



The Influence of Networking, Individual Effort, and Time Management on Research Performance of Academics at Malaysian Research Universities

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The Influence of Networking, Individual Effort, and Time Management on Research Performance of Academics at Malaysian Research Universities

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Abstract.

This study examined the personal resources that influence the research performance of academics at the Malaysian Research Universities (MRUs). This study adopted a correlational design, and proportionate stratified random sampling was used to select 377 samples of academics at MRUs. A questionnaire survey was employed, and the descriptive statistics and multiple regressions were used to analyze the data. The results show that individual efforts significantly influence research performance. This study is essential for the university's management and Human Resource Development practitioners to identify factors and outline efficient strategies and interventions to enhance academics' research performance.

Keywords: Research Performance, Networking, Individual Effort, and Time Management





La influencia del trabajo en red, el esfuerzo individual y la gestión del tiempo en el rendimiento de la investigación de académicos en las universidades de investigación de Malasia

Resumen.

Este estudio examinó los recursos personales que influyen en el rendimiento de la investigación de académicos en las Universidades de Investigación de Malasia (MRU). Este estudio adoptó un diseño correlacional y se utilizó un muestreo aleatorio estratificado proporcional para seleccionar 377 muestras de académicos en los MRU. Se empleó una encuesta por cuestionario y se utilizaron las estadísticas descriptivas y las regresiones múltiples para analizar los datos. Los resultados muestran que los esfuerzos individuales influyen significativamente en el rendimiento de la investigación. Este estudio es importante para los profesionales de la gestión de la universidad y del Desarrollo de Recursos Humanos para identificar factores y delinear estrategias e intervenciones eficientes para mejorar el rendimiento de la investigación académica.

Palabras clave: rendimiento de la investigación, redes, esfuerzo individual y gestión del tiempo

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Introduction

Research performance among academics at the Higher Education Institutions (HEIs) is one of the prominent topics that had received substantial attention from researchers since 1950s. Today, it is getting more significant as academic excellence is associated with competitive research outputs and one of the measures of excellence of a university (Ahmad, A. R., Farley, A., & Soon, & N. K., 2014). Research performance in this study refers to the “outcomes of research activities that are visible and passed on to others” which most commonly seen as publications of journal article, book or report, and research funding (Bazeley, P., 2010). Several studies have been conducted to understand the concept of research performance, and on how to measure research performance. There were also studies that examined the factors to enhance research performance among academics. However, it appears that literature on academics research performance was mostly on the influence of demographic factors and the influence of personal resources on academics research performance is still lacking Bosquet and Combes (Bosquet, C., & Combes, P. P., 2013), Hu and Gill (Hu, Q., & Gill, T. G., 2000), Kooij et al (Kooij, D. T. a. M., Tims, M., & Akkermans, J., 2016), Dundar and Lewis (Dundar, H., & Lewis, D. R., 1998).

In line with the trend that emphasizes on the importance of research performance, many universities set research as the principal direction in their strategies (Li, B., Millwater, J., & Hudson, P., 2008). Similarly, the Malaysian government has aligned its target to make Malaysia as the knowledge and innovation hub through Research and Development (R&D) as outlined in the National Higher Education Plan beyond 2020 and the Malaysia Education Blueprint 2015-2025 (Ministry of Education Malaysia, 2015). The government has implemented the higher educational system transformation to strengthen the research activities and to have more research outputs. As a move to institute the research-oriented environment, the government has also recognized five local universities as Malaysian Research Universities (MRUs) since 2006 with the aim to improve the rankings through intensification of research activities and outputs (Basarudin, N. A., Yeon, A. L., Yaacob, N., & Rahman, R. A., 2016). The universities are Universiti Malaya (UM), Universiti Kebangsaan Malaysia (UKM), Universiti Sains Malaysia (USM), Universiti Teknologi Malaysia (UTM), and Universiti Putra Malaysia (UPM).

