GROWING A RESEARCH AND PUBLICATION CULTURE: WHAT INCENTIVES AND REWARDS MAKE A DIFFERENCE?

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ABSTRACT

Few higher education practitioners would argue the importance of quality research to underpin an organisation's credible delivery of degrees and post-graduate programmes. Further, research contributes to a national and international profile for both institute and individual. Research brings in funding, and enhances career development. But what happens when vocational teachers, recruited directly from industry and trade, rather than academia, are required to support their new teaching role by producing research outputs and publications? The answer is reluctance, and sometimes, downright resistance.

This paper will describe a project which sought to benchmark the supports and strategies to develop researcher capability offered across the majority of the 16 organisations which make up New Zealand's Institutes of Technology and Polytechnics (ITP) sector. The first source of data was a survey of the rewards, incentives and organisational frameworks the different ITPs are offering. Next, the project team interviewed 22 colleagues from the home institute, across disciplines and faculties, experienced and novice, research-active and non-research-active. The ultimate aim was to identify a range of strategies which staff considered would offer compelling inducement to increase the quantity and/or quality of their research outputs.

We provide an overview of the findings of both internal and external motivators for individuals. For institutions, there were strong indications of the structures and practices participants felt enabled, or hindered their research activity. Positive change, rejuvenation of 'writing lives', and (re)engagement in learning calls for a whole-organisation approach. Developing a culture where research is visible and valued needs leadership support and staff goodwill.

Keywords — higher education, research incentives, researcher capability.

INTRODUCTION

The New Zealand Government is committed to growing research capability as an integral part of our higher education landscape: "Tertiary education supports innovation by connecting the research, expertise of the sector, and skilled graduates with business and communities" (Tertiary Education Commission (TEC), 2019). In the same report of the 2018 Performance-Based Research Fund (PBRF) results (our Government mechanism for allocating research and development investment to higher education providers), there is a clear recognition that "research excellence requires ongoing reflection and improvement". This is true for the sector, and it is true for our institute. Key drivers to the pursuit of excellence, then,

include performance-based funding mechanisms, a commitment to currency and relevance for our learners and communities, the expectations of professional bodies for evidence of rigour in the delivery of professional qualifications, and New Zealand Qualifications Authority (NZQA) compliance requirements (Arcus, 2017).

Our ITP organisation is highly mindful of these imperatives, and is keen to build a research culture where research is 'business as usual' for staff teaching on degree and postgraduate programmes. Over recent years, research outputs have slowly risen, although 2018 saw a decrease in the overall number reported. The Research Office is very aware of the mixed reactions staff have to being informed that they have a responsibility to undertake research: the ITP sector as a whole have a focus on applied professions and trades, and many staff who have entered these organisations appear to have little experience, or confidence in undertaking scholarly inquiry. Individual workload models, teaching timetables and employment contracts emphasise teaching activities at the expense of making time for, or prioritising research activity (Begley, et al., 2014). Traditional curricula structures can also be teaching time-intensive, leaving little time for other academic activity (Manning & Barrette, 2005). Hence, there is a need to understand effective strategies to support and grow researcher engagement, capability and confidence.

This research project sought to establish clarity around what rewards and frameworks are actually in place in the ITP sector, and how researchers feel about these. The context for this study was both institutional and sector-wide. From our own institute's (or any single ITP's) perspective, to promote positive change and grow research and researcher capability, we need to understand the options for rewards and incentives that individuals will respond to, as well as identifying and dismantling barriers through appropriate resourcing and assistance. For the wider sector looking to an increased standardisation, it is likely useful to consider commonalities and anomalies in individual institutional practices.

