

Literature review
dependent variable is
knowledge
productivity.



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2. 1 Introduction

This chapter is divided into six main sections. This first section provides an overview of the chapter. The second section is a definition of essential terms that used in this study. The third section discusses the background and the previous study that focusing on factors that influencing and contributing to the knowledge and research productivity. The fourth section discusses the models and frameworks of knowledge conversion abilities developed by past researchers. The fifth section highlights the theoretical framework, hypotheses develop for this study, and the final section summarizes the chapter.

2. 2 Definition of Term

There are 3 essential terms in this study. There are that are knowledge productivity (KP), organizational factor and individual factor. All these three terms will be frequently highlight and discuss throughout this study.

2. 2. 1 Knowledge Productivity

According to Kessels (2001), Knowledge productivity involves signalling, absorbing and processing of relevant information, generating and disseminating new knowledge and applying this knowledge to the improvement and innovation of processes, products and services (Kessels, 2001). Refer to the Cambridge Dictionaries Online (<http://dictionary.cambridge.org/dictionary>), productivity define as a rate at which an organization make or produces goods, it usually judge by the number of people and amount of the materials produce. In the context of this study, knowledge productivity can be refer to the amount or number of knowledge <https://assignbuster.com/literature-review-dependent-variable-is-knowledge-productivity/>

produce or generated. Meanwhile, according to (Jansink, et. al, 2005) concept of knowledge productivity is related with training and research activity. Hence, for the purpose of this study knowledge productivity is referring to research productivity. Williams (2003), define research productivity as an effort of any scholarly research produced by a faculty member that contributes to the new knowledge. In this study the dependent variable is knowledge productivity.

2. 2. 2 Organizational/ Institutional factor

According to Waworuntu and Holsinger (1989), organizational factor consist of the quality of research facilities, research collaboration, reward system and institutional prestige. Meanwhile, according to Long et. al (2009), organizational factors are the affective motivator for the research production. They list out research reward; research expectation and pressure to publish are research comes under organizational factor. Dundar and Lewis (1998)

2. 2. 3 Individual factor

Early work with these factors included the effects of age, gender, socioeconomic status, and educational background (Dundar. H, Lewis. D. R, 1998)

2. 3 Previous Study on Knowledge Productivity

2. 3. 1 Knowledge productivity

Research has become the most important functions of universities all over the world. Knowledge is created through research conducted in the

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Universities. It is clear that faculty build and disseminate knowledge through the production of research (Dundar and Lewis, 1998). Faculty members or academician, the primary producers of academic research, play crucial roles in producing knowledge. According to Teodorescu (2000), professor at Research University are expected to produce new knowledge through research and use the latest result in their teaching. Research productivity or research performance is very synonym with the academician and University. Williams (2003), define research productivity as an effort of any scholarly research produced by a faculty member that contributes to the new knowledge. Research productivity always refer to the number of books, articles, technical reports, bulletins, and book reviews published, as well as presentations given and grants received through reviewing curriculum vitae or other print materials (Rotten 1990). Meanwhile, according to Wilson (2001), research productivity defined by the number of the publication of publication in an academic refereed journal and scholarly books. Obviously, research productivity is a number of researches done which measure by the number of publication published. According to Gaston (1970), research productivity divided into two components. There are knowledge creation which is related to the research activity and knowledge distribution which is related to the publication or productivity. Hence in the study, research productivity will be considered as knowledge productivity.

Importance of Knowledge Productivity

Research is a one of the product creates by academician. Research has a significant impact to career development of the academician. Previous studies shown that research productivity give the impact to academician <https://assignbuster.com/literature-review-dependent-variable-is-knowledge-productivity/>

profession. Research productivity is one of the criteria for promotion, reward system as well as their tenure (Kotrlik, 2002). It is supported by Bloedel (2001), who stated that research productivity always serves as a main factor in determining the success of an academician, especially related to the promotion, tenure and salary. Meanwhile, according to Read et al (1998), criteria for the promotion have been changing in recent years. Most of the academician who were promoted in recent years have conducted more research compared with academician promoted in a last few years. This scenario shows that the University emphasizes research productivity for the promotion exercise. Gibbs and Locke (1989), through their study which involved 93 Universities, found that the most important criteria for the promotion and tenure decision are the research productivity. The productivity of knowledge or research not only gives the impact to the academician but also to the academician himself. Numerous studies have been conducted to examine the importance of research productivity to the University or higher institution. According to Blackburn et al. (1991), research productivity is not only important to the academician, but also important for enhancing an institution's reputation. Research productivity contributed to the University's rank and performance (Henthorne et al., 1998). A study conducted by Olsen (1994) also found that an increase in productivity led to high prestige for the institution. This is supported by Boyer (1990). He found that research productivity not only gives a promotion to the academician, but also improves university reputation and rank.

