A Review of Factors and Activities Contributing to Proficient Academic Business Researchers

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Abstract: The role of academic faculty is research, teaching, and service. In an environment that requires research, there appears to be little published discussion of the scholarly activity conducted by proficient researchers. There are few researched and published papers on researcher's activities and habits to conduct research. The lack of research on the activities of researchers leads to the practice of research viewed as mysticism. An exhaustive search of research into the factors and scholarly activities of academic business researchers is presented in this paper to understand what researchers do to generate and produce research. The review is intended to capture current 'best research practice', as guidance for developing researchers who are themselves seeking to become established. A framework of factors and activities impacting on the tertiary institute researcher is developed, and journal papers are reviewed. The review indicates that researchers are influenced by daily activities, personal characteristics, career stages, and institutional environments. A number of environmental factors appear to affect productivity of researchers and personal qualities of researchers are also found to be important. Career, time allocation, and performance assessment impacts are discussed.

Keywords: Academic development, research, university, significant research, publication

1. Introduction

Tertiary institutions of universities and institutes of technology undertake teaching and research and there are increasing pressures on tertiary institutions and academics to carry out research. The role of academic faculty is research, teaching, and service. The most common emphasis in institutions is an emphasis on research (Terpstra, & Honoree, 2009). Various countries have assessments of research outputs such as the Research Assessment Exercise (RAE) in the UK and the succeeding Research Excellence Framework (RAF) or the Performance Based Research Fund (PBRF) in New Zealand. Research may also be required by tertiary institutions for funding and accreditation requirements.

The assessment exercises provide pressure to research and make research performance a salient issue. The performance of the institution is rated and ranked based upon these performance assessments. As the research of an institution is made up of the outputs of the members within them, pressure to research is also placed on individuals. For a discussion of the increasing publication requirements of researchers see Megel (1987), and Cresswell (1990), or more recently Read, Rama, and Raghunandan (1998).

Pressures for research performance with assessments such as PBRF is also considered to have behavioural consequences on researchers. Boston, Mischewski, and Smyth (2005) expect behavioural implications of human resource management, management of time by staff, and changes on the teaching research nexus. The use of the RAE suggests that academics adjust their allocation of time between research and teaching, place importance of supervising research students, while teaching and administrative duties receive less importance (Boston, Mischewski, & Smyth, 2005). Ashcroft (2006) studied 15 academics and found that the research assessment of PBRF increased academic anxiety. The daily stress of academics has increased, and now academics depend on personal abilities of managing multiple roles, technological competence, and communication in a variety of languages (Marginson, 2000).

The lack of research on the activities of researchers leads to the practice of research viewed as mysticism. In addition, the path to the role of professoriate can be misunderstood so the socialisation process may lead to failures (Lee-Partridge, 2007). The road of socialisation and de-mystification of research may involve a process of enculturation to obtain the tacit knowledge (Boyle, & Boice, 1998). Successful researchers have academic values and attitudes derived from specific socialization experiences (Bland, & Schmitz, 1986). Just as there has been a move to make tacit knowledge of teaching explicit for early career academics (Sandretto, Kane, & Heath, 2002) there exists a justification to make tacit knowledge of research explicit for academics.

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There has been an argument for academic developers to reassess their relationship to research and to put research centre stage for academics (Brew, 2002). There is a claim that academic developers and discipline academics are similar and that academic developers are academics and is part of the higher education discipline (Bath, & Smith, 2004). The argument has been extended by suggesting that the profession of academic development, of research and teaching, might advance in the future by aiming for academic status using more research active staff to contribute to the knowledge base (Harland, & Staniforthb, 2003). Benefits could accrue if the academic development profession were also located within the already recognised research field of higher education (Harland, & Staniforthb, 2003). There has been a growing importance of inquiry into higher education and to be considered seriously academic developers must become credible researchers (Brew, 2002).

There are few researched and published papers on researcher's activities and habits to conduct research. There is support that distinction between successful and less successful research performance is due to four factors: research activities, mentoring, local networks, and scholarly habits (Hekelman, Zyzanski, & Flocke, 1995). And then only two of those factors, research activities and scholarly habits, are required to identify successful from less successful researchers (Hekelman, Zyzanski, & Flocke, 1995).