LITERATURE AND THEORY

Research productivity and its characterisations

Ways of increasing faculty research outputs have been investigated for nearly a century, with these studies identifying various incentives and rewards associated with research productivity and quality. While productivity can be measured in terms of publications, the research's quality is typically measured by journal ranking (Theoharakis & Hirst, 2002) or national evaluation frameworks, such as PBRF (TEC, 2019). It is accepted that research productivity and quality are known determinants that increase an institute's ability to attract quality students and staff (Manning & Barrette, 2005). To motivate researchers to publish in refereed, top-tier journals, incentive programmes and rewards have been introduced into many tertiary institutions in the last few decades (Manning & Barrette, 2005).

Incentives are offered prior to work whereas rewards are provided upon the work's completion. However, in some of the literature, and in many of the contributions to this study offered by participants, there is considerable cross-over in how these two terms are used. Incentive-based programmes offer money, time, recognition, or resource-based incentives which are aligned with their institute's research objectives (Manning & Barrette, 2005). Moreover, such incentives provided to active researchers of vocational institutes such as ITPs

are likely to make their salary more competitive with university staff (Manning & Barrette, 2005), and therefore increase the likelihood that an institute will retain its active researchers (Manning & Barrette, 2005).

Bland et al.'s (2005) synthesis of research productivity literature concluded there were three characteristic-based themes, namely: the institution's culture, the faculty's leadership, and the individual researcher. Findings from more recent studies on research productivity vary little from these themes (e.g. Ito & Brotheridge, 2007; Jung, 2012). First, institutional characteristics including the culture, resources, rewards, and mentoring initiatives, which identify aspects of how research is supported by an institution (Bland et al., 2005). Next, the characteristics of leadership describe the scholarship, research orientation, capacity to fulfil leadership roles, and participative style of a faculty's leaders (Bland et al., 2005). Last, researcher characteristics included their motivation to research, content knowledge, research skills and work habits (Bland et al., 2005). These characteristics integrate and interplay with one another toward a conducive setting for research productivity, but nonetheless provide a useful framework for the report of this study's findings.

Institutional characteristics

The correlation between an organisation's culture and its performance has long been known (Wilderom, Glunk, & Maslowski, 2000). Research culture is described as the shared attitudes, assumptions, and mechanisms which propagate the value, behaviour, and beliefs in productive research activity (Evans, 2007; Parse, 2007). Fussy (2017) suggests that two characteristics of research culture are its participants' collegiality and learnability, where the shared assumptions and beliefs of researching are learned among colleagues travelling together. Other ways organisations can promote a research productive culture is by continually discussing the imperative of research at meetings, instilling confidence in staff toward their research, and hiring seasoned researchers (Edgar & Geare, 2013). Hence, an institution's strategic and purposeful handling of perceptions, attitudes, and resources promote and nourish a research-rich culture.

Leadership characteristics

Another factor that makes researchers' environments conducive to productivity is their faculty's leadership qualities (Dundar & Lewis, 1988). Leadership is critical to the productivity of its research due to the synthesis a faculty's leader cultivates between the researcher, the research culture, and the institution (Bland et al., 2005; Alqahtani, 2019). Leaders of research productive faculties are described as highly regarded scholars, research oriented, and exhibit an assertive as well as participative leadership style. Further, the leader fulfils some critical research-related activities such as managing, fundraising, and being goal-oriented. In contrast, a researcher's productivity is impinged by a lack professional autonomy and the increase of management surveillance and control (Brotheridge, 2006; Valmohammadi & Jarihi, 2019).

In New Zealand's PBRF system, academic staff are required to submit, to a panel of their discipline's experts to evaluate and grade, a portfolio which provides evidence of their research productivity (Edgar & Geare, 2013). The grades of individual researchers are averaged and contribute to the overall grade of the researchers' department. It appears that a leader's characteristics have more bearing on a faculty's productivity, particularly within the PBRF framework, than the individual researcher (Edgar & Geare, 2013).

