Motivational and Institutional Determinants Underlying Enrolment Decision of Malaysian Postgraduate Students

Noor Hanim Rahmat, Azizah Daut, and Normah Ismail

Abstract— According to Malaysia Education Blueprint 2013-2015, the nation's success depends on the knowledge, skills and competencies of the people. The more people there are in the country with higher education, the more economic prosperity the country will have. Among the 11 shifts in the education transformation is to have high performing leaders in the country. As such, the government encourages lifelong education among its people and this means more people are encouraged to enrol in postgraduate studies. The objective of this research is to find out the extent of the influence of the factors on the students decision to enrol in postgraduate programs of higher learning public institutions. Specifically, this research will look at the influence of students' motivational factors and institutional characteristics on enrolment decision. In addition to that, this research will also investigate the relationship among socio-demographic factors, motivational factors, and perceived institutional characteristics. This descriptive research attempts to unravel the factors that influence adult learners to pursue post graduate studies. The data will be analyzed quantitatively to enable the researcher to describe the relationship of the factors. Findings of this research will have implications towards understanding postgraduate students' intrinsic and extrinsic motivation decision to enrol in their studies.

Keywords—Institutional characteristics, motivational characteristics, postgraduate, socio-demographic

I. INTRODUCTION

PURSUING a PhD is more common now than it was forty years ago. Previously, it was seen as a quest to prepare for a career in the academic field. However, these days, we see an increase in the numbers of experienced and highly-skilled professionals who return to universities to follow doctoral studies, even with the prospect of years of gruelling training and an uncertain outcome. These candidates would have made profound decisions before undertaking their PhD, knowing full well the competing demands their studies would have on both their personal and professional lives. An understanding of the different influential factors at play here as well as the extent to which these factors significantly influenced students'

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enrolment decisions is important for creating the crucial student support and establishing universities as the preferred establishments for PhD studies. There are a number of motives related to the decisions namely, the intrinsic motives of personal, career, and family reasons, and the extrinsic motives of the characteristics of higher learning institutions.

This study attempts to answer the following questions:

(1) What is the most influential factor in a student's decision to enroll in a PhD program?

(2) Are there any significant differences between the categories of the socio demographic factors on the motivational and institutional factors?

II. REVIEW OF RELATED LITERATURE

A. Socio Demographic Attributes

Previous studies found that student's ability influences the decision to enroll in a university. The higher the students' academic ability, the higher the selectivity of their chosen university (Liu, 2005). Socioeconomic status is another influential variable in deciding an institution. According to Liu (2005), the combination of ability and socioeconomic status significantly influences the level of complexity of the choice process. Chapman (1979) discovered that students from high socioeconomic backgrounds choose their universities based on quality rather than cost. Dehne (2002) found that students who learn about certain universities from their friends and colleagues are nearly four times as likely to apply and twice as likely to enroll in that university,

B. Motivational Factors

The decision to enroll in an education institution for working adults is derived from a variety of reasons. Slotnick, Pelton, Fuller, and Tabor (1993) discovered that the primary reasons for adult learners to enroll are career advancement, career change, and life enhancement. Another study by Greenwood (1987), suggested two primary motivations: enhancement of current occupational skills and attainment of specific vocational goals. Gamson (1989) offered three factors that serve to motivate enrolment by working adults: more employers require college degree holders, more professional associations require college degrees to gain credentials, and

employees look for greater job security. A promotion to a new designation and higher status or pay is another motivational factor for working adults to enroll in an education institution (Cross, 1981).

C. Institutional characteristics

According to Maslow's Hierarchy of Needs Model, the desire for a higher level of education is the highest state of self-fulfillment. Even if the intention of obtaining a higher paper qualification is for the sole purpose of career advancement, individuals who undertake these studies are highly motivated to pursue their desires and seek the best service provider. Institutions, however, should be able to differentiate between "serving" and "recruiting" these matured individuals (Cross, 1981). Since their needs and expectations are different from fresh full-time students, their motivation to enroll for courses through recruitment program should be examined.Institutions, therefore, should focus on the recruitment of this segment of students in order to remain competitive and effective (Kezar, 2000).Finally, Paulsen (1990) proposed that recruitment strategies could be effectively developed if institutions understand the impact of institutional characteristics on student's university choices.

