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Seeking Impact and Visibility

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Seeking Impact and Visibility: Scholarly Communication in Southern Africa.

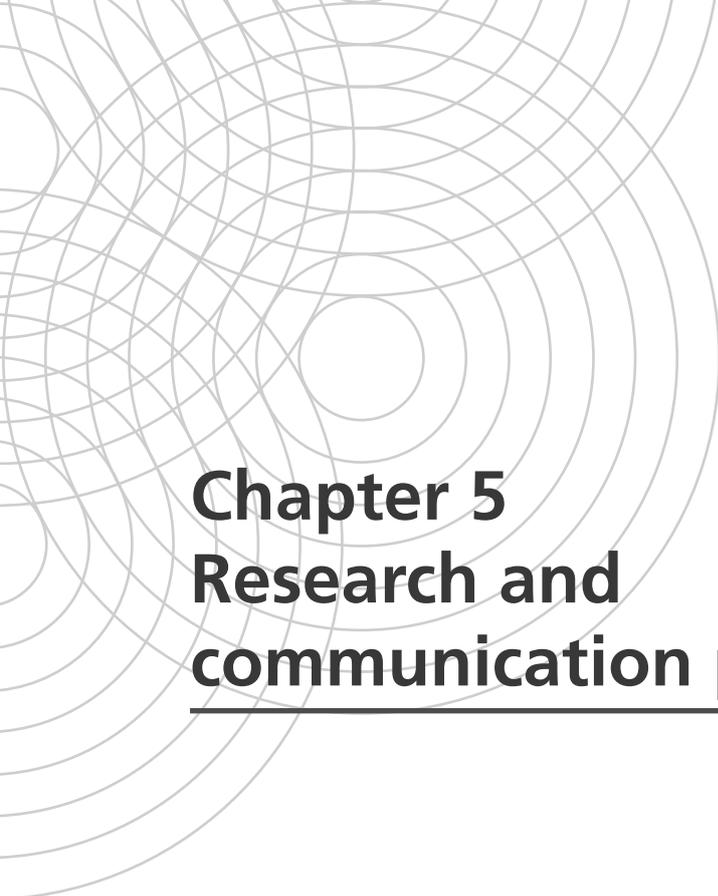
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Chapter 5

Research and communication practices

SCAP's research examines the scholarly communication ecosystem at four Southern African universities in order to address the primary research question: What is the current state of scholarly communication in Southern African universities?

To answer this question, we focused our research on the scholarly communication ecosystems of four faculties at four universities, namely the:

- Faculty of Humanities (FoH) at the University of Botswana (UB)
- Faculty of Commerce (Comm) at the University of Cape Town (UCT)
- Faculty of Science (FoS) at the University of Mauritius (UoM)
- Faculty of Humanities and Social Sciences (FHSS) at the University of Namibia (UNAM)

From an ecosystems perspective, faculties are useful units of analysis for understanding scholarly communication because they reveal the values, norms and practices specific to the relevant discipline while at the same time offering crucial insights into the values, norms and practices of the entire institution. A departmental focus would be too narrow (since most of its practices are structured by quite insular field norms) and an institutional focus would be too broad (since it is shaped by the multiple disciplinary norms within the faculties), but a faculty focus provides the necessary access to both micro and macro fields of operation.

The key virtue of the ecosystem approach for understanding scholarly communication is that it is based on the principle of interconnectivity (Benkler 2006; Cronin 2003; Friedlander 2008; Maron & Smith 2008). Every feature of the ecosystem is connected to every other in a web of mutual responsiveness, a fact that has crucial implications for the analysis of that system, and for any proposed intervention into it. The SCAP team was interested in both of these possibilities.

This chapter compares these four Southern African scholarly communication ecosystems. It does so by assessing the faculties' profiles, temporal obligations, values, research production and dissemination activities, and rewards and incentives. Most of the chapter is concerned with detailing the elements of these ecosystems and how scholars act within them, providing “thick descriptions” of these particular environments. The rich detail that we provide – full of both numerical and textual evidence – allows for important analytical opportunities and lays the foundations for our analyses in the later chapters.

Faculty profiles

UB FoH is comprised of 108 academic staff members, of whom 65 are male and 43 are female (a 60:40 ratio). About 70% hold PhDs while many of the remaining staff are in the process of completing their doctorates while teaching. The majority of these completed their graduate studies abroad at universities in the UK, USA, Canada, Australia and South Africa. The faculty boasts a diverse cohort of members, hailing not only from Botswana, but India, Kenya, Zambia and Nigeria. As Figure 5.1 shows, the FoH academic staff is relatively mature, in that almost all of them are over the age of 40.