Meanwhile, Kasten (1984) – found that major criteria for promotion for academician is a research productivity.

Influencing factor on Knowledge Productivity

The important of the knowledge productivity in the academic environment has encouraged researcher to study and investigate influencing factor on knowledge productivity. Numerous studies have been conducted on the influencing research productivity in academic environment. The studies have identified and investigated numerous factors that influencing research productivity. It is important to identify the factors that have a relationship with research productivity to encourage research activity among the academician. According to Blackburn and Lawrence (1995), socio demographic and career factors as well as self-knowledge, social knowledge, behaviours and environmental related to research productivity. William (2003), identify environmental factors, institutional factors and individual factors are related to the research productivity. Zainab (2001) identify that individual and organization correlated with research productivity among academician in Malaysia. Meanwhile, Fox (1996) found that individual characteristics, environmental and reinforcing which included colleagues and mentorship influencing research productivity among academician in science faculty. Personal or individual factors seem a most frequent factor that has been connected with the research productivity. Wood (1990) proved that research productivity significant influence by personal variables. He has conducted a study among academician for Australian university. Through the study, he found that academic research activity is highly influenced by a number of personal variables, such as research styles and the freedom of

inquiry (the choice of research topics). The personal correlates considered in studies are gender, age family background and personality traits. Age has been studied in previous studies with different results.

Gender

Gender is a one of the variable has been examined under individual variable. Most of the previous studies indicated that men are more productive than women (Bailey 1992; Vasil 1992; Billard 1993; Blackburn & Lawrence 1995; Creamer 1998; Kotrlik et al. 2002). Blackburn, Behymer and Hall (1978) found that male academician published three times more than are women academician. These finding supported by study done by Cole and Zuckerman (1984). They found that on average male academician published 40% to 50% more compare that women academician. Same scenario also happens on the academician in ASEAN region. Study by Waworunto (1989), who focus on the Indonesia academician also found that male academician are more productive in doing a research. There are several reason have been highlight in the previous study on this scenario. According to Guyer and Fidell (1973), this is because of women academician more engaged in applied research compare than men who engaged more on theoretical research. Applied research needed considerably more time to publish compare than theoretical. Cole and Zuckerman (1984) also provided a reason for their result of the study. According to them, women are less productive because of they do not have strong network on research and family obligations also prevent women to spending more time on research. This reason support by (Creamer 1998), indicated that, women naturally members often have family demands that compete with time to conduct research. Further, Gaertner and <https://assignbuster.com/literature-review-dependent-variable-is-knowledge-productivity/>

Ruhe (1983) found women academician are excited to perform better than men, however it caused greater stress to them and effect their productivity. However, opposing result has been found by some researchers. They found that there was not a gender difference in productivity (Kotrlik et al. 2002; Teodorescu 2000). Consistent result also found by Rubin and Powell (1987) and also Omundson and Mann (1994). They found no difference in publication outputs for male and females. Meanwhile Garland (1990) found that gender was not a significant variable on productivity compare with other variables such as rank, educator and type of institution.

Age

Many previous studies on research productivity have indicated that career publication and age have not strong relationship, although most of studies found that publication generally declines with age (Teodorescu 2000). Over (1982), found that research productivity slightly decrease with age. However, when productivity was investigated in groups by birth date, younger faculty members produced more research at an earlier career stage than older faculty members. He also found that many senior academicians remain quite active in research and their outcomes can be comparable to those of younger faculty members. These finding are significant with the study by Levin and Stephan (1991). They reported in his study that the ' life cycle' effect varies significantly by field. Life cycle is related to publishing productivity and obviously scientists become less productive as they age. Generally, a person's age at first publication affects consequent research productivity. If academic lecturers submit research for their first publication at a young age, then it is more likely that they will produce more when their <https://assignbuster.com/literature-review-dependent-variable-is-knowledge-productivity/>

age increases. Although many studies found relationship between age and research productivity, there are several studies found that there is no strong relationship between age and research productivity. Bland and Berquist (1997) found that shift workloads and emphasis have strong relationship with productivity compare with the age of the academician. Williams (2000) has studied academic lecturers in the Human Resource Development Faculty in the United States and found no significant relationship with age. Kotrlik et al (2001) also found the similar result. His study on the university agricultural education faculty members in the United States found that age did not significantly affect research productivity. Besides that, Ramsden (1994) also found age is not correlated with research productivity.