Researcher characteristics

The third factor identified in Bland et al.'s (2005) study on researcher productivity was the characteristics of the individual researcher. Although researchers vary in their approach to conducting research, their commitment to research typically predicates their productivity (Shin & Cummings, 2010; White, James, Burke, & Allen, 2012). Further, researchers who prefer to collaborate with others, likely due to the level of communication, competitiveness, and accountability, are also more productive (White et al., 2012). The increase in international-oriented and multi-disciplinary journals may also appeal to many researchers' interests in research (Smeby & Try, 2005). The researchers' motives, content knowledge, research skills, autonomy, number of projects, and work habits also play a crucial role in predicting their level of productivity (Bland et al., 2005). Other attributes include having a terminal degree, early publishing habits, colleagues who publish, subscriptions to academic journals, a high academic rank, and sound time management skills (Zhou & Volkwein, 2004).

Incentives toward research productivity

Incentives are an important factor in research productivity and take many forms, including "money, promotion, recognition, and new responsibilities" (Bland et al., 2005, p. 228). A performance-based system also incentivises research outputs with rewards such as tenure, promotion, increase in salary, among other rewards including further research funding and recognition (Ito & Brotheridge, 2007). Here, active researchers who produce measurable concrete outputs, such as a number of publications, awards, research grants, and other recognised outputs are purposely selected by their institution for promotion (Chandra, 2017). There may be allocation of additional professional development leave, or administrative resourcing to assist with data management – an assistant paid to complete transcriptions or statistical analysis. Recognition and reward can also include extended opportunities to travel to disseminate research (Arcus, 2017; Bansal & Pankaj, 2018). An academic writing coach or mentor may also assist novice researchers, or newly qualified teaching staff to pursue publishing opportunities (Grant, 2008). Additional writing retreats can rejuvenate 'writing lives' (Swaggerty et al., 2011). And internationally there is also a growing trend to reward authors when a paper they write appears in journals with high citation impacts (Arbitris & McCook, 2017).

One issue widely traversed in the literature and almost unanimously referenced by this study's participants, is that of time allocated to research as a recognised workload element (e.g. Manning & Barrette, 2005). Time availability is a crucial factor as it predicts both the perceptions of a researcher's productivity levels and their research outputs (Ito & Brotheridge, 2007). Studies also strongly suggest a complementary relationship between a devotion to teaching and effectiveness in teaching with research productivity (Bland et al., 2005). Further, due to the nature and shared workload of co-authoring, teachers who supervise graduate students may gain increased opportunities for research outputs (Dundar & Lewis, 1988). Therefore, while incentives such as money, promotion, and recognition are crucial, time allocation incentivises research activity, as well as increasing the teaching effectiveness of the researcher.

METHODOLOGY

Based on the above considerations, the project team proposed a study with the threefold purpose of: (1) establishing a benchmark of what strategies other higher education ITP providers are using to incentivise and reward researchers for producing quality-assured research outputs; (2) exploring the range of strategies which our own institute's staff consider would offer compelling inducement to increase their own research outputs; (3) proposing recommendations for policy development to our academic board/executive leadership to improve research outcomes and staff engagement in research.

Research design and participants

The research methodology combined a 'desktop review' of other providers' practices, with a small-scale, qualitative inquiry, conducted via interview, with selected academic teaching staff at the host institute. For the review, research managers in the 15 other ITP organisations in New Zealand's higher education sector were contacted via email. Where agreement to participate was indicated, responses were augmented by publically available organisational documents, such as annual reports, and by materials found through their websites. Eleven ITPs contributed to the study, some also forwarding internal policy documents. While reporting was anonymised, all were offered the opportunity to review the aggregated data, and to receive a copy of the final report.

Next, the team proceeded to arrange individual interviews with teaching colleagues, targeting a sample of 3-4 participants from each of our seven faculties. We also wanted to ensure we heard from academic staff representing a breadth of research experience. As previously mentioned, NZQA is our Ministry of Education's agency for monitoring consistency and compliance in the delivery of professional qualifications (Arcus, 2017); one such requirement is that degrees and post-graduate programmes are taught by 'research-active' staff (TEC, 2019). For reporting purposes, our institute has developed a 'traffic light' system, where being 'research-active' is defined as having produced a minimum of two peer-reviewed research outputs over a two-year timeframe. Staff rated 'red' are those teaching on degrees who are required to undertake research but who have so far not produced any research outputs. Staff rated 'amber', whose outputs are still at a low level, may be termed 'novices' or 'new and emerging'. 'Green-lit' staff are active and experienced researchers. Therefore we ensured our 22 colleague-participants were representative of the spread of researcher activity observed across our organisation: six were red, seven were amber, and nine were green.