III. METHODOLOGY

This section discusses the research design, the respondents, instrument used, data collection, and analysis procedures. This is a descriptive research as it attempts to unravel the factors that influence adult learners to pursue post graduate studies. The data will be analyzed quantitatively to enable the researcher to describe the relationship of the factors.

The respondents chosen in this study are students who have enrolled in the doctoral degree program at institutions of higher learning. They embark on this program as adult students and enroll in either the full time or part time mode.

The instrument utilized in this study is a self-administered questionnaire. The questionnaire is an adaptation of a combination of questionnaires used in two separate research: mainly by Lei and Chuang (2010) who looked at the demographic factors that influence future graduate studies. The second research is by Mohd Taib et al., (2009) who looked at general factors that influence future graduate studies. However, some factors were changed to suit the Malaysian context. The questionnaire adapted in this study is divided into 3 parts.

Part A is on socio demographic factors. This section looks at the respondents' gender, age, ethnicity, marital status, monthly income level, the time length between the completion of Masters and enrolment in doctoral program and lastly, the source of financing.

Part B is on students' motivational factors, which consist of three categories; career factors, personal factors, and family reasons. Altogether there are 16 items to assess motivational factors, categorized into 5 items to measure career factors, 4 items on personal factors and 7 items on family reasons. Each item is then measured with interval scales on a 5-point Likert-type of 1 (unimportant), 2 (slightly important), 3 (important), 4 (very important), and 5 (extremely important).

Part C is on perceived institutional characteristics, measured by 19 items that cover the attributes such as location, facilities, quality, courses, cost, reputation, financial aid, employability, skills, alumni, and publicity. Similarly, a 5-point Likert-type scale is employed as the assessment to place the importance of each of the items.

Data collection and procedures

The self-administered questionnaires were distributed through electronic mail to selected participants accessible by the researchers. Participants were asked to answer the survey questions in approximately 15 minutes. A total of 31 responses were collected and analyzed using SPSS version 20 to determine the frequency of scores, the correlation between variables, and the variance among variables.

Descriptive analysis

The socio demographic profiles of 31 respondents were tabulated using frequency and percentage distributions. Males constituted one third of the total respondents, a difference between 10 males and 21 females. Respondents' age ranges from below 30 to above 50 years old. Both the ranges of 30 to 39 and 40 to 49 years old have the highest equal score (38.7%). With regard to ethnicity, Malays were the highest number of respondents (93.5%) followed by Indians and Chinese (each 3.2%). A large percentage of participants are married (74.2%), 22.6% are single and 3.2% are divorced. The range of monthly income of RM5001 to RM8000 recorded the highest score (58.1%) while the ranges of income below RM5000 and above RM8000 have almost the same score. Respondents were asked of the length of time between the completion of their Masters degree and the enrolment in the Doctoral degree. The majority of them (35.5%) indicated the time range of 4 to 6 years, followed by the time range of more than 10 years at 25.8%. On the question of financial source of studies, 38.7% stated personal income as their source of payment while 35.5% are awarded scholarship and the rest utilized their EPF education fund and personal savings. All in, the majority of the respondents has the attributes of age range of 30 to 49 years old, female, married, Malay, earning a monthly income of between RM5001 to RM8000, taking 4 to 6 years from a Masters degree to embark on Doctoral degree, and using their own income to finance their studies.

IV. DISCUSSION OF FINDINGS

Preliminary analysis

To fulfill the assumptions of parametric techniques, the analysis procedure was done in two phases. Firstly, the test of normality on the variables and secondly, the test of reliability on the scales. In examining the association among the variables, Pearson correlation was utilized to indicate the significance of association.