Marital Status

Luukkonen and Hieskanen (1983) indicated in their study that, married female academician are more productive. Kyvik (1990) who done a study among academician in Norway also found that married and divorce academician (men and women) were more productive compare than single academician. Author also found that, women with children were more productive compare than that academician who doesn't have children. However the result showed that women who have only one child were more productive compare than women academician with two and more children. Through this study, author has provided some explanation for this finding. These findings because of married women have more energy and stamina compare with women without children. Married academician also gets a support from their husband or wife and their have more experience in social life. Authors also explain that family life have increase their self respect and <https://assignbuster.com/literature-review-dependent-variable-is-knowledge-productivity/>

being married neutralize the affect of sex since married women corporate more with their male colleagues. In contrast, Creamer (1998), discovered that there was either no significant effect or a positive effect on publishing productivity for married women.

Interest, attitude and motivation (research skill)

Wood (1990) found that personal or individual characteristic influenced research productivity among Australian academician. The personal or individual characteristic that has been study is the ability, energy, creativity, motivation, ambition and also self discipline. According to author, productive academician tended to be a senior academician because they ready with extraordinary workload, intellectually curiosity and like writing and puts time away for research. Productive academician also saw as a gamesmanship, who hard-nosed about the time allocated for research even though need to scarified other responsibilities such as teaching. Through this study, author found that less of productivity are because of the lacked of confident being judge by peer, adhere to such high standard that their work never get published and also lack of experience. Author also found that productive academician is a who have certain attitude and approach toward research such as they put greater stress of research activity and also working extra time on their research activity. Interest in research also was study by Behymer (1974) and found research interest to be the best predictor of research productivity. Meanwhile Noser et al. (1996) found attitude toward research to be related to research productivity. Sageemas N. W., S. N, Wongwanich. S & Bowarnkitiwong. S. (2009) also found capabilities in research skills and technique, funding skills, research management and <https://assignbuster.com/literature-review-dependent-variable-is-knowledge-productivity/>

research communication skills and networking and team work would produce high research productivity among Thailand academician. Bland, C. J. et al (2002) also have study motivational factor on research productivity. They found that academician who highly research driven is positively associated with research productivity. This result is significant with the study by Zainab (2001). She found view or perception on the research also positively associated with research productivity among Malaysian academician.

Work habit

Fox 1993 - refer

A recent study by Fonseca et al. (1997) of 50 eminent Brazilian scientists in the field of biochemistry and cell biology, indicated that they are highly motivated, found pleasure in their work and able to face challenges effectively. High publication productivity reflects excellence. The eminent scientists have a common trait in that they were all highly productive. The scientists were also interviewed and their CV examined to identify periods of greater and lesser productivity. The peaks and falls were used as a reference point in the interviews. For each scientist two productivity scores were computed (a) total number of published papers and (b) sum impact factors (IF) of the journals in which the articles are published. The IF of a journal is the average number of citations received in one year by the articles published in that journal in the two previous years. These two scores were plotted along the years of each scientist's career. The interviews revealed five groups of factors influencing productivity: (a) human factors - related to human relations in the laboratory, the quality of the working team, the

relationship of the leaders to the students, the ability to exchange ideas, interact with other scientists, and the rapport among team members; (b) subjective emotional factors - related to the ability to face challenges, motivation and pleasure at work.; (c) active material conditions - related to facilities, equipment and money to buy chemicals ; (d) types of research - related to having the freedom A recent study by Fonseca et al. (1997) of 50 eminent Brazilian scientists in the field of biochemistry and cell biology, indicated that they are highly motivated, found pleasure in their work and able to face challenges effectively. High publication productivity reflects excellence. The eminent scientists have a common trait in that they were all highly productive. The scientists were also interviewed and their CV examined to identify periods of greater and lesser productivity. The peaks and falls were used as a reference point in the interviews. For each scientist two productivity scores were computed (a) total number of published papers and (b) sum impact factors (IF) of the journals in which the articles are published. The IF of a journal is the average number of citations received in one year by the articles published in that journal in the two previous years. These two scores were plotted along the years of each scientist's career. The interviews revealed five groups of factors influencing productivity: (a) human factors - related to human relations in the laboratory, the quality of the working team, the relationship of the leaders to the students, the ability to exchange ideas, interact with other scientists, and the rapport among team members; (b) subjective emotional factors - related to the ability to face challenges, motivation and pleasure at work.; (c) active material conditions - related to facilities, equipment and money to buy chemicals ; (d) types of research - related to having the freedom