Again, potential participants were contacted by email and invited to an individual interview of approximately 30 minutes. We took care that members of the research team were not interviewing participants from the same teaching team/office, and followed all the usual protocols of anonymity and confidentiality in line with our institute's research and ethics policy, and as outlined in our approved proposal. Interviews were recorded and transcribed, with subsequent text analysis to identify key recurring themes, and collate pertinent quotations. This then allowed comparisons with the literature and the provisions made by other higher education providers, and assisted the team to develop clear recommendations for policy development.

FINDINGS

Research productivity literature (e.g. Bland et al., 2005; Ito & Brotheridge, 2007; Jung, 2012) frequently allude to three characteristic-based strands, namely: the institution's culture, the faculty's leadership, and the individual researcher. Accordingly, this approach was replicated in the current study as a useful way of grouping policies, practices, strategies and incentives which impact on researcher engagement and activity.

1. Sector overview: a summary of the data from other ITPs

Institutional culture

As shown in Table 1 below, 10 of the 11 ITP higher education organisations who participated in the study had a designated research office responsible for the key functions of facilitating, approving, managing, funding and promoting research. Three offices also provided one or more quiet rooms for researchers who needed an alternative space to work in. Most (9) received funding through the national PBRF mechanism (previously described in the introduction) in addition to institutionally budgeted resourcing. Many used this towards the cost of appointing formal research mentors, who worked in a range of roles including assistance with proposal and report writing, coordinating inter-disciplinary collaborative research teams, support for data collection and analysis, assistance with dissemination, and academic writing coaching. One ITP employed an external grants writer, and two others hosted international scholars to engage with their own academic staff and assist with capability building. All ITPs allocated time apart from teaching and learning duties for staff teaching on degree programmes to undertake research; a common, although not universal allowance was 20%, or one day a week. Finally, all ITPs celebrated research and researcher success with designated webpages promoting staff and team expertise and achievement.

Table 1. Institutional structures and funding available

ITP	Research office	Research room	PBRF funded	Workload allocation	Research mentor(s)	Research grants writer	Visiting research fellows	Research webpages
A	✔	✔	✔	✔		✔	✔	✔
B	✔		✔	✔				✔
C	✔		✔	✔	✔		✔	✔
D	✔	✔		✔				✔
E	✔	✔	✔	✔	✔			✔
F			✔	✔	✔			✔
G	✔		✔	✔	✔		✔	✔
H	✔		✔	✔				✔
I	✔		✔	✔				✔
J	✔		✔	✔	✔			✔
K	✔			✔	✔		✔	✔

Faculty leadership

Table 2 summarises particular initiatives which occurred at faculty or organisation level, but generally relied on the championing of a leader, rather than governance and management

decisions. Institution-generated publications ranged from fortnightly to quarterly newsletters (mainly directed to an internal audience) to annual A4 magazines (both printed and electronic) showcasing research highlights and researcher expertise, and 'hosting' scholarly journals, with external editorial committees and authorship. Three ITPs had their own credit-bearing research qualifications for staff as part of either a required professional development teaching and learning standard, or as an optional higher qualification for academic or career advancement. Most host symposia and conferences where staff can present research alongside external delegates, and most offer skill-building workshops and seminars for staff to build capability, and create inter-disciplinary communities of practice. Off-site, residential writing retreats for staff to complete academic publications with the support of a writing facilitator or coach were also standard practice for most participating ITPs. Two 'unique' strategies were a public lecture series where staff delivered advertised topics to a wider community audience, and a month-long internal focus on celebrating research with events and awards, and a requirement that all teams include research and action plans in meeting agenda.