An extensive search for literature on activities of researchers failed to find papers that verify or confirm required habits or activities to be successful. Through perseverance the author continued a search and after five years, including the assistance of libraries and three research leaders, literature on researchers' activities was found. A glance at the reference sections of these research papers identifies the sections as much smaller than research papers of more established research fields. The low number of references confirms the lack of previous research on activities and actions of researchers.

The results of the literature search eventually provided sufficient material to examine. There appears to be research using various data collection methods though the research also appears fragmented. Some disciplines appear to have more substantiated research than others. For example, Bland and Ruffin (1992) review the discipline of medicine. Thirteen characteristics of productive researchers have been found in medical research (Bland & Schmitz, 1986). These characteristics were parsimoniously narrowed to eight that include research skills, motivation, adequate research time, multiple projects, networks, orientation, supportive departments, and in depth knowledge of a research subject (Hekelman, Zyzanski, & Flocke, 1995).

This review is intended to capture current 'best research practice' of proficient business researchers. A review of the literature on researcher's activities is intended to make these issues more aware to researchers and institutions, to make the findings more accessible to researchers, new or experienced, that want to develop their research profile or framework, to research leaders, and to heads of departments that want to gain the greatest return for their investment. This paper acknowledges the resources available for researchers and the differences among business disciplines impacting on research, before the paper suggests a theoretical model of factors and activities impacting proficiency of researchers. This paper then uses the scant, though existing literature to support and substantiate the theoretical model.

2. Resources

There are textbooks that provide suggestions as to what should be done to conduct research. Many of the textbooks describe research methods and state the research process as a straight forward approach of identifying the topic and research question, developing a framework and method, collecting data, and presenting results. These textbooks fail to illustrate the complex dynamics and demands on individuals while conducting research within an academic environment.

Textbooks frequently fail to provide the detail of the researchers activities used to achieve the findings. There are some textbooks that do provides suggestions, for example see Blaxter, Hughes, and Tight (2001), Boyer (1997), and Davidson and Lunt (2000). The suggestions contained within the textbooks are rarely substantiated or supported with peer reviewed journal publications.

Literature, such as journal publications, that do discuss research activity mainly discuss the research process or journal submission process. The research process is depicted as a logical systematic process without

practical hindrances, while the journal submission process depicts the changes required to write effectively, omit errors, and provide papers that journal reviewers will accept. For examples of these see Campbell (1995), De Lange (2005), and Draft (1995).

Some literature provides anecdotal descriptions of the issues encountered with research. For examples of these see Frost and Stablein (1992), Humphrey and Lee (2004), and Perry (2002).

Much of the knowledge of what is required to be proficient remains unpublished and of tacit knowledge. Only a few academics are proficient within a few years of first appointment. Other academics take some time to learn the activities and coping mechanisms of the lecturer and researcher role.

2.1 Previous Research

Much discussion of research tends to examine research output, suggestions for obtaining publication, analysis of journal quality and rankings, and analysis of institution rankings.

Research papers often analyse outputs of journal papers and use the quantity or quality of journal papers as a measure of performance. The New Zealand PBRF assessment exacerbates this issue with 70% of an evidence portfolio evaluation based on research outputs. The results of a ranking analysis alters perceptions of those journals, researchers, departments, or ranked institutions. The perception of low ranked researchers in the RAE results are viewed negatively and researchers from departments with higher rankings perceived other departments skeptically (Broadhead & Howard, 1998).

Other literature makes suggestions for obtaining publication and advising what changes need to be made to papers once the paper (and therefore research) has been done. These suggestions include editing, revising, and journal submission issues.

There is a plethora of published and unpublished research on attempts to rank journals and establish 'quality' of particular journals. These articles are useful to indicate what journals should be submitted to and this type of research is therefore linked to the research stated above regarding research output and suggestions for obtaining publication.

Research output of journal article publications is also used to rank institutions. The PBRF assessment is an example of institution rankings.

This current literature review attempts to identify inputs in reference to the factors and activities that contribute to proficient researchers. The aim is to take the emphasis away from outputs and closer to the transformation process of what researchers must do to provide research.