The variables of gender, motivational factors, and institutional characteristics are found to be normally distributed since the statistic of Kolmogorov-Smirnov shows the p-value of more than 0.05, indicating no significance difference of distribution of scores between male and female

on the motivational factors and institutional characteristics.

The reliability test of Cronbach Alpha was conducted to check the internal consistency of the scales. The reliability coefficients of the three dimensions of motivational factors exhibit consistency; career factors as measured by 5 items produce 0.610, personal factors with 4 items yield a coefficient value of 0.765, and family reasons of 7 items exhibit coefficient value of 0.709. Institutional factors, which consist of 19 items, also yield a high consistency value of 0.933. Thus, the scales that measure all four dimensions have good internal consistency as the Cronbach's Alpha values exceed 0.6, as shown in Table 1.

TABLE I
CRONBACH'S ALPHA COEFFICIENT

Variable	Dimension	Items	Cronbach's Alpha coefficient
Motivational	Career	5	0.610
	Personal	4	0.765
	Family	7	0.709
Institutional		19	0.933

Correlations among the variables were explored by computing Pearson product-moment correlation coefficients to indicate the strength of the relationship between variables. The results as shown in Table 2 reveal that the socio demographic factors of monthly income and motivational factors have strong negative correlation (-0.556). The same goes for monthly income and institutional characteristics (-0.619). This finding implies that higher level of monthly income is strongly associated with lower level of motivational factors and institutional characteristics. Another significant correlation is found between age and each of the independent variables; motivational and institutional, indicating medium negative correlation (-0.397 and -0.363). In another words, there is a medium association between the higher level of age and the lower level of motivational and also institutional factors.

TABLE II
CORRELATION MATRIX

Dimension	gender	income	age	gap	sponsorship	motivational	institutional
1. gender	1	-.354	-.373*	.112	.025	.148	.330
2. income	-.354	1	.570**	.109	-0.32	-.556**	-.619**
3. age	-.373*	.570**	1	.367*	.009	-.397*	.363*
4. gap	.112	.109	.367*	1	.045	-.093	-.020
5. sponsorship	.025	-.302	.009	.045	1	-0.69	-.165
6. motivational	.148	-.556**	-.397*	-.093	-0.69	1	.757**
7. institutional	.330	-.619**	.363*	-.020	-.165	.757**	1

Analysis of research questions

Research question one intends to find the most influential factors of motivational and characteristics of institution on the decision to enroll in a doctoral or PhD program. Based on the mean score of the items (Figure 1), the finding reveals that the students indicated the most influential motivational factor to be

a personal factor that is 'to add on to my formal education' (MP2). This is then followed by the factors with the same score; 'to be better at my job' (MC1) and 'to become confident with myself' (MP1). As for the category of family reasons, 'availability of additional time' (MF5) has the highest score, which is trailed by 'encouragement from spouse' (MF3) and then, 'encouragement from parents' (MF1).
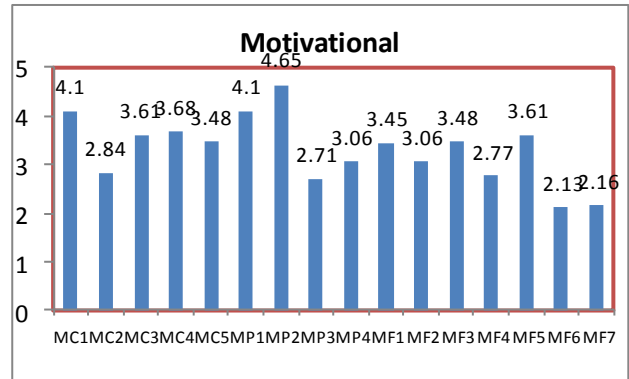