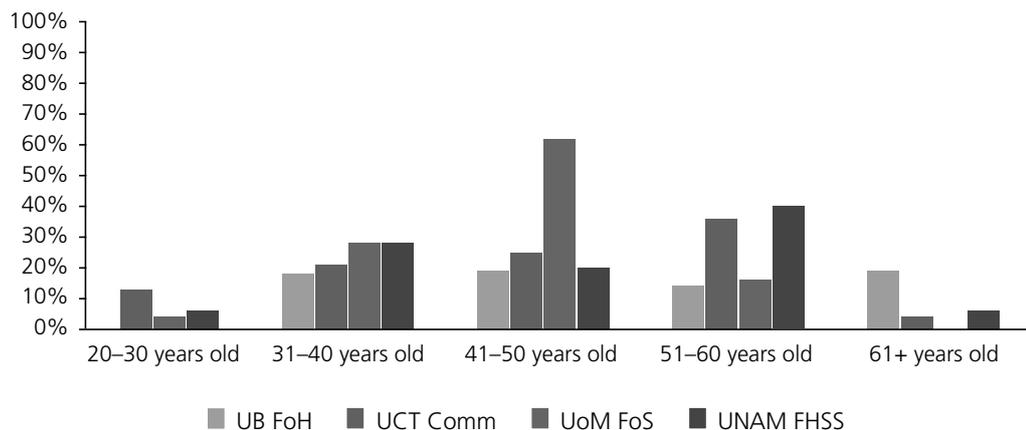


Figure 5.1 Faculty age profile

UCT Comm is comprised of 125 permanent academics, of whom 82 are male and 43 are female (a 2:1 ratio). There are also 56 non-permanent academics (contract staff), of whom 38 are male and 18 are female (also a 2:1 ratio). While many completed their graduate studies in South Africa, a significant number also did their PhDs abroad at universities in the UK, USA, Canada, France, Germany and Italy. The profile of our 28 survey respondents suggests that the faculty staff is comprised of a good mix of ages, as Figure 5.1 shows. Because of this, the faculty should enjoy some demographic stability with the inclusion of “new blood” in the system, but it will have to deal with the impending retirement in the next 10–15 years of a substantial number of mature scholars.

UoM FoS is comprised of 55 permanent academics, of whom 33 are male and 22 are female (a 3:2 ratio). Of them, 47 (85%) hold PhDs and eight hold MScs or MPhils. While a number completed their graduate studies in Mauritius, a significant number also

did their PhDs abroad at universities in France, the UK, Canada, Hong Kong, Australia and India. FoS academics are mostly middle-aged, which suggests that the faculty will enjoy a relatively stable cohort in their “peak years” for a long time.

UNAM FHSS is comprised of 77 academics, of whom 32 (42%) hold PhDs and 36 (47%) hold masters degrees. While a number completed their graduate studies in Namibia, a significant number also did their PhDs abroad at universities in the UK, USA, Netherlands, Russia and South Africa. The faculty is “mature”, with many academics in the peak of their careers. However, with more than half of the faculty under the age of 50, it should provide a stable base of scholars in the years to come.

Positions

The four faculties show varying positional profiles that will allow us to understand some of their networking and collaboration choices discussed below. But they also give an idea of how history, size, wealth and mission contribute to staffing structures.

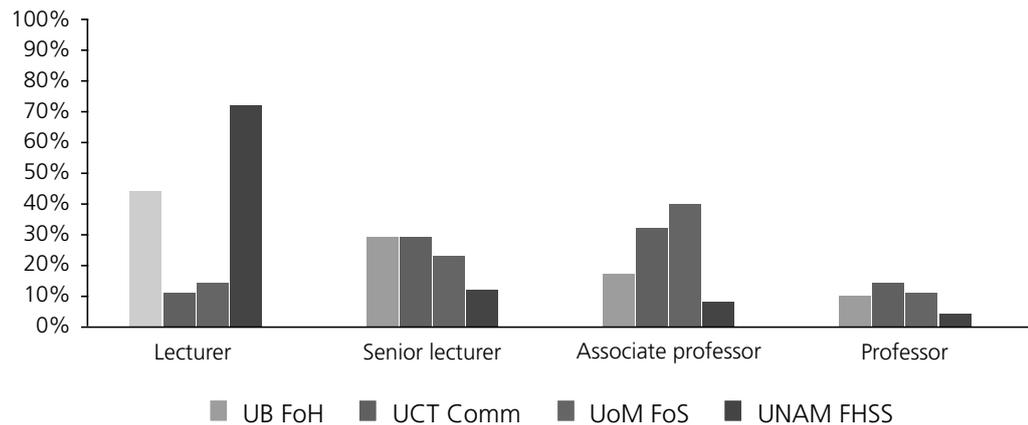


Figure 5.2 Faculty positions/ranks profile

The UB FoH position profile reveals a traditional pyramid structure with a large base of lecturers (44%), a solid layer of senior lecturers (29%), a tapered tier of associate professors (17%) and an apex of full professors (10%). This spread of positions looks healthy and stable for the faculty’s development into a research-intensive unit, especially where promotion remains possible for the most productive scholars.