2.2 Variation Among Business Disciplines

A glance at the various disciplines indicates that some disciplines do not provide as much output as others. Even within business, outputs of the disciplines vary. Accounting publications tend to be less per researcher compared to those of finance, management, and marketing (Swanson, 2004; Tower, Desai, Carson, & Cheng, 2005). Some business disciplines publish 1.4 to 2.4 times more than the accounting discipline (Swanson, 2004). In addition, disciplines that rank writing below teaching or reading tend to be less research productive (Giles, 1989).

A review of the PBRF or RAE results also shows that disciplines within business differ. The accounting discipline tends to be ranked lower than other disciplines in the PBRF results of 2003 and 2006. Discipline area and university have been found to significantly affect research outputs (Lewis, & Ross, 2007). Varying disciplines may also place different amount of emphasis on research (Bowen, & Schuster, 1986; Leslie, 2002), and different institutions may place different amount of emphasis on research.

Institutions may be research or teaching focused and as such emphasise research differently. Universities tend to be more research than student centred (Elen, Lindblom-Ylanne, & Clement, 2007). Institutions without doctoral or masters programs tend to have less publications (Read, Rama, & Raghunandan, 1998). The differences in research publications have been attributed to the different emphasis placed on teaching and research. The academic reward systems traditionally emphasise scholarly research over teaching performance

(Reinstein, & Lander, 1993). There is a common belief that doctoral granting institutions emphasise research over teaching and bachelor granting institutions emphasise teaching (Alsup, Holland, & Jacobs, 1988).

There also appears to be differences in the perceptions of staff at doctoral and nondoctoral granting institutions (Alsup, Holland, & Jacobs, 1988). Doctoral granting institutions rank availability of resources for research productivity higher than non doctoral granting institutions. These results highlight the condition that organisations may require a unique mix of resources (Alsup, Holland, & Jacobs, 1988). In addition, an organisation's uniqueness may not be recognised and resources not provided where required, as a perception gap may exist between administrators and faculty (Alsup, Holland, & Jacobs, 1988).

There are indications that pressure on academics to provide research outputs changes what a researcher chooses to publish and where they choose to publish (See Talib, 2000, & Christensen, Finger, & Latham, 2002). New scholars use journals outside their specialist discipline as publication outlets. The place of journal publication also changes (Singh, & Remenyi, 2016). Christensen, Finger, and Latham (2002) find that new accounting scholars commonly use non-accounting journals as publication outlets rather than accounting journals. Accounting researchers clearly chose the publication outlet. More established researchers also chose publication outlets, as Lange, O'Connell, Matthews, & Sangster (2010) found that esteemed American journals were being sought. As publication outlets are distinctively different, the research, including research topic must match the intent of the journal, otherwise the researcher risks journal article rejection, a call that is repeatedly reported by journal editors. So a researcher chooses the publication outlet and thereby also chooses the topic.

As described above, the institution, discipline, and topic interest area is an important influence on research proficiency. The next section further explains the framework of influences on business researchers, and draws upon other research where there has been a lack of literature.

2.3 Framework of Factors and Activities

Chow and Harrison (2002) provide a framework of the accounting education process. The framework, in addition to drawing upon the literature, has been adapted here to compose a framework of factors and activities involved by the academic researcher. That framework is in figure 1.