A recent report by the Ministry of Education Malaysia stated that the number of research articles published by the Malaysian Universities grew more than threefold between 2007 and 2012. Interestingly, 70 percent of these publications were contributed by the five Malaysian Research Universities (MRUs) (Ministry of Education Malaysia., 2015). This achievement indicates that the government’s effort to spur the R&D activities and intensify the R&D outputs had been considerably successful. However, the same report also highlighted that Malaysia’s performance in the R&D still lacked even though it was one of the biggest spenders in higher education. Malaysia was ranked number 12 among the countries that allocated the highest expenditure on higher education but one of the weakest in research output, i.e., at the 44th place among fifty higher education institutions Ministry of Education Malaysia (2010), The Star Online (2017). The report by the Ministry of



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Education was based on the Annual Report by Universitas21 (U21), a global network of research universities for the 21st century (2010).

It is worthy to note that changing paradigm from teaching to research-oriented at HEIs require academics to make adjustment to their working style failing which may disengage them in performing their research activities and consequently affect their research outputs (Basarudin, N. A., Yeon, A. L., Yaacob, N., & Rahman, R. A., 2016). This may lead to dissatisfaction and increases the intention to leave the university Winefield, and Jarrett (Winefield, A. H and Jarrett, R., 2001), Idris (Idris, M. K., 2011). In such a situation, academics are more prone to suffer from physical and/or mental health impairment (Bakker, A. B., Boyd, C. M., Dollard, M., Gillespie, N., Winefield, A. H., & Stough, C., 2010). A study by Noor and Ismail (2016) among the academics at one of the MRUs found that they are in stressful conditions especially to achieve and accomplish the target set by the universities in research in comparison to teaching (Noor, A., & Ismail, N. H., 2016). In the current economic downturn, academics' job performance in research remains highly expected Bentley (2015), Bland et al. Such situation has a great effect on academics work engagement in their research activities that consequently affect their research performance Basarudin (2016), Ahmad et al. (2012).

In such demanding work situation, HEIs valued employees who have high levels of energy, enthusiastic, and fully immersed in their work (Schaufeli, B. W., & Bakker, B. A., 2004). Past studies have shown that employees with these characteristics are important to achieve individual work targets and subsequently assist the organizations to improve their performance especially in the challenging and competitive world (Rich, B. L., Lepine, J. A., & Crawford, E. R., 2010). This is also in line with the approach that focuses on how to instill positivity among academics in managing the demanding work related to research rather than to focus on the stress and other unpleasant work situations (Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W., 2008). Based on the above discussion, there is a need to examine the personal resources that are more relevant to the work context and better predicts academics' research performance. Therefore, this study aims to investigate the level of research performance of academics of MRUs and examine the influence of personal resources, i.e., networking, time management, and individual effort on academics' research performance. This study is important to those responsible for the universities be they vice-chancellors, deans, and heads of departments to identify factors that may influence and motivate academics in their everyday work, especially in research.

Literature Review

Theorizing Research Performance

The Job Demand Resource Theory (JDRT) is the extension of the Job Demand Resource Model that has been used in past studies to examine the predictors of job performance (Bakker, A. B., & Demerouti, E., 2014). The central notion of JDRT is that job resources influence job performance (Bakker, A. B., & Demerouti, E., 2014). Job resources refer to those physical, social, or organizational aspects of the job that function to decrease





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job demands and related psychological and physiological costs; be instrumental in attaining work targets; and promote personal growth, learning, and development (Bakker, A. B., & Demerouti, E., 2007). The JDRT also postulates that personal resources is part of job resources that influence job performance. Personal resources are interpreted as characteristics of an individual that are generally related to resiliency and refer to individuals' sense of ability to impact upon and control their environment successfully (Schaufeli, W. B., & Taris, T. W., 2014). It is important as it affects individuals' assessment about their work environment and ability that may be powerful in shaping their level of research performance Bakker and Demerouti (2014), Creswell (1985). The essence is that individuals who can control their environment will be able to manage priorities and challenges of their work and thus personal resources become the source for research performance (Hedjaz, Y., & Behravan, J., 2011). Therefore, in an attempt to improve job performance, personal resources need to be given focus for intervention effort (Alessandri, G., Borgogni, L., & Truxillo, D. M., 2014). Own resources to be examined in this study are networking, individual effort, and time management (Bland, C. J., Center, B. A., Finstad, D. A., Risbey, K. R., & Staples, J. G., 2005).