An overwhelming majority of the UCT Comm staff (75%) are either senior lecturers or above, suggesting that the university sees itself as a research, as opposed to teaching, university, since so few remain in the lecturer category.

Over 70% of the UNAM FHSS members are assistant lecturers or lecturers, with only 24% holding the position of senior lecturers or above. This conforms to a pyramid shape of positional hierarchy in which a large base fills “junior” positions (lecturers and assistant lecturers) and supports a gradually tapering cohort of “senior” positions (senior lecturer, associate professor, professor). But it is the sheer size of the lower positional strata that

is noteworthy here: because of the university's strong teaching heritage and its recent merger with the country's former four teacher training colleges, there is a substantial base of teaching-focused staff in the FHSS.

Of the 55 faculty members in the UoM FoS, a full 75% were senior lecturers or above. The largest group were associate professors who comprised 40% of the total. This defies the typical pyramid shape of positional hierarchy in many institutions where the top positions comprise a relatively small proportion of the total. However, unlike the UCT faculty, this is not due to FoS being an intensive research faculty, but rather the result of a history of early promotions when the faculty was established and teaching was a more important criteria for advancement than publication. This has created challenges for younger scholars seeking promotion as the upper ranks are already oversubscribed.

Salary scales

Salary scales at these universities reveal a lot about the amount of funding available for higher education within each national government's budget, as well as how serious the government (and the university) is, or is not, about enticing "international" scholars to work there.

Table 5.1 University salary scales (per annum)¹¹⁴

| | UB | UCT | UoM | UNAM |
|--------------------|---|---------------------------|--------------------|--|
| Professor | P376,000–P455,000 (USD45,600–55,200) | ZAR771,584 (USD83,425) | (USD38,896) | N\$360,816–483,216 (USD36,446–48,810) |
| Assoc. prof. | P357,000–P410,000 (USD43,300–49,700) | ZAR614,221 (USD66,330) | (USD24,856–32,630) | N\$309,456–423,012 (USD31,258–42,728) |
| Sr lecturer | P295,000–P375,000 (USD35,800–45,500) | ZAR526,873 (USD57,000) | (USD18,447–27,612) | N\$268,032–368,688 (USD27,073–37,241) |
| Lecturer | P196,000–P337,000 (USD23,800–40,800) | ZAR427,311 (USD46,140) | (USD11,609–22,841) | N\$224,088–303,936 (USD22,635–30,700) |
| Assistant lecturer | – | ZAR384,581 (USD41,540) | – | N\$193,776–261,756 (USD19,573–26,440) |
| SDF/JRF | P112,000–P178,000 (USD13,600–21,600) | ZAR384,581 (USD41,540) | – | N\$164,076–219,876 (USD16,573–22,210) |

At UB, FoH members receive salaries calculated according to position and years of service. The salary scales for the permanent staff (as seen in Table 5.1) appear to serve two purposes. The first is to offer an incentive for financial gain, connecting any raise in position with a raise in salary. The second is to recognise and reward the large cohort of lecturers, many of whom may never move up the ladder. In that category alone, the difference between the lowest- and highest-rung lecturer is P141,000 (USD17,000), divided by 16 intermediate salary grades based on years of service. This means that many staff will spend a long portion of their careers in this position; thus there are many graduated salary levels within this band to recognise their contribution to this category.

114 Exchange rates used in this study: USD1 = P8.25; USD1 = ZAR9.25; USD 1 = MUR31; USD 1 = N\$9.90.

UCT Comm members receive the most competitive salaries of the four universities, in part because South African universities offer some of the best salaries in the Commonwealth when measured according to purchasing power parity (PPP).¹¹⁵ This suggests that there has been a gradual convergence of salary scales between all of the well-resourced Commonwealth countries due to international competition to attract staff. But the high average salaries in South Africa mask the great diversity of actual salaries paid, as each university operates autonomously in deciding how much to pay its staff.¹¹⁶ At UCT, Comm faculty are generally pleased with their level of remuneration.

UNAM academic staff are paid relatively competitive salaries, given the teaching-focused nature of the institution. These salaries are also padded by a number of benefits such as a pension, housing allowance, transport allowance, social security, medical aid and a bonus or 13th cheque.