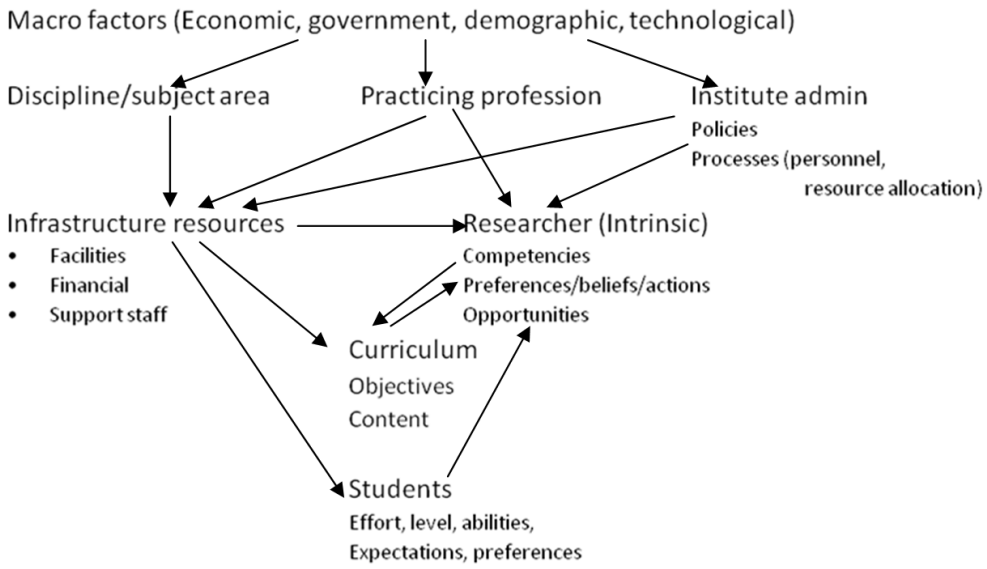

Figure 1: Framework of factors impacting on research

The diagram in figure 1 specifies the factors and pressures within the academic environment that impact on research. The researcher is held centre as researchers are the individuals that carry out the activity of research. The pertinent factors impinging on the research include those of the environment that the researcher is in, including the institute, the particular profession, and the teaching domain of the students and what is taught. There is support that research productivity can be greatly influenced by the environment,

especially if there is insufficient time or research time is unprotected (Perkoff, 1986; Hekelman, Zyzanski, & Flocke, 1995). The environment impacts and controls a researcher's productivity (Lee, Ognibene, & Schwartz, 1991). Overreaching the researchers' environment is the macro factors of policy that may be economic, government, and other technological.

Each of the factors above may be influential, to different extents, on the researcher. Of importance is also the recognition that there are external and internal factors. While the environment may be external and out of control of the researcher, there are also internal factors particular to the individual.

For this paper, peer reviewed scholarly journals are considered the benchmark for valid and reliable results of research. For this reason, this paper draws upon research that has collected data on business researchers and published in academic journals. The literature is reviewed in this paper to determine the existence of the framework presented above. The next section begins with a review of defining proficiency before describing the themes of career, potential, publication, and assessment as drawn out by the literature.

3. Substantiated Factors of Research Proficiency

This paper now discusses the factors of the framework that have been substantiated in the existing literature.

Researchers have attempted calculations at the average number of papers produced per year. That average has been calculated as high as one journal paper per year. Though the figure has also been calculated as low as 0.49 (Tower et al., 2005), as low as 0.37 (Durden, Wilkinson, & Wilkinson, 1999), and even as low as 0.16 (Zivney, Bertin, & Gavin, 1995). Hekelman, Zyzanski, and Flocke (1995) have considered the productive and successful researcher as producing two or more publications over a year.

The calculated statistics obtained in the research of output activity has been averaged over a number of researchers, many of which do not research at all. Only a few researchers are proficient. Thus, the output of many is far lower. The result is that much research is conducted by only a small subset of researchers (Durden et al., 1999). Only 17% of academics have been found to publish in the 'top' journals (Beattie, & Goodacre, 2004). Over a two year period, 65% of academic staff published no articles (Beattie & Goodacre, 2004). Over a career, only 50% of academic staff published one or more articles (Zivney, Bertin, & Gavin, 1995). See also Hasselback, Reinsten, and Schwan (2000).

Those with a PhD, higher academic level, and in smaller departments appear to provide greater research output (Tower, et al. 2005). Those with doctorates publish more than those without doctorates (Tower, et al. 2005; Beattie & Goodacre, 2004; Giles, 1989), possibly due to the learning that takes place while undertaking a doctorate, or possibly from selection bias of those who undertake a doctorate are those that want to pursue research.

Academic level and publications are found to be correlated (Tower, et al. 2005; Beattie & Goodacre, 2004) with seniority providing more research outputs of humanities, sciences, and social sciences in Australia, New Zealand, and the UK (Lewis, & Ross, 2011). Lecturers average around half a publication a year, senior lecturers and above were found to average more than one publication a year, and professors publish the greatest number of papers (Tower, et al. 2005). The different amount of productivity across the academic levels does not appear to be due to differing amounts of resource availability (Alsup, Holland, & Jacobs, 1988). Faculty perceptions of resource availability across academic levels remain consistent with no significant differences (Alsup, Holland, & Jacobs, 1988).