Fig.1 Mean score of motivational factors

Figure 2 reports the mean scores of institutional characteristics with 19 items. The highest score goes to two items, 'courses offered' (IC5) and 'learning resources and facilities' (IC6). The second highest score is recorded for item IC4, which represents 'quality of the faculty' and then closely followed by two items with equal score; 'different modes of study available' (IC3) and 'cost of attending course' (IC14).
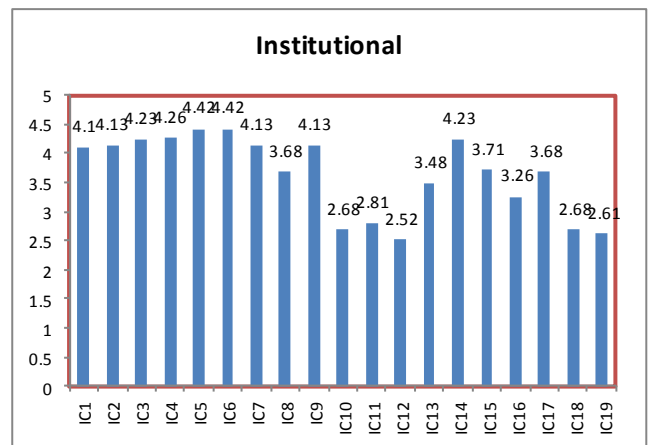

Fig. 2 Mean score of institutional characteristics

Research question two proposes to examine whether the categories or levels of the socio demographic factors on the motivational and institutional factors reveal a significant difference in the mean scores. Five socio demographic factors with two or more levels were chosen in the analysis; gender, age, income, length of time between completion of masters and doctorate enrolment, and financial resources. Independent-samples t-test is employed to assess between two categories and one-way analysis of variance (ANOVA) for levels of more than two. The statistical output of the two analyses is shown in Table 3.

The first socio demographic factor of gender is put to test to evaluate whether males and females have different mean

scores on the motivational and institutional factors. The t-test resulted in p-value of 0.427, indicating that there is not a statistically significant difference in the mean motivational score for males and females. In other words, both males and females are equally influenced by the motivational factors when enrolling in a doctoral program. The same finding is extracted when assessing the difference in the mean scores of institutional factors. Males and females perceive institutional factors as having almost the same influential effect on the decision to enroll. This finding is not in accordance with that by Lovik (2004) who found that compared to women, men are more likely to enroll in graduate studies.

Age of the participants is divided into four groups; below 30, 30 to 39, 40 to 49, and 50 and above. To evaluate whether there are significant differences in the mean scores on the motivational and institutional factors across the four groups, a one-way ANOVA was conducted. A p-value of 0.049 shows that there is a significant difference among the mean scores of the motivational factors for the four groups. A closer look reveals that the age groups of below 30 years and 50 above are significantly different from one another on perceiving motivational factors as influential to the enrolment decision. This finding is in accordance with the research by Lei and Chuang (2010) who also agreed that age is an important factor for the future graduates' decision to embark on studies. On the contrary, for the institutional characteristics, there is no difference among the mean scores (p-value = 0.095). As such, regardless of the age group, the participants agreed on the same level of influence by institutional characteristics to the enrolment decision.

Monthly income was initially categorized into four levels; RM 3000 and below, 3001 to 5000, 5001 to 8000, and 8001 and above. There was no respond in the first level of RM 3000 and below thus, only three subsequent income levels were computed against the mean scores of motivational and institutional factors. Based on the statistical output, there are significant differences in the mean scores on both the motivational and institutional factors across the three income levels. This can be interpreted as participants in the three income levels differ significantly in their motivational as well as institutional scores as factors that influence enrolment decision. Previous researches on the influence of income on the decision to further studies have shown that income has positively influenced future graduates' decisions (Waugh, 2011; De Zoysa, 2007; and Mohd Taib et al., 2009).

Length of time between completion of masters and doctorate enrolment is recorded into five levels of time-period; less than a year, 1 to 3 years, 4 to 6 years, 7 to 9 years, and 10 years and more. The results show that there are no significant differences in the mean scores on motivational (p-value = 0.527) and also institutional (p-value = 0.261) factors across the five levels. This implies that regardless of the different length of time that participants took to start their doctoral degrees after the completion of their Masters, the influence of motivational factors as well as institutional characteristics to enroll in doctoral degree does not significantly differ.