UoM academic staff, on the other hand, are paid quite low salaries, a fact that they noted to us repeatedly. While these salaries are padded by a number of benefits – such as car loan tax breaks, private health care subsidies and paid vacations – their cash value remains far below that of the other three universities. Of course, the cost of living is different in these countries, reducing the direct comparability of these numbers, but they do indicate how “local” or “global” their salary standards are. At UCT, where the administration wants to be able to attract international scholars, the salary scale is set in line with global standards. At UoM, however, which appears happy to employ local scholars only, the salary scale is suited to a relatively immobile academic cohort, one that comes from and will remain in Mauritius.¹¹⁷ Given the government’s desire for the nation to become a regional innovation hub – characterised by high levels of connectivity and collaboration – UoM’s low salaries will likely dissuade internationally mobile scholars from joining its ranks.

Time spent on teaching, research and administration

Aside from UCT Comm scholars, the majority of scholars at the other three university faculties said that they spend the majority of their time engaged in teaching-related activities (timetabling, prepping, lecturing, marking, advising, invigilating, etc.). The median indicator from their survey responses is that these activities comprise 55–75% of their time, as Figure 5.3 shows. This is substantial, even if it camouflages the diversity of the self-reported times, as staff members’ answers were highly inflected by their positions and interests. But even with this variation, it is clear that teaching remains the major priority at UB, UoM and UNAM, even as they try to become more research-oriented universities. That being said, UCT Comm survey respondents show that they also spend a significant time on teaching activities: close to 50%.

115 Association of Commonwealth Universities (2011), Executive summary of the ACU Academic Staff Salary Survey (2009–2010), available at: www.acu.ac.uk/focus-areas/staff-salary-executive-summary-2009-10

116 Geoff Maslen (19 December 2010) Australia and South Africa pay top salaries, *University World News*, available at www.universityworldnews.com/article.php?story=20101217224942899

117 According to Kotecha, Wilson-Strydom & Fongwa (2012: 53), in 2009/2010, the UoM and University of Technology Mauritius (UTM) academic staff complements collectively comprised 308 Mauritian nationals and only eight non-nationals (none of which were from SADC).

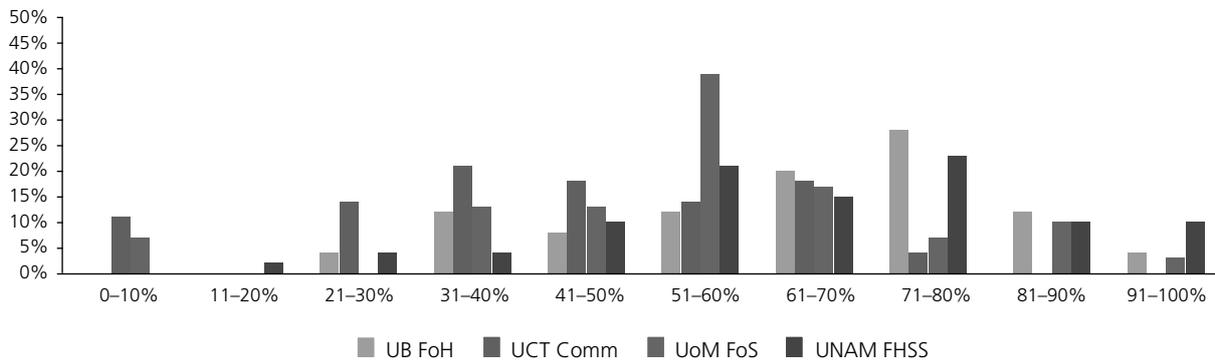


Figure 5.3 Self-reported proportion of time spent on teaching-related activities

The median indicator for the amount of time scholars engage in research-related activities (reading secondary literature, interviewing subjects, carrying out lab experiments, writing articles, etc.) for UB FoH members is 21–30%; for UCT Comm academics it is 41–50%; for UoM FoS members, it is 15–20%; and for UNAM FHSS scholars, it is 15–20%. For all groups, this is lower than they desire, and for all scholars besides those at UCT, it is too low to sustain a robust research culture. The academics at all of these institutions suggest that time is one of the primary challenges in building such a research culture and that, unfortunately, that lack of time is largely due to teaching-related commitments.

Service and administration duties fill the rest of the time that scholars spend in their work life. Most academics complained about this element of their work, saying that it took too much of their time. This was especially true in Mauritius where bureaucratic requirements and capacity deficits placed a large burden on scholars to see to administrative issues that would normally be handled by departmental secretaries (as is the case in the other three universities). However, at UCT, one of the redeeming elements of this administrative work was that a lot of it concerned dealing with research and grant applications and management (rather than just committee work), which at least augmented their research efforts in some way.