Research Performance of Academics

At present, there is no one agreed definition of research performance. In defining research performance, the researcher needs to be clear on the aspect to be focused on as it refers to two key components, i.e., research-related activities that form the basis of performance and the visible output and could be passed on to others (Bazeley, P., 2010). In this study, research performance is defined as an outcomes of research activities that are visible and passed on to others in the form of products which are most commonly seen as publications of journal article, book or report; or in a form of impact on others' research or knowledge (Bazeley, P., 2010). This definition is chosen as it is directly related to the context of the main role of a university in both knowledge production and knowledge dissemination (Dundar, H., & Lewis, D. R., 1998). Also, performing research task is viewed as a high-complex job that the quantity and quality of the outcome depend on employees' proficiency and experience in terms of knowledge, skills, and ability (Motowidlo, S. J., & Van Scotter, J. R., 1994). In such nature of work, Aguinis and O'Boyle (2014) argued that job output is best measured rather than job behavior.

The Effect of Networking, Time Management and Individual Effort on Research Performance of Academics

Networking refers to developing and nurturing personal and professional relationships that are important for career and personal goals by creating a system of contact, information, and support (Whiting, V. R., & Janasz, S. C. de., 2004). Networking serves as an avenue for academics to obtain and exchange information for research opportunities and collaboration, acquire skills and techniques in performing research tasks, and feel related to the academic community and boost their morale Deci and Ryan (2000), Hart et al. (2010). Networking can also influence career success among managers (Rasdi, R. M., Ismail, M.,



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Uli, J., & Noah, S. M., 2009). A longitudinal study by Dubbelt and team (2016) using the daily diary survey found that networking and time control affect academics' research performance (Dubbelt, L., Rispens, S., & Demerouti, E., 2016). Interestingly, this study found that networking is more related to men as they used networking platform more effectively than women. A meta-analysis study by Fang and team (2015) found that networking explains 0.04 and 0.051 variances in job performance and career success respectively (Fang, R., Landis, B., Zhang, Z., Anderson, M. H., Shaw, J. D., & Kilduff, M., 2015). Also, Bland and team's (2005) study found that external networking is essential for research productivity in comparison to within the department networking (Bland, C. J., Center, B. A., Finstad, D. A., Risbey, K. R., & Staples, J. G., 2005). High performance in research is related to networking with other academics especially those outside their own department and involved more frequent in the research-related activities in comparison to the average and low researcher (Harris, G., & Kaine, G., 1994). Thus, this study hypothesizes that networking will influence research performance.

In this study, time management is conceptualized as behaviors targeted to accomplish an effective use of time in performing certain goal-directed activities (Claessens, B. J., Eerde, W. V., & Rutte, C. G., 2007). Behaviors in this context refer to prioritizing goals, setting means, planning tasks, and monitoring progress (Peeters, M. a G., & Rutte, C. G., 2005). The focus of time management is to use time effectively in performing the task to achieve certain goals, and it does not stand-alone. Hu and Gill's (2000) study substantiated that time allocated for research has a significant favorable influence on research output. Evidence that supports the assumption of this study is a longitudinal study by Dubbelt and team (2016). They used the daily diary survey and found that networking and time control affect academic research performance. Also, the way how the individual manages the time has also been associated with job performance. A study by Barling, Kelloway, and Cheung (1996) indicated that time management measured by short-term planning predicts the performance of car sales. Taking into consideration that time is an essence, there is a need to manage time effectively so that academics can produce research output within a limited time. Therefore, this study hypothesizes that time management influence academics' research performance.

Employees need to make an individual effort to enhance their job performance. The individual effort helps employees to concentrate and strategize their resources to succeed. Otherwise, the resources they possess may vanish due to poorly managed. Fox (1983) emphasized that commitment alone is not sufficient, but an effort by academics is important to produce research output. Blackburn and team (1991) defined effort as the time spent in developing their scholarship. However, individual effort in this study refers to the force, energy, or activity by which a work is accomplished (Brown, S. P., & Leigh, T. W., 1996). Academics who see their work published and cited by colleagues will enhance their self-confidence and lead them to make more efforts (Creswell, J. W., 1985). Krishnan and Boles (2002) found that effort has a significant effect on job performance however the individual effort is still understudied in the research performance field (Krishnan, C. B., & Boles, J., 2002). Nonetheless, Brown and Leigh (1996) argued that a person who works harder will





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perform better and produce better job performance (Brown, S. P., & Leigh, T. W., 1996). Thus, this study hypothesizes that academics with more efforts will have a significant influence on research performance.