Financial resources are divided into five categories; personal income, savings, scholarship, bank loan, and EPF withdrawal. None of the participants took bank loan and thus, the categories are reduced to four. Again, this socio demographic factor exhibit non-significant difference from one another on the motivational factors (p-value = 0.920) and institutional characteristics (p-value = 0.579). This finding gives the implication that enrolment decisions, as influenced by motivational and institutional factors are equal for the participants in spite of the diverse resources to finance their studies.

TABLE III
ANOVA TABLE

Socio demographic	Dependent variable	Mean difference	F	Sig.(2-tailed)
Gender	Motivational		0.205	0.427
(t-test)	Institutional		0.604	0.069
		Mean square	F	Sig.
Age	Motivational	1.061	2.987	0.049
	Institutional	1.205	2.349	0.095
Income	Motivational	1.992	6.345	0.005
	Institutional	3.370	8.803	0.001
Length of time	Motivational	0.356	0.816	0.527
	Institutional	0.775	1.402	0.261
Financial resources	Motivational	0.076	0.164	0.920
	Institutional	0.402	0.668	0.579

V. DISCUSSION

Figure 3 shows the summary of findings for PhD studies of this research. This study reveals interesting influences on future graduates' decision to enroll. Age and monthly income has shown to be the main influential social demographic factors among the respondents. In addition, this study revealed a variety of reasons that motivate the respondents to enroll in graduate programs.
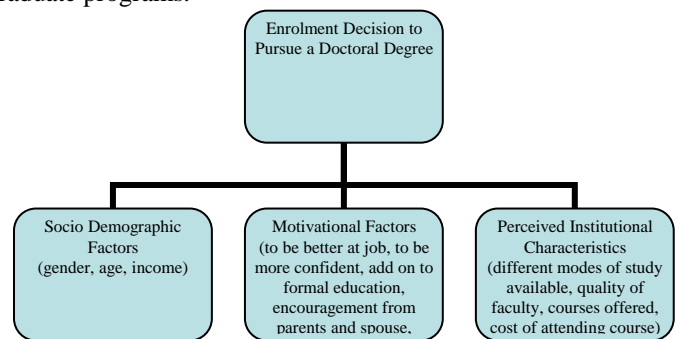

Fig. 3 Summary of Findings

VI. CONCLUSIONS AND RECOMMENDATIONS

In summary, the findings described in this paper are largely consistent with the findings of previous studies (Liu, 2005; Burns, 2006; Howard, 1994). This means that the decision for a person to pursue doctoral studies is a complex process with

multifaceted concerns. It is however, important to note that since the age group and monthly income are crucial factors, universities offering PhD need to consider facilities and infra structure to cater to students of different age groups who have varying expectations.

The findings of this study reveal the candidates' motivation and preferences for PhD studies and this information can be used by the universities to attract potential students. These students are deemed to be intrinsically motivated and thus, universities should take advantage of the students' readiness by providing a conducive learning environment hence, fulfilling the extrinsic motivation.

REFERENCES

[1] Burns, M. J. (2006). Factors influencing the college choice of African-American students admitted to the College of Agriculture, Food, and Natural Resources. Master's Thesis. The University of Missouri-Columbia.

[2] Chapman, R. & Jackson, R. (1987). College choices of academic able students: The influence of no-need financial aid and other factors. New York: College Entrance Examination Board.

[3] Chapman, D. W. (1981). A model of student college choice. Journal of Higher Education. 52, 490-505. http://dx.doi.org/10.2307/1981837

[4] Conrad, M. J. (1997). An analysis of academic reputation and educational quality as perceived by consumers of higher education. Doctoral Dissertation. University of Connecticut.