Values

To understand scholarly communication practices at the four universities and faculties better, we started by trying to grasp academics’ motivations for conducting research and publishing their findings. Essentially, we wanted to know what values underpinned their research and communication activities.¹¹⁸

118 According to Schwartz, all values are defined by the following six qualities: (1) values are beliefs linked to emotion; (2) values are desirable goals motivating action; (3) values transcend specific actions or situations; (4) values serve as standards or criteria; (5) values are ordered by importance relative to one another; (6) The relative importance of multiple values guides action (2012: 3–4). As trans-situational abstract goals that form part of a hierarchically ordered system, values are distinguished from “concepts like norms and attitudes, which usually refer to specific actions, objects, or situations” (Schwartz 2007: 1), and need not be hierarchically ordered. Examples of such values include power, achievement, hedonism, stimulation, self-direction, universalism, benevolence, tradition, conformity and security (Schwartz 1994: 22). In this study, the term ‘values’ will be used in a slightly more open way, beyond universal abstractions such as benevolence and security, though such deeper values will often underpin the more concrete value expressions noted here in the university context.

This is a foundational question, one that is usually taken for granted in the literature on scholarly communication. Other studies, which usually focus on scholars from the global North, tend to assess academics' attitudes towards research-related issues such as peer review (Harley *et al.* 2007), dissemination outlets (Harley *et al.* 2010; King *et al.* 2006; RIN 2009, 2010; Rowlands & Nicholas 2005), journal quality (Regazzi & Aytac 2008), digital and Web 2.0 technologies (RIN 2010; Rowlands, Nicholas & Huntingdon 2004; Rowlands & Nicholas 2006; Schauder 1993), open access publishing (RIN 2009) and academic identity (Archer 2008).

These valuable studies shed light on scholars' attitudes to elements of their research and communication practices, but they do not get at the more basic question of why the scholars conduct research in the first place. In Africa, where most universities have only recently incorporated a research mission into what have long been teaching-oriented institutions, the question of why scholars conduct research is a pertinent one, and the answers cannot be assumed. Moreover, the purpose of university research on the continent is shaped by more than just the desires of the scholars themselves, but by those of the national government, the institutions' managers, overseas funders, local NGOs, students and community stakeholders. Thus all of these diverse interest groups impact how scholars view the research enterprise.

Based on the numerous interviews, surveys, day-recalls and conversations we carried out at the four universities (as discussed in Chapter 2), SCAP found that the main reasons why these Southern African scholars conducted research were (in no particular order) to:

- achieve satisfaction by acting in accord with personal desires
- aid national/community development
- comply with the institution's mandate to conduct research
- conform to peer expectations by contributing to the research ethos at the university
- earn points towards promotion
- enhance their teaching
- enjoy contributing
- generate new knowledge
- live up to the terms of their scholarly identity
- observe the dictates of their job description
- obtain indirect financial rewards (travel and conference funds)

These motivations would be familiar to scholars at most universities, though the importance accorded to each would be influenced by the contextual factors shaping the institution, such as its history, infrastructure, wealth and mission. Table 5.2 shows how scholars in the four faculties rank those different values (in aggregate) for why they conduct and disseminate research.

While this comparative listing of values (expressed as aggregate preferences, not any particular individual's values) offers a useful snapshot of the kinds of motivations that shape research production in these four faculties, their significance and uniqueness becomes clearer when we analyse and compare them in greater detail.

Table 5.2 Comparison of values: Why scholars conduct and disseminate research (ranked responses)

| | UB FoH | UCT Comm | UoM FoS | UNAM FHSS |
|----|--|---|--|--|
| 1 | Comply with institutional mandate to conduct research | Conform to peer expectations by contributing to university research ethos | Achieve satisfaction by acting in accordance with personal desires | Generate new knowledge [and] enhance teaching |
| 2 | Earn points for promotion | Earn points for promotion | Earn points for promotion | – |
| 3 | Enhance their teaching | Generate new knowledge | Generate new knowledge | Earn points for promotion |
| 4 | Achieve satisfaction by acting in accordance with personal desires | Achieve satisfaction by acting in accordance with personal desires | Act in accordance with their sense of academic identity | Achieve satisfaction by fulfilling personal desires [and] aid national development |
| 5 | Observe the dictates of their job descriptions | Live up to the terms of their scholarly identity | Feel joy through making a contribution [and] obtain indirect financial rewards | – |
| 6 | Generate new knowledge | Enjoy contributing | – | Feel joy through making a contribution |
| 7 | Aid national/ community development | Comply with institutional mandate | Aid national/community development [and] enhance teaching | Comply with institutional mandate |
| 8 | Obtain peer recognition | Obtain indirect financial rewards (travel and conference funds) | – | Obtain indirect financial rewards |
| 9 | Obtain indirect financial rewards | Aid national/community development | Observe the dictates of their job descriptions | Observe the dictates of their job descriptions |
| 10 | – | Enhance their teaching | – | – |
| 11 | – | Observe the dictates of their job descriptions | – | – |