Methodology

This study adopted the correlational research design. Proportionate stratified random sampling was used to select 377 out of 3507 academics at the Malaysian Research Universities. They represent the ranks of the academics consisting of professors, associate professors, and senior lecturers/assistant professors. The universities were selected because they are involved intensively in research activities. Universiti Putra Malaysia (UPM) was excluded from the list of MRUs in this study as the pilot study was conducted at UPM. The self-rated questionnaire was employed in the data collection. The measures for the dependent variable and independent variables were adopted from the established questionnaires used in the past studies. The research questions were analyzed using descriptive statistics, such as mean, median, standard deviations, minimum, and maximum, while the hypotheses were tested with the multiple regressions at 0.05 level of significance. The survey produced a response rate of 66.84 percent. The number of responses received according to the university is as follows:

Table 1: Number of response received according to the University

University	Number of response
Universiti Malaya	57
Universiti Kebangsaan Malaysia	60
Universiti Sains Malaysia	68
Universiti Teknologi Malaysia	67
Total	252

Results

Demographic Variables (Gender, Age, Age during obtaining Ph.D., and Designation)

The respondents from the MRUs consisted of 135 males (53.6 %) and 117 females (46.4 %). The results showed that there were more male respondents. The majority (44.4 %) of the respondents were within the 41- 50 age brackets. 156 (61.9 %) respondents obtained their Ph.D. during the age of 31 - 40 and followed by 49 (19.4%) respondents who obtained their Ph.D. qualification between the age of 21 - 30 and another 45 (17.9%) respondents between the age of 41- 50. This indicated that the respondents were within their active academic years after obtaining their highest academic qualification. The responses from the Senior Lecturer/Assistant Professor category was 136 (54.0 %) followed by with the response rate from Associate Professors (67 or 26.6 %) and Professors (49 or 19.4 %). The majority of the respondents, i.e., 106 (42.1 %), have been in their present position between 6 - 10 years. Table 2 describes the demographic variables of the respondents.





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Table 2: Distribution of respondents according to demographic variables

Age	Freq	Percent
30 - 40	57	22.6
41 - 50	112	44.4
51 - 60	75	29.8
61 and above	8	3.2
Age during obtain PhD		
21 - 30	49	19.4
31 - 40	156	61.9
41 - 50	45	17.9
51 and above	2	.8
Position		
Professor	49	19.4
Assoc. Professor	67	26.6
Sen Lect. / Assist. Prof.	136	54.0
Total	252	100.00
Length of service on present post		
1 - 5	98	38.9
6 - 10	106	42.1
11 -15	32	12.7
16 - 20	11	4.4
21 - 25	4	1.6
26 and above	1	.4

Research Performance of Academics at Malaysian Research Universities

Research performance refers to an outcome of research activities that is visible and passed on to others in the form of products which are commonly seen as publications of journal articles, books or reports, and or which have an impact on others' research or knowledge (Bazeley, P., 2010). The level of research performance was determined by the score of the academics research outputs within the last 3 years period (2014-2016) as exhibited in Table 3. The results show that academics of Malaysian Research Universities have the highest median for publications in indexed journals as co-authors with median score 7 (SD = 10.381). The lowest research performance is in postgraduate supervision as co-supervisor with median score 2 (SD = 2.637).



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Table 3: Research performance of academics within three years (2014 - 2016)

No.	Items	Mean	SD	Med	Min	Max
1.	Publications in indexed journals as 1st author	5.401	6.287	3	0	30
2.	Publications in indexed journals as co-author	10.512	10.381	7	0	45
3.	Conferences attended as a speaker	3.849	3.388	3	0	20
4.	Research grants secured as project leader	2.869	1.777	3	0	9
5.	PG students completed under supervision as main supervisor	3.790	2.954	3	0	15
6.	PG students completed under supervision as co-supervisor	2.623	2.637	2	0	10

Relationship between personal factors and Research Performance of Academics at Malaysian Research Universities

Research performance of academics was measured in terms of articles in indexed journals, conference proceedings, research grants secured and supervisions of postgraduate students. Each item of the research performance was transformed into log variables to address the issue of big variance and to form standardization in the research performance (Jung, J., 2012). The relationship between each predictor variable and academics' research performance was tested using the mean scores of the predictor variables and the mean score of the log-transformed variables of research performance. The personal factors variables in this study were networking, time management, and individual effort. The mean for the respondents (N=252) score for individual effort was 5.095 (SD=.822), networking 4.672 (SD=.888), and time management 3.780 (SD=.776). The overall research performance was .6161 (SD=.212).