To a lesser extent, males tend to publish more than females (Tower, et al., 2005). And the average age of academics, responding to questions of their research, is 40 (Cargile & Bublitz, 1986), though the productive research faculty are older than less productive faculty (Giles, 1989).

A survey that asked scholars what contributed to 'success' in research publication was found to provide a number of meaningful factors (Chow & Harrison, 1998). Those factors included; supportive colleagues, time strictly for research, access to computers and databases, supportive research environment, financial and other support, doctoral assistants, mentors or leaders, and library resources. A survey of university staff, undertaken by Cargile and Bublitz (1986), provides additional factors of research; reduced teaching load (class and

preparatory time), access to computers and databases, colleagues research abilities, high quality graduate students, and reduced committee assignments. Computer access requirements are confirmed by Giles (1989) that finds productive research faculty have high word processor use. However, these studies were conducted over three decades ago and now computer access would seem a prerequisite for the role. Students are used to coauthor with and provide further outputs. An archival search of outputs shows the salience of this approach. In addition, graduate students are also used for teaching assistants, thus providing teaching resource and time for researchers to spend researching.

Perceptions of resource availability in academic institutions have also been studied and the lowest scores are technical writing assistance, travel for data collection, and teaching or research assistants (Alsup, Holland, & Jacobs, 1988). Other resources important to faculty staff include travel support, fewer preparations to teach, research and grading assistance, provision of blocks of research time, secretarial support services, and editorial assistance (Ostrowski, 1986). Now a few years on, resources do not appear to be an issue. The provision for resources is given.

Influential researchers have been asked to describe their idea generation processes (Chow & Harrison, 2002). There were three categories of the results: following and critically looking at the literature, keeping abreast of real world issues, and working with colleagues. Following the literature is a way to generate ideas and develop multiple papers. By keeping abreast of real world issues, topical ideas are identified and theory and practice can coalesce. Working with colleagues includes peers, students, and co-authors. The interactions lead to new ideas, facilitate new ideas, and leads to directions previously unanticipated.

Another way to interact with peers is to provide output. A means of providing output could be in the form of support or research groups that provides gains for scholars to be able to cope with research demands and assists skill development (Murray, & MacKay, 1998). Collaborative networks and mentorship contribute to developing researchers (Crisp, Swerissen, & Ducklet, 2000; Kirchmeyer, 2005; Worrall, 2016).

Research groups provide benefits of critique and ideas that contribute to the academic debate and rigor of the research. Output could also be in the form of conferences. A scholarly habit of participation that develops productivity includes presenting papers, committee participation, and committee leadership (Hekelman, Zyzanski, & Flocke, 1995). Academics have also found conferences crucial for valuable teaching and research (Curtis & Matthewman, 2005). For a greater discussion of the advantages and disadvantages of conferences, contact the author for a separate review.

3.1 Career Life Cycle

Chow and Harrison (1998) find that personal attributes and skills of researchers are important determinants of research productivity. The development of higher level skills and ability is referred to as research capacity (Frontera, Fuhrer, Jetter, Chan, Cooper, & Duncan, 2005). Much of the skills and attributes can be developed with training. Education and training of individuals leads to the attainment and development of skills required of researchers. The attainment of skills required for research is considered a focus of graduate level courses and that development then culminates with the completion of a doctorate. Thus, education and training are important to a research career. Little research has gone into the impact education has on research success or on the characteristics and personality required for a researcher.

Also, ability provides access to top doctoral programs that then determine productivity (Maranto & Streuly, 1994). Qualifications obtained from the 'right' institutions with the 'right' supervisors provide greater opportunities. If the institution is prestigious, the member has a greater chance of being employed at institutions and with positions with greater resource availability. Supervisors are also able to provide contacts to those doctoral students who will go on to find positions at academic institutions. Researchers are seen to contribute to the career of students. Students as future academics attending institutions are discussed more theoretically in Kirchmeyer (2005).

A common conception of obtaining a PhD is the affect of publication shortly after doctoral attainment. Within the years that follow thesis completion, academics convert some of their thesis chapters into separate papers for journal submissions. Newly graduated doctorates then have a number of papers ready to be reworked and polished to attain journal publication at the beginning of an academic research career. The publications resulting from graduate study is referred to as the dissertation effect (Zivney, Bertin, & Gavin, 1995).