In analysing scholarly research values, it is useful to assess the degree to which they are based on intrinsic or extrinsic motivations. A significant psychological literature explicates the virtue of this approach (Kreps 1997; Ryan & Deci 2000; Teo, Lim & Lai 1999; Vallerand *et al.* 1992) and here we will use it to get a nuanced understanding of not only the various scholars' values, but also the institutional cultures that shape them and the research cultures that are produced by them.

To aid our analysis, in Figure 5.4 we have plotted UB FoH scholars' values according to their level of importance for motivating research (*x*-axis) and the degree to which these values arise from intrinsic or extrinsic motivations (*y*-axis). We have then further divided the intrinsic-extrinsic continuum into the three loci of motivation that are most relevant in the university context: the managerial (extrinsic), the collegial/social (mixed extrinsic and intrinsic) and the individual (intrinsic). This trifurcation offers a more precise delineation of scholars' motivation sources at UB FoH.

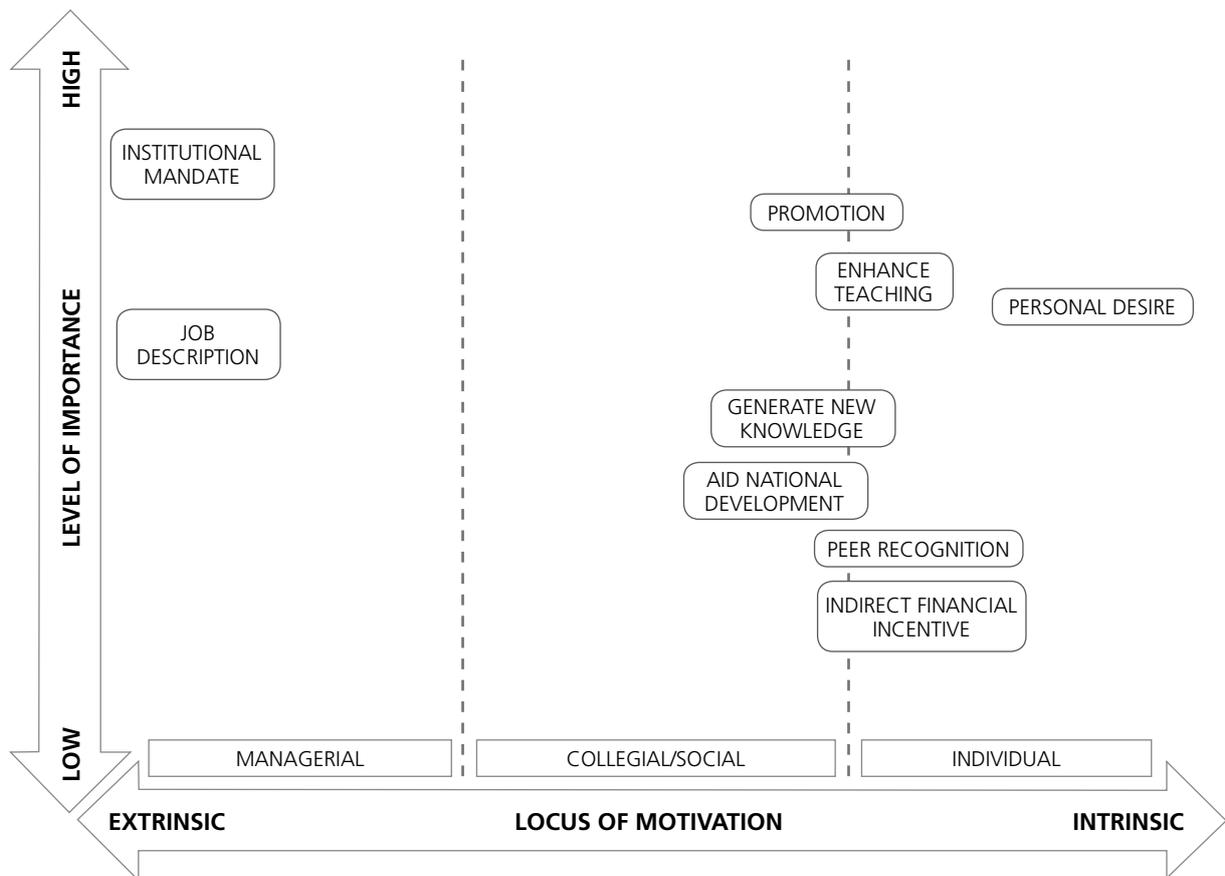


Figure 5.4 Values motivating UB FoH scholars to conduct and disseminate research (aggregated/ranked)

On one end of the continuum, purely extrinsic motivations emanate from the university management. These are the values of the administration that are communicated through formal mechanisms such as institutional mandates (policies) and job descriptions (contracts). When scholars respond to these managerial incentives, their responses can be described as acts of *compliance*, in that their behaviour aligns with external requirements but without any sense of personal buy-in.