[5] Cross, P. (1981). Adults as learners. Increasing participation and facilitating learning. San Francisco: Jossey-Bass.

[6] Dehne, G. (2002). Student Recruitment: A Marketing Primer for Presidents. GDA Integrated Services. Retrieved April 8 2005, from the World Wide Web: http://www.gdais.com/news_research/DEHNEpresprim.pdf

[7] De Zoysa, T. S. V. (2007), Factors affecting the completion of post graduate degrees using distance mode. http:///wikieducator.org/images/a/a0/PID_383.pdf

[8] Dolence, M. G. (1996). Strategic enrollment management: Cases from the field. Washington, D.C: American Association of Collegiate Registrars and Admissions Officers.

[9] Gamson, Z. (1989). Higher education and the real world. Wolfboro, NH: Longwood Academic

[10] Greenwood, C. (1987). Factors which influence reentry women in composition classes: A descriptive study. Doctoral Dissertation. Indiana University.

[11] Hanson, K. and Litten, L. (1982). Mapping the road to academia: A review of research on women, men, and the college selection process. In P. Perun (Ed), The Undergraduate Women: Issues in Education, Lexington, Mass.

[12] Howard, L. M. (1994). An investigation of factors influencing choice of institutions by Baccalaureate Degree-seeking employed adults. Dissertation for Doctor of Education. Arizona State University

[13] Hossler, D. (1984). Enrollment management: An integrated approach. New York: College Entrance Examination Board.

[14] Hossler, D., Braxton, J., & Coopersmith, G. (1989). Understanding student college choice for higher education: Handbook of theory and research, Vol V, 231-288, New York: Agathon Press.

[15] Hyson, R. J. (1995). An exploitation of the utilization and effectiveness of marketing techniques by coalition for Christian colleges and universities member institutions. Doctoral Dissertation. Ohio University

[16] Kallio, R. E. (1994). The college choice decision of graduate students. Doctoral Dissertation. The University of Michigan, Ann Arbor, MI

[17] Kezar, A. J. (2000). Increasing educational trends. Paper presented at the Annual Meeting of the Association for the Study of Higher Education

[18] Kotler, P. and Fox, K. (1995). Strategic marketing for educational institutions. 2nd ed, Englewood Cliffs, NJ: Prentice- Hall Inc.

[19] Lei, S. A., & Chuang, N.K. (2010). Demographic factors influencing selection of an ideal graduate institution: A literature review with recommendations for implementation. College Students Journal, 44(1), 84-96.

[20] Liu, J. (2005). Factors influencing students' choice of selected private universities in China. Doctoral Dissertation. Brigham Young University.

[21] Lovik, E. G. (2004), Advising graduate students: Understanding the influence of family on graduate education. The Mentor . http://dus.psu.edu/mentor/old/articls/041020el.htm

[22] Mohd Taib Hj Dora, Nik Rahila Dato' wan Ibrahim, Sharimllah Devi Ramachandran, Anisah Kasim, Mohd Shamsuri Md Saad (2009). A Study of factors that influence choice of Malaysian institution of higher learning for International graduate students. Journal of Human Capital Development. ISSN:1985-7012, 2(1), Jan-June 2009.

[23] Paulsen, M. B. (1990). College choice: Understanding student enrollment behavior (ASHE-ERIC Higher Education Report No. 6), Washington D.C: The George Washington University.

[24] Price, J. L. and Mueller, C. W. (1986). Handbook of organizational measurement. Marshfield, MA: Longwood Press.

[25] Slotnick, H. B., Pelton, M. H., Fuller, M. L., and Tabor, L. (1993). Adult learners on campus. Washington D.C: The Falmer Press.

[26] Waugh, H. (2011), The factors that influence a student's decision for course enrollment. Yahoo Contributor Newtwork. http:///voices.com

[27] Yadegarpour, M. (2006). Enrollment decisions of non-traditional adult learners: What factors affect non-traditional adult learners to select a university. Doctoral Dissertation. The University of La Verne.

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