models, namely r=0.22 (for 'research' factor) and r=0.26 (for 'personal' factor).



Results (Analysis in SPSS): The following model show that 'Research' skills and 'Personal' skills contributed to the model. The result reported that 21.2% variation in MGOT is explained by 'Research' skills and 'Personal' skills.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.080	0.266		7.834	0.000
	Research	0.279	0.092	0.278	3.046	0.003
	Personal	0.224	0.093	0.219	2.399	0.017

Note: a. Dependent Variable: Motivational Factor 2

Research Question Four: What are the supervisors and postgraduate students' perspective on supervision towards GOT?

In the quantitative analysis, supervisors are not perceived as an important factor in MGOT. Nevertheless, the process of supervision may influence students' factors namely their personal factor and research skills. The qualitative results have highlighted that the postgraduate students need supervisors' helps not only for the skills required (competent) but also their motivation. The following report as in Table 10 shows that the supervisors and postgraduate students articulated the need of motivation in terms of feedback and supports.

This finding indicates that supervisors need to upgrade their knowledge since supervisor is not only an expert in specific research areas, active in knowledge transfers but one who will motivate and being responsive to students' needs, so that the students work and progress in a flexible and non-threating learning environment (Sidhu et al., 2013; Van Rensburg et al., 2016). It is suggested that other than focus to competence, students' determination needs to gain more attention.

Table 10
Qualitative results

	Supervisors' perspectives	**Students' perspective**
Competency	The supervisors emphasized that it was important for supervisors to be skillful in conducting research yet their competency in discipline of study was always seen as an important factor in supervision. It was reflected from a statement provided by R5 and R2 as below. R5: '*…students must come with a topic they are passionate and related to supervisor's field. Supervisors are more skillful in their own field thus they must be given students who work on the same field. This also reflects that supervisors must be competent in their field so that they can further develop their expertise …*'	All respondents highlighted the fact that a postgraduate supervisor must be a competent researcher and authority in his/her respective field. Student B1 further added that a '*supervisor must have a PhD or equivalent . . . so that the students can have respect for him or her. . . I feel a good supervisor need to be a practicing researcher.. I mean he must practice what he preaches."*

Table 10 *(Continued)*

	Supervisors' perspectives	**Students' perspective**
Competency	R2: '*Supervisors need to provide brainstorming of ideas, some research area as well as direction, some setback or bottleneck of current research methods*.'	Student B1 shared that her intrinsic motivation to GOT came from her supervisor (the 3rd supervisor). She appreciated her "*good communication skills and I find her very approachable as she always motivates me and gives me the confidence needed to succeed. . .she is also willing to share information with me*."
Motivation	Most of the supervisors were willing to do something such as providing encouragement and keeping track on their students' work because they perceived that this skill was required in supervision. Their words about motivation skill are illustrated below. R1' *I think it is important to motivate them. I think supervisor themselves like me, I always show my passionate, I like to and I love to guide them. Because it's something like try to get the student graduate on time...well again is GOT is not that simple as GOT..... Sacrifice one thing, you have to take. We as supervisors always keep track on their work'* R4: '*Supervisors should provide encouragement and motivation to their students about these passions, convince PG students, and also build PG students' confidence into their area of study. Encourage PG students to have constant communications and update on research with supervisors, this is crucial, make it periodical. With constant meet up or updates, only will move the research.*'	

CONCLUSION

In this study, it was observed and identified that the postgraduate students started their study being moderate highly motivated. Nevertheless, to ensure their level of motivation maintains and hence regains motivation during their study, they need to enhance their research skills as well as personal skills. This study revealed that research skills and personal skills such as self-management and communication were important components to maintain the level of motivation. These results are supported by Igun (2010) with positive statements that postgraduate students must be committed to good study habits and stay motivated. They need to possess good and motivated personal skills during the journey of their study.

It is crucial since a postgraduate course takes a long journey and commitment, at the same time their emotional and social activities continue. They need to be motivated from their immediate connection such as their main supervisors. Feedback on their progress of studies may be felt as rewards to them. Supervisors also need to have a good supervision skill. Stoltenberg et al. (1998) described that supervisors really needed to be more concerned on supervisees' personal skills since at entry-level, supervisees were generally high in motivation, yet high in anxiety and fearful of evaluation. This will give more burden on supervisors' task in supervision. While in the middle stage, supervisees may experience instable confidence and motivation, the level of confidence and motivation are often linked to their own mood to success. If they have successfully gone through this stage, they may come to the final stage which is in good motivational level. It is believed that supervisors need to utilize skills and approaches with the mixed awareness on their supervisees' attitudes as well as their current stage of development in research (Falender, 2018). Aligned with this reality, this study also revealed that supervisors must be aware on the importance of competence in research so that they are knowledgeable in assisting and guiding students' research ideas and showing the ability to provide quality feedback. With the feedback, the students are motivated to go ahead with their studies. Since, providing feedback and keeping track as well as monitoring are important as an element of motivation to the postgraduate students, it is suggested that a monitoring and motivated system is required for the development of the process of supervision. Hence, based on the findings of this study the researchers have suggested a tracking system called Hybrid Supervision (copyright @ LY2018003304).

ACKNOWLEDGMENTS

This study is part of a larger study and the authors gratefully acknowledge the funding by the Fundamental Research Grant Scheme (FRGS) from the Ministry of Education, Malaysia and Universiti Teknologi MARA (UiTM). Grant: FRGS/1/2016/SSI09/UITM/01/1.

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