On the other end of the continuum, purely intrinsic motivations emanate from within the individual. They express a scholar's idiosyncratic desires, revealed internally as feelings of joy, integrity, virtue and growth. Intrinsically motivated scholars enjoy the research process as an end in itself. When scholars respond to this interior motivation, their responses can be described as acts of *congruence*, in that their behaviour aligns with their own personally held values and desires.

In the middle of this continuum is a space where extrinsic and intrinsic motivations meet; where, in the university context, external collegial and social demands structure internal personal desires. This occurs because the individual scholar identifies with and feels a member of the collegial or social group defining the value. When scholars respond to this motivation, their responses can be described as acts of *conformity*, in that their behaviour aligns internal desires with externally structured values.

Figure 5.4 shows that while UB FoH scholars are motivated to conduct research by both intrinsic and extrinsic factors, the institutional mandate has the greatest overall importance for spurring research production in the faculty.

This motivational structure makes sense for a couple of reasons. First, UB has historically been a teaching-oriented university, thus many of the faculty members (of whom the majority are over the age of 50 in the FoH) developed their sense of academic identity and purpose according to a teaching mission. With the administration's desire for UB to become a research university only formally spelled out in 2008, this new institutional mandate has been a crucial mechanism for encouraging scholars to incorporate research into their work.

Second, as will be discussed later, for a variety of historical, cultural and practical reasons, the management plays an overwhelming role in defining UB's institutional culture. Scholars are comparatively sensitive to the directives given by the administration because they emanate from a source of substantial power. This stands in contrast to the situation at UCT, for instance, where collegial norms (not the administration) comprise the dominant force motivating scholarly research, and at UoM, where scholarly autonomy requires high levels of personal desire (intrinsic motivation) to spur research production. While the institutional mandate is not the only reason why UB FoH scholars conduct research, the fact that it is the top reason reveals how critical the relationship is between the academics and the management, a fact that comes through in virtually every aspect of our discussion on the FoH scholarly communication ecosystem.

At UCT, Commerce scholars are also motivated to conduct research by both intrinsic and extrinsic factors, but the research-oriented ethos of the university has the greatest overall impact, as Figure 5.5 shows.

This institutional ethos is constituted through everyday forms of peer expectation and evaluation between colleagues, often expressed through discursive engagements – such as casual conversation, formal recognition and critical feedback – which put subtle, persistent and yet unmistakable pressure on scholars to evaluate themselves through their research activities. As one manager put it, this is the “currency” that colleagues exchange with each other.

Most of the UCT managers we engaged, who are all accomplished research scholars themselves, recognise this powerful form of peer regulation, both the “carrot” and “stick” elements of it. It is something that the administration supports, though it does not take credit for creating it, nor of maintaining it. It is a social feature of the university. As one manager stated, “there's something about the ethos that people are expected to do research, which is to say that ... one isn't a proper academic unless one is publishing ... Here it's peer driven as much as management driven.”

This ethos also serves to attract other scholars who want to be in such an environment, which further reinforces this dynamic. As another manager said, “UCT has a whole long history of doing research and has a very strong research culture, so it attracts academics