Academic rank

Numerous studies have been done to correlate academic rank with the research productivity. Academic rank was studied by Bailey (1992), Dundar and Lewis (1998), Kyvik and Smeby (1994), Teodorescu (2000) and Vasil (1992). Each found rank to be a significant predictor of research productivity. Ramsden (1994) found seniority of academic rank to be correlated with research performance. Meanwhile Patterson and Barnes 1984; Bentley and Blackburn 1990) indicated that academicians in higher rank have more productivity compared with lower rank. Similar results also found by Wanner, Lewis and Gregario (1981). They indicated that rank has a strong relationship with research productivity. Kyvik (1990a) indicated full professors produce more research because they have less teaching load than they can more on the research productivity. .

Meanwhile Tien and Blackburn (1996) found slightly different results. Full professors publish more than other ranks of academicians but there is no difference between assistant professor and associate professor. However, in contrast, Over (1982) also found rank has no influence. Same results also found by Gregario (1981). Gunne and Stout (1980) also found there is no significant relationship between rank and research productivity.

Experience and Tenure

Tenure also has been examined in previous studies toward research productivity. Tenure is a guarantee of their career as an academician and secures their position in the University. A tenured academician will have a more privilege and benefit compared to a non-tenured academician. This <https://assignbuster.com/literature-review-dependent-variable-is-knowledge-productivity/>

scenario will provide morale boost and secure working environment. Hence, there is no doubt tenure will affect the productivity of academician. Butler and Cantrell (1989) was studied tenure variables among business faculty members and it showed significant correlated with research productivity. Later Radhakrishna et al. (1994) found that tenured faculty members held publishing as significantly more important than non tenured faculty members. Another study was done by Bailey (1992) found that productivity level increase when academician moves from non tenure to tenure academician. However contrast result found by Teodorescu (2000). He found that tenure was not significantly correlated with article productivity. Similar result also found by Bartlett et al. (2001). He indicated that the number of years a faculty member held a tenure track position did not explain a significant portion in variance for research productivity.

Meanwhile experience also was study by Rushton, Murray and Paunonen (1987). They found relationship between publication and experience and also age. The number of publication increase with the number of experience of the profession. The vast experience in research determine the research productivity in India (Babu and sigh, 1998).

Organizational / Departmental

Organizational factor also defined as departmental by some researcher. Support from

Time spend on research and teaching (64)

Austin and Gamson (1983) indicated that extrinsic factors such as teaching load, administrative tasks, reward and opportunity could influence research

productivity. Meanwhile Clark, Corcoran and Lewis (1986) -. found that academician who allocated a smaller percentage of their time in teaching had a stronger research orientation. Calligro et al (1991) -. also found a similar result. They found academician who are productive spent more time on research. However Webster (1985) found that there was a little or no positive correlation between research and teaching. Same result found by Feldman (1987) . Fox (1992). has study of the academic role, time allocation for research and teaching, teaching load and also time administrative. The result indicated that publication productivity was not related to teaching. Other study by Blackburn et al (1991) also indicated interest in research need not necessary predict high productivity in research.

Discipline difference

wood

Department size

Graduate student supervision

Departmental prestige

Cumulative advantage

Leadership

Role of the leader in organization in influencing research productivity and performance have been studied previously. According to Friedrich (1985) Friedrich, G. W.(1985). Renewing the commitment to Scholarship. Annual Meeting of the speech communication association) leader can help to create healthy climate for scholarship by setting realistic goal, identify area where they can excel and be a more individual approach when dealing with staff.

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McKeaachie (1983) McKeaachie, (1983). Faculty as a renewal resources. In: College faculty: versatile human resources in a period of constraint, study on the function of leader in encouraging research activity. Leader who respected research performance among academic staff provided an environment that encourage research activity. Boice (1988), found the important of leader in encouraging writing through forming discussion group, highlight good writing habit and conduct a research workshop. Barnhill and Linton (1992), identify how leader can promote research. They found that promoting a balance between teaching and research, identify the best undergraduate for the staff requirement, encourage under represented staff to perform, provide clear research goal, encourage team research group, and also identify the need for the research. According to author, leader also should have a leadership criteria such as lead by example, lead pro actively, encourage inter disciplinary research and also research collaboration. The done by Fonseca et al 1997 -.) also found the relationship between leader and research productivity.