The correlation matrix shows that there is a moderate and positive relationship but statistically significant correlation between self-rated time management and individual effort with research performance. However, the non-significant association was found between networking and research performance, as shown in Table 4. The relationship between the self-rated personal factors is not too high as they are less than .7 (Bazeley, P., 2010). The ANOVA result indicates there was a significant correlation between the predictors and research performance, $F(3, 248) = 26.166, p = .000$. The results of the regression analysis indicated that these predictors explained 24% of the variance in research performance.

Table 4: Summary statistics, correlations, and results from the regression analysis

Variables	Mean	STD	Correlation with research performance	Multiple regression weights		
				b	SE b	β
Research performance	.6161	.212				



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Networking	4.672	.888	.076	-.019	.014	-.079
Time management	3.780	.776	.312**	.033	.019	.118
Individual effort	5.095	.822	.479**	.113	.017	.438**

** $p < 0.01$

Discussion

This study aims to examine the level of research performance of academics at the Malaysian Research Universities and the influence of personal resources on research performance. Overall, academics at MRUs published at least an article as 1st author per year, published 2 articles as co-author, presented one paper at conferences per year, secured 1 research grant as project leader, and completed 1 postgraduate supervision per year as shown in Table 3. Multiple linear regression was used to predict research performance based on the identified variables, i.e., networking, time management, and individual effort. Table 4 summarizes the regression analysis results. A significant regression equation was found $F(3, 248) = 26.166, p < .000$. Time management and individual effort have a significant relationship with research performance. Of these two predictor variables, as shown in Table 4, it was found that only individual effort significantly predicted research performance ($\beta = .44, p < .001$). It shows that only individual effort makes a uniquely significant contribution to the research performance of academics. As can be seen in Table 4, the individual effort scale had significant positive regression weights, indicating academics with higher scores on these scales were expected to have higher research performance.

The networking and time management scale had no significant contribution to the multiple regressions model. This finding contradicted with some studies which revealed that networking and time management were predictors for research performance (Hedjazi, Y., & Behravan, J., 2011). The reason for such a finding could be that research activity lies at the hand of individual academics. Edgar and Geare (2013 p. 782) have clearly articulated the view of one of his participants in their study about academics' research performance that 'all you can do is provide opportunities to explain why it's important and so on, so if they're not going to do it willingly by themselves, it's not going to happen (Edgar, F., & Geare, A., 2013). Therefore, for high performing researchers, Edgar and Geare (2013) found that networking is not influential factors on research performance. Also, as the duties of the leading academic involved teaching, research and service to the community, thus, managing time that involved prioritizing goals, setting means, planning tasks, and monitoring progress could be more relevant for managing these academic works. Effective management of time in various academic tasks would be essential for academics to be able to allocate their time for conducting research.

Conclusion

Research performance is important for academics working at higher education institutions (HEIs). It is not only for personal development, but it also determines the standing of individual scholars who have a direct effect on the performance and reputation



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of a university. This study has offered insight into research performance among academics at Malaysian Research Universities (MRUs). This study found that the level of academics' research performance at MRUs need further attention from University management. This study also highlights that individual effort is important. Therefore, MRUs management and human resource practitioners should focus on creating an environment and intervention programs that could motivate academics to put more effort into research activities.

Past literature suggests that research performance is the effect of not only personal resources variables but also the interaction between personal resources with various variables such as organizational-related variables and job design. Accordingly, it is recommended further study that investigates the interaction between these variables to be conducted as to determine the variable that significantly influences academics' research performance. Furthermore, since past studies were conducted mostly in other countries which have different cultural context to that of Malaysia, it is highly recommended to conduct the study in Malaysia. The finding would be imperative for the Malaysian Government to improve the strategies to enhance research performance of academics that are very crucial for the universities' reputation.

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