Table 2. Leadership promotion and advocacy of research

ITP	In-house journal	Annual magazine	Research newsletter	Own research qualification	Own / partnership symposia	Workshops & seminars	Public lecture series	Writing retreat	Annual focus / event
A			✔	✔				✔	
B			✔		✔	✔			
C			✔	✔	✔	✔	✔		
D	✔	✔	✔		✔			✔	
E	✔	✔	✔		✔	✔		✔	
F		✔	✔			✔			
G			✔	✔	✔	✔		✔	✔
H	✔		✔		✔	✔		✔	
I			✔		✔	✔		✔	
J			✔		✔	✔		✔	
K		✔	✔			✔			

The researcher

Results here were a little more varied, as shown in Table 3. Different ITPs had developed a range of solutions in response to researcher reluctance, or querying 'what's in it for me?'. Research awards, usually with funding grants, were often annual, and announced at full staff meetings. Research sabbaticals varied from 1-3 months, and were linked to measurable projects. Cash grants or vouchers on achieving a scholarly publication tended to range in amount according to the status of the publication. These had been trialled at a number of ITPs, but were only currently offered by three at the time of this study. Recognition of post-graduate qualifications was more usually in the form of a gift or vouchers, often made publically in a staff meeting or annual staff function. Research achievement was formally linked to promotion, career development and opportunities in some ITPs, but many others mentioned that this was an informal outcome, although their policies and internal documents did not explicitly frame it as such.

Table 3. Researcher incentives and rewards

ITP	Research award	Sabbatical	Cash / grant for publication	Research social events	Progression	Award / gift for post-grad	Professorial appointments	Committee membership & invitations
A	✔					✔	✔	
B		✔		✔				
C	✔		✔					
D								
E	✔					✔		✔
F	✔	✔		✔				
G	✔	✔	✔		✔		✔	✔
H								
I								
J	✔		✔		✔			
K								

2. Staff interview data – a very brief overview

Research culture needs to start from the top

As foreshadowed in the brief literature review above, several individual interviewees referred to the importance of institutional governance and management leading by example, rather than just rhetoric, in establishing an institutional culture in which research was truly valued (e.g. Wilderom et al., 2000). Representative comments included:

As an institution, we don't support research that well. It's not a priority.
Our primary purpose here is around teaching.
If we're told about research it's because it was mandated by a manager, and they're just doing it to tick a box.
It gets brought up when monitors visit. And annually when we're sent a form to fill in.

When prompted about what effective support structures would look like, every participant referred either explicitly, or tangentially, to the challenges of available time, and managing workload. While employment contracts and timetables might appear to have an allocation for research, the reality for many academics is that large class sizes, staff shortages, high demand students (second-language speakers), organisational restructures, belt-tightening budgets, the need for teaching portfolios for progression, and submissions for professional/industry registration, all erode the time available. As one frustrated researcher told us:

Research is something that happens at night-time. You know when the kids are asleep.

At a faculty level, participants valued interest and encouragement from line managers as a key enabler. Examples here included support for complementary skills training necessary to undertake field research, such as use of drones for data collection, and passing on opportunities and invitations received from external organisations seeking research partners. Two participants referred to the value of monthly team phone-conference meetings to share research ideas, progress and outcomes. Others would like more:

I think that they should be creating a research focus meeting, at least once a month…the question should be asked at any team meeting: "how's your research going tell us about that". Don't just tell us about teaching and about, you know, the day-to-day grind, tell

> *us about something that's exciting, like research or consultancy work that you're doing, how you're providing leadership in the community.*

One participant spoke of the value of trust and the freedom this created as a key element in her own research productivity:

> *My [immediate leader's] not active...but they are supportive. Basically they sign off pretty much whatever my application is, and whatever my estimation of the time needed. There's a strong trust there, as long as we meet our teaching requirements, we can manage our available time outside this as we see fit.*