Beside the environmental factors mentioned above, the leadership of an institution or department leaders are important factors affecting research productivity. Leadership is a relationship between leaders and their constituents and a subtle process of mutual influence that fuses thought, feeling, and action to produce collective effort in the service of the purposes and values of both the leader and the led (Bolman & Deal 1991). Kerr (1977) reviewed the literature on leadership and found that leadership plays an important role in research universities because the leadership highlight staff morale and self-esteem. For Gardner (1995), who studied leadership from

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the perspective of the cognitive psychologist, leaders are ' persons who, by word and/or personal example, markedly influence the behaviours, thoughts and /or feelings of a significant number of their fellow human beings' (p. 6). Leadership in academic organizations can be understood as taking different forms depending on how leaders view their institutions. A university can be viewed as a bureaucracy, a collegiums, a political system or an organized anarchy (Chaichanapanich 1998). Generally, leadership has a weak relationship with academic productivity, even when the Chair of the faculty lends moral support or provides monetary backing for the research, because faculty members continue to be more concerned about their teaching, their research or their scholarship. Indeed, it has been observed that faculty staff members valued more highly the assessment of their colleagues and their students than the support of their leadership (Blackburn & Lawrence 1995)

Colloboration / knowledge sharing

Financial

Financial element is a important in research productivity. Amount of funding will influence amount of research or knowledge produce. Salisbury (1990), Foncesa et al (1997) found a significant relationship between financial support and research productivity. Wood (1990) also indicated that adequate and continued funding is very important factor in ensuring successful of the research. Warner, Lewis and Gregario (1981) have compare the publication number and amount of grant and they found that amount of grant have resulted in greater productivity or articles. Again, this result shows the positive relationship between fund and productivity.

Facilities (library, electronic support,

Library play the important in research. Capabilities of library to provide the resources influenced research productivity.

Electronic facilities

Schefermeyer and Sewell (1988) indicated that using of email among academicians to communicate and seek other for research collaboration have open opportunity to increase research productivity. Almquist (1992) - Almquist, E.(1992). Listening to users: case studies in building electronic community. Fox institution annual conference, found that the scientists used IT facilities for different phases of their research especially at the subject identification and also find a similar research or literature. Meanwhile, Bruce (1994)- found that over 80% of Australian academic believed that network access give them benefit in conducting research and 63% believed it can helped increase their publication. Massy and Zemsky (1995). suggested that the availability of IT facilities provided greater access to the resources and it increase the productivity of research. Huges (1999) investigated the telecommunication environment that support research productivity and found that a networked environment helped to promote information about research productivity.

2. 4 Theories, Framework and Model of Previous Study

2. 4. 1 Zainab Awang Ngah (2001)

Exploratory study to examined the factor that affecting the research publication of academic engineering and scientist from UKM and UM. This

study aim to identify problem as well as increase understanding of factor that conducive for a productive academic research environment. The study identifies total number and type of research publication published. Examined the endogenous factor such as personal, home, academic background, attitude, view and problem faced and how these are related to publication productivity. Examined exogenous factor, academic staff information used and disseminated behaviour, problem associated with publishing articles or in obtaining library materials.

The sample population comprises 125 academic engineering and 311 academic scientists from UKM and UM. Data collection and information about the staff are obtained from questionnaire, university calendar and interview. The results are reported in descriptive statistic and tested for significant and correlation using the chi square for nominal type variables and the spearman rank test.

The result generally show that in more cases the correlated are significant related to publication productivity. The significant correlated (<0.001) are respondent age, number of professional membership, affiliation, discipline, qualification, academic rank, working experience, research collaboration, funding, lab, active using com for research positive view on research and using formal resources to keep abreast with research info.

Masuk kan model nya (diagram disini)

2. 5 Theoretical Framework

Organization Factor

Top management

Slack Resource

Knowledge sharing culture

Training

Technical infra

Knowledge Productivity

(Dependent variable)

Individual Factor

Research motivation

Attitude toward research

Research skill

2. 6 Chapter Summary

Conclusion

The diversity of factor influencing research productivity is well documented in published literature. However, difference in finding about the relative relationship of research productivity and various variables remained.