Maranto and Streuly (1994) also refer to productivity and research impacts later in a career. Later productivity can be identified from early career productivity. The productivity appears to be a result of establishing productive writing behaviours early in the career (Boice, 1992; Boice & Jones, 1984; Cresswell, 1985; Reskin, 1977). Those who write daily with regular scheduled sessions produced more writing and more new ideas than those who waited for the moment (Krashen, 1990). Writing is an important aspect of research and even a method of inquiry (Richardson & Adams St Pierre, 2005).

However, there are factors hindering new faculty members obtaining research productivity and good writing behaviours. The environment and conditions of new faculty members encourage procrastination and distress (Boice, 1989). Low research assessment scores are also demotivating (Boston,Mischewski, & Smyth, 2005). Procrastination occurs from faculty waiting until the mood is right for writing (Giles, 1989). If researchers are able to overcome these issues early, productivity arises. Typically the research productive faculty member only has a moderate anxiety about writing, though the major limiting factor of writing is the lack of time (Giles, 1989).

In some institutions tenure may not be provided to an individual faculty member until the member has shown results. Results are usually in the form of providing a suitable number of research outputs. There exists a view that once faculty pass the probationary period or attain tenure, research activity or output dissipates (See Swanson, 2004; Zivney, Bertin, & Gavin, 1995; Talib, 2000; Talib, 2002). The incentive to provide outputs no longer exists once tenure is reached. This view of productivity is referred to as the tenure effect and views motivation of researchers as externally determined. However, there is disagreement on the existence of the tenured effect (see Lane, Ray, & Glennon, 1990; Levitan & Ray, 1992; Hancock, Lane, Ray, & Glennon, 1992). One argument refuting the existence of a tenure effect is the factor of time affecting productivity (Chen, Gupta, & Hoshower, 2006). Time spent in academia is considered to reduce research productivity, through means of extra requirements on faculty. Additionally, the inner motivation of individuals enjoying research exists with or without tenure.

3.2 Importance of Choosing Potential

Academics perceive published research ahead of teaching, politics, and service as a determinant of promotion, tenure, and salary (Cargile & Bublitz, 1986). This perception is not surprising given that reward systems traditionally emphasise research (Reinstein, & Lander, 1993). Though, research may be seen as an extra burden to faculty at non doctoral granting institutions (Cargile & Bublitz, 1986). However, academics who write "have no more free time or no fewer commitments than colleagues who do not write" (Boice & Jones, 1984, p. 567). Those who write make time. Faculty that have high research productivity allocate more time to research activities (Hancock, Lane, Ray, & Glennon, 1992; Lane, Ray, & Glennon, 1990; Chen, Gupta, & Hoshower, 2006).

A limiting factor of research proficiency is the amount of time devoted to other activities such as teaching. Over preparation time for teaching tends to reduce time availability for research and this is common among new faculty (Boice, 1992). Though, faculty with outstanding teaching do not necessary differ in research publications with those without an outstanding teaching record (Baker III, Bates, Garbacik-Kopman, & McEldowney, 1998). Moderating the time spent preparing lectures improves both teaching and research (Boice, 1992; Boice, 1993). Thus proficient research is not necessarily at the expense of outstanding teaching, but can be at the expense of extended teaching preparation time. In New Zealand, the generally accepted norm for the role of an academic is 40:40:20 teaching: research: service (Bright, 2012), though this is not the same for everyone. The impact of assessments or evaluations such as RAE or PBRF on researchers' time needs further investigation.

How productive researchers make time is not certain. Especially in situations where the workload is increasing for academics (Hancock, Marriot, & Duff, 2015) and an increased tension between research and teaching (Billot, 2010). Academics find the double roles of teaching and research workload difficult (Hancock, Marriott, & Duff, 2015; Teichler & Arimoto, 2014; Shin & Cummings, 2014; Curtis & Matthewman, 2005). Time could be made by working more within a week, or working more efficiently. Summers (1972) argues the latter suggesting that the teaching professor that is expected to research must use teaching to provide material for research.