A huge range in research motivation, philosophy, enablers and impediments

Since we deliberately sought the perspectives of novice, emerging and experienced researchers (identified through our 'traffic light' system described in the methodology), it is unsurprising that an array of contributions offered at times, a number of contradictions and incongruities. Most study participants were confident describing a personal research philosophy, e.g.:

> *Research should be liberatory* (sic) *and emancipatory and critically engaging for all involved.*

> *Research is to explore the unknown. I am telling people a story that might not fit with what is commonly known. It's a freedom, you can explore the way you want and the path you want to choose.*

Yet for others, it was a fearful place:

> *Really daunting…how big it feels, and we bandy the word around but so often it's hard to actually get a tangible note of what it means and how you can work within the research field. I never took advantage of the writers' retreats but I can now see that would probably be quite beneficial… I didn't even know what they did so I never went.*

An almost universal finding was an enthusiasm for collaborative team projects over individual research. Typical advantages cited included access to different sets of expertise, a shared workload, the opportunity to balance time commitment, increased productivity and the need to be accountable in meeting deadlines. However, two comments related to a concern about loss of control, and quality and input variability proved the exception to this norm.

The issue of research workload allocations emerged frequently as both an enabling and impeding factor, with clear agreement from researchers of all levels that this needed to be ring-fenced by leaders, and respected by management. Many of the strategies participants suggested to increase their own research productivity echoed those offered by other ITPs, if not our own, showing how small a higher education community really is: academics talk to one another! There were calls for more workshops and staff training, more and team-targeted off-campus writing retreats, and resourcing for research writers and administrative research assistants. Nearly half the participants would like a mentor to guide, bounce ideas with, co-author and advocate for them. Three felt payments for publishing would be a strong motivation; seven of the 22 interviewees wanted more opportunities to travel and attend conferences and fora, to present their own work, and to grow professional networks.

CONCLUSION

The focus of this study was the kinds of incentives that might increase the research outputs of our own academic staff, and the strategies which others in our ITP sector have adopted. The review of the literature shows that this is not a new challenge for higher education, nor is it isolated to New Zealand. By examining the three characteristics of research productivity, namely institutional, leadership, and researcher characteristics (Bland et al., 2005), we have endeavoured to provide a snapshot of both the theory and some practices related to the topic. Of course, it's easy to see the gaps and shortcomings, but what would a vibrant, research-active and research-enthused organisational culture look like? Looking optimistically to the future, we leave the final word to the vision of one of our participants:

> *We need to invigorate or reinvigorate our senior researchers as well as our junior researchers, and try and get the perfect research cycle going with staff interacting with community and industry, making some valuable gains both personally and for the institution, and then bringing all that back into the classroom to reinvigorate and support their students. So that's the perfect circle, I reckon. If we could get that going, and really believed in the value of research, then I think we could make some ground.*

REFERENCES

Arbitris, A., & McCook, A. (2017). *Cash bonuses for peer-reviewed papers go global*. Retrieved from https://www.sciencemag.org/news/2017/08/

Alqahtani, A.S. (2019). Examining the relationship between academic leaders' communication skills and their social media usage. *International Journal of Business Tourism and Applied Sciences.* 7(2). 75-89.

Arcus, K. (2017). Building faculty research capability: A strategic approach. *Making Connections – Whanaungatanga: Proceedings of the 2016 National Tertiary Learning and Teaching Conference.* Rotorua, Toi Ohomai Institute of Technology.

Bansal, S. & Pankaj Kumar, P. (2018). Challenges and success mantras by unorganized retailers to cope with organized retailers in India. *International Journal of Business Tourism and Applied Sciences*. 6(1). 67-75.

Begley, C., McCarron, M., Huntley-Moore, S., Condell, S. & Higgins, A. (2014). Successful research capacity building in nursing and midwifery in Ireland: An exemplar. *Nurse Education Today, 34,* 754-760. doi:dx.doi.org/10.1016/j.nedt.2013.09.016

Bland, C., Finstad, D., Risbey, K., & Staples, J. (2005). A theoretical, practical, predictive model of faculty and department research productivity, *Academic Medicine*, *80*(3), 225–237.