Personal motivation is positively related with output (Blackburn, Bieber, Lawrence, & Trauvetter, 1991). Faculty who rate extrinsic and intrinsic rewards equally important provide higher research productivity than those who do not (Chen, Gupta, & Hoshower, 2006). Though, intrinsic motivators are perceived by researchers as more important than extrinsic rewards in motivating faculty for productive research (Bailey, 1994). Though when faculty are disaggregated into tenure, untenured faculty are motivated by extrinsic rewards, while tenured faculty are motivated by intrinsic rewards. Punishment for lack of writing has also been studied that indicates greater productivity, but less efficiency (Krashen, 1990).

A quote from Chow and Harrison (1998, p. 181) describes a proficient researcher as:

> A person who has sought and obtained rigorous training in methodological and writing skills… gaining access to support resources (both colleagues and physical), this person has a strong work ethic and a very strong desire to succeed. He/she is highly dedicated to his/her work and persists and perseveres.

The quote above indicates that research requires skill and ability, dominated by writing skills. The researcher also requires resources including interactions with colleagues, is highly motivated from extrinsic an intrinsic rewards, and much time is put into research.

3.3 Impact of Performance Assessment

PBRF in New Zealand has now been around since 2003 and has now become a part of the university and academic life. Academics know that if they want to stay in the university, they have to respond to the call for research productivity. Most academics, as indicated with low research outputs (Beattie & Goodacre, 2004; Zivney, Bertin, & Gavin, 1995; Hasselback, Reinsten, & Schwan, 2000), are not necessarily motivated to do more research and feel the increase in pressure to provide research. They would probably prefer the previous environment but now the call for research productivity is something that academics have now come to terms with and live with. Though this state of accepting increased pressure of New Zealand researchers to research differs to the hostile state of academic staff towards the RAE exercise in 2001 (Harley, 2002).

PBRF and other research assessment exercises places an emphasis on research, so employment selection of researchers is eminent, consistent with Lange, O'Connell, Matthews, and Sangster (2010). Research performance impacts on staff positions and tenure. A lack of research jeopardes a position, as was also evident from a study of the RAE (Henkel, 1999). A study of the ERA in Australia found inactive researchers were given voluntary redundancies or had increased teaching workloads (Lange, O'Connell, Matthews, & Sangster, 2010). The increased emphasis on performance of research and evaluation increases stress levels. The finding of increased pressure from research is consistent with other findings (Marginson, 2015; Broadhead, & Howard, 1998; Curtis & Matthewman, 2005) of increased anxiety, stress, and workload.

4. Conclusion

This paper has attempted to provide a framework for the factors that influence academics to provide research and then identify research that has substantiated those factors. A review of the literature indicates that the framework has not been completely researched and many factors remain unverified. Other 'best practices' still require further investigation.

The results of this review indicate that a researcher is knowledgeable and has skill levels. The skill levels are developed in training and knowledge is developed over time to the point that the researcher has a good track record. The result is that the academic researcher is typically older than non researchers.

'Non-productive' time needs to be built into academic timetables to allow for reading and writing time. In addition, to reading and writing, the results of these activities require interaction with colleagues. As faculty at large or small institutions, including doctoral and non doctoral granting institutions, need to interact with peers, this has major limitations on particular academic institutions. Some academic institutions may need to use other means of interacting so that collaborations, mentorships, or groups may be useful.

Students play an important component at institutions and in particular, students contribute to the research environment. However, some Institutes of Technology and Polytechnics (ITP)s would be at a disadvantage compared to universities as they do not offer doctoral programs. Much research compares doctoral and non doctoral (bachelor) granting institutions. Though, in some instances some ITPs do not offer doctorates or bachelor qualifications. These limitations for particular institutions imply that those institutions may not be as proficient unless particular requirements of those unique institutions are considered.

Much of the character of a researcher is not only in the training or career of a person, but the personal, or emotional qualities of perseverance and internal reward ratings of individuals. Proficient individuals rate research as important as teaching or other obligations and as such, their behaviours and activities reflect that rating. Proficient researchers thereby devote time to reading and writing as part of their role. Much of the factors of proficient researchers are in the individuals themselves and are difficult to emulate so institutions need to be vigilant when hiring and granting tenure to faculty.

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