Brotheridge, C. (2006). *A call for autonomy: Protecting Léon Foucault's progeny from Michel Foucault's panopticon*.

Chandra, S. (2017). *A pay-per-publication system to spur research*. Retrieved from https://www.livemint.com/Opinion/KmJJNVCt5duStAobLUwkeK/

Dundar, H., & Lewis, D. (1988). Determinants of research productivity in higher education. *Research in Higher Education*, *39*(6), 607–631.

Edgar, F., & Geare, A. (2013). Factors influencing university research performance. *Studies in Higher Education*, *38*(5), 774–792.

Evans, L. (2007). Developing research cultures and researchers in higher education: The role of leadership. In *Paper presented at the annual conference of the Society for Research into Higher Education (SRHE)*. Retrieved from http://www.education.leeds.ac.uk/assets/files/staff/papers/SRHE-paper-submission-

0132.doc

Fussy, D. (2017). *The development of a research culture in Tanzania's higher education system*. Unversity of Glasgow.

Grant, B. (2008). *Academic writing retreats: a facilitator's guide*. Milperra, N.S.W. : Higher Education Research and Development Society of Australasia.

Ito, J. K., & Brotheridge, C. M. (2007). Predicting individual research productivity: More than a question of time. *Canadian Journal of Higher Education*, *37*(1), 1–25.

Jung, J. (2012). Faculty research productivity in Hong Kong across academic discipline. *Higher Education Studies*, *2*(4), 1–13.

Manning, L., & Barrette, J. (2005). Research performance management in academe. *Canadian Journal of Administrative Sciences*, *22*(4), 273–287.

Parse, R. (2007). Building research culture. *Nursing Science Quarterly*, *20*(3), 197–197.

Shin, J. C., & Cummings, W. K. (2010). Multilevel analysis of academic publishing across disciplines: Research preference, collaboration, and time on research. *Scientometrics*, *85*(2), 582–594. https://doi.org/10.1007/s11192-010-0236-2

Smeby, J. C., & Try, S. (2005). Departmental contexts and faculty research activity in Norway. *Research in Higher Education*, *46*(6), 593–619. https://doi.org/10.1007/s11162-004-4136-2

Swaggerty, E., Atkinson, T., Faulconer, J., & Griffith, R. (2011). *Academic writing retreat: A time for rejuvenated and focused writing*. Stillwater, OK.: New Forums Press, Inc.

TEC. (2019). *Improving research quality: The interim results of the PBRF 2018 quality evaluation*. Retrieved from https://www.tec.govt.nz/assets/

Theoharakis, V., & Hirst, A. (2002). Perceptual differences of marketing journals: A worldwide perspective. *Marketing Letters*, *13*(4), 389–402.

Valmohammadi, C. & Jarihi, S. (2019). The impact of transformational leadership on people empowerment: the mediating role of organization culture. *International Journal of Business Tourism and Applied Sciences.* 7(2). 55-74.

White, C. S., James, K., Burke, L. A., & Allen, R. S. (2012). What makes a "research star"? Factors influencing the research productivity of business faculty. *International Journal of Productivity and Performance Management*, *61*(6), 584–602. https://doi.org/10.1108/17410401211249175

Wilderom, C., Glunk, U., & Maslowski, R. (2000). Organizational culture from a network perspective. In N. Ashkanasy, C. Wilderom, & M. Peterson (Eds.), *Handbook of organizational culture and climate*. London: Sage.

Zhou, Y., & Volkwein, J. F. (2004). Examining the influences on faculty departure intentions: A comparison of tenured versus nontenured faculty at research universities using NSOPF-99. *Research in Higher Education*, *45*(2), 139–176. https://doi.org/10.1023/B:RIHE.0000015693.38603.4c