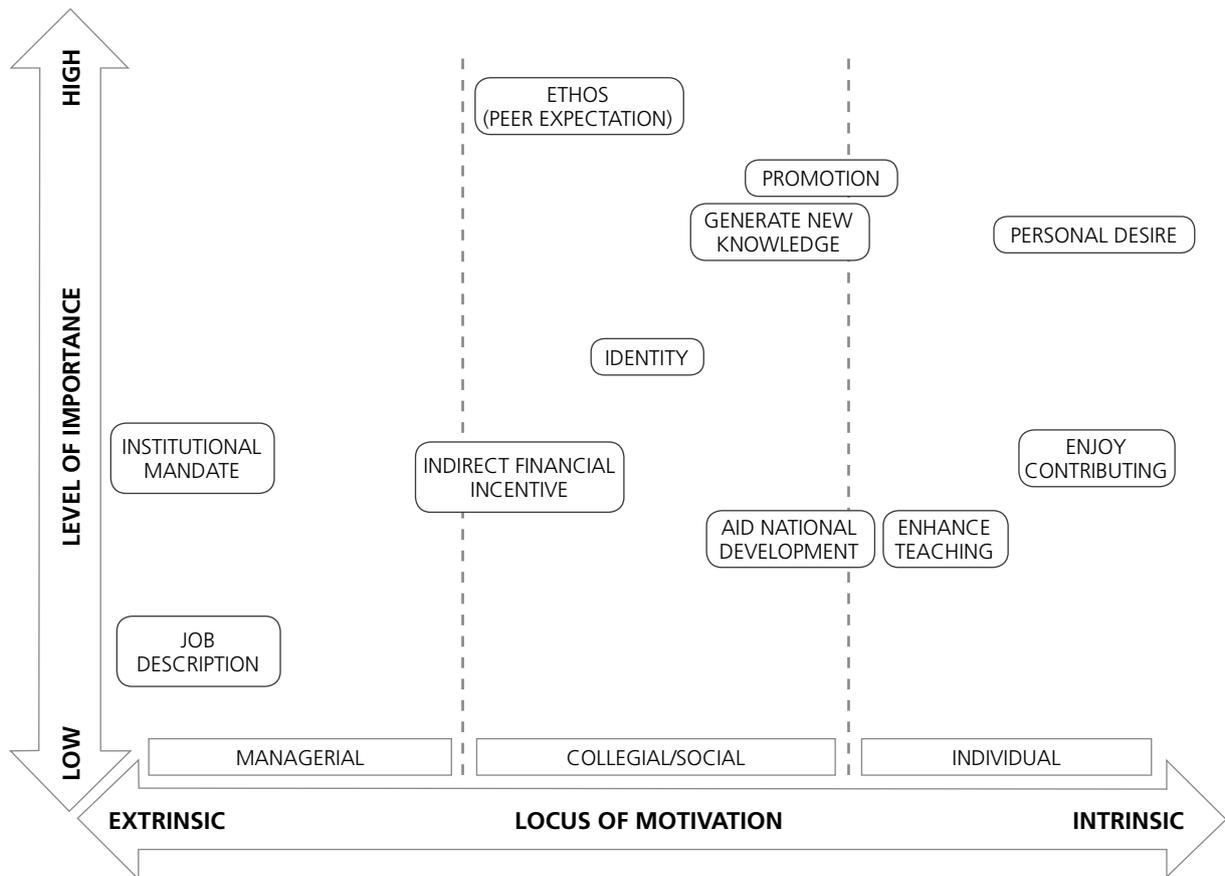


Figure 5.5 Values motivating UCT Comm scholars to conduct and disseminate research (aggregated/ranked)

who are keen on research. And once you're really keen on research, you don't need an extra incentive ... It's a research intensive university and encourages people to be here who want to do research and it's got a high standard of output."

This institutional ethos exhibits features of both extrinsic and intrinsic motivation. On one hand, it is extrinsic in that it derives from a broader collegial context which influences the individuals within it. On the other hand, because scholars identify with and claim membership in that collegial society, the values that characterise the group are also reflections of their own individual values. This ethos is shaped by a dialogical, mutually reinforcing process that helps to clarify what values are important for the whole group, and concomitantly, for the individual scholar. Academics do not experience this peer pressure to do research as coming from outside alone, but from within themselves, as they have bought in completely to the collegial norm, helping to maintain it themselves. They have internalised this ethic.

UCT's research-oriented ethos forms an essential part of its broader "research culture" in which every stratum of the institution recognises that the university's core function is to create high-quality published research (not just employable graduates). All of SCAP's interviews with UCT's scholars, librarians and managers revealed this shared outlook.

UoM FoS scholars are motivated to conduct research by both intrinsic and extrinsic factors, but as Figure 5.6 shows, personal desire has the greatest overall importance for spurring research production.

This motivational structure makes sense because, as a teaching-oriented university where the production of research outputs remains secondary to the fulfilment of the teaching mission, the motivation for conducting research often has to come from the individual scholars themselves. If they want to do it, they will be rewarded, but if they do not, they will not be penalised. Thus the choice is theirs to make. Moreover, UoM’s highly centralised administrative structure is also relatively weak, permitting a good deal of autonomy to scholars who are allowed to choose whether they want to focus their careers on teaching or research.

However, as we will discuss later, it is difficult to substantiate and sustain a dynamic research culture based on a highly intrinsic motivation system. Personal desire is an important part of any strong research culture, but it is too prone to fluctuations to act as the cornerstone of a deep and abiding research culture. It needs to be balanced by other more extrinsic motivators as well (which UoM currently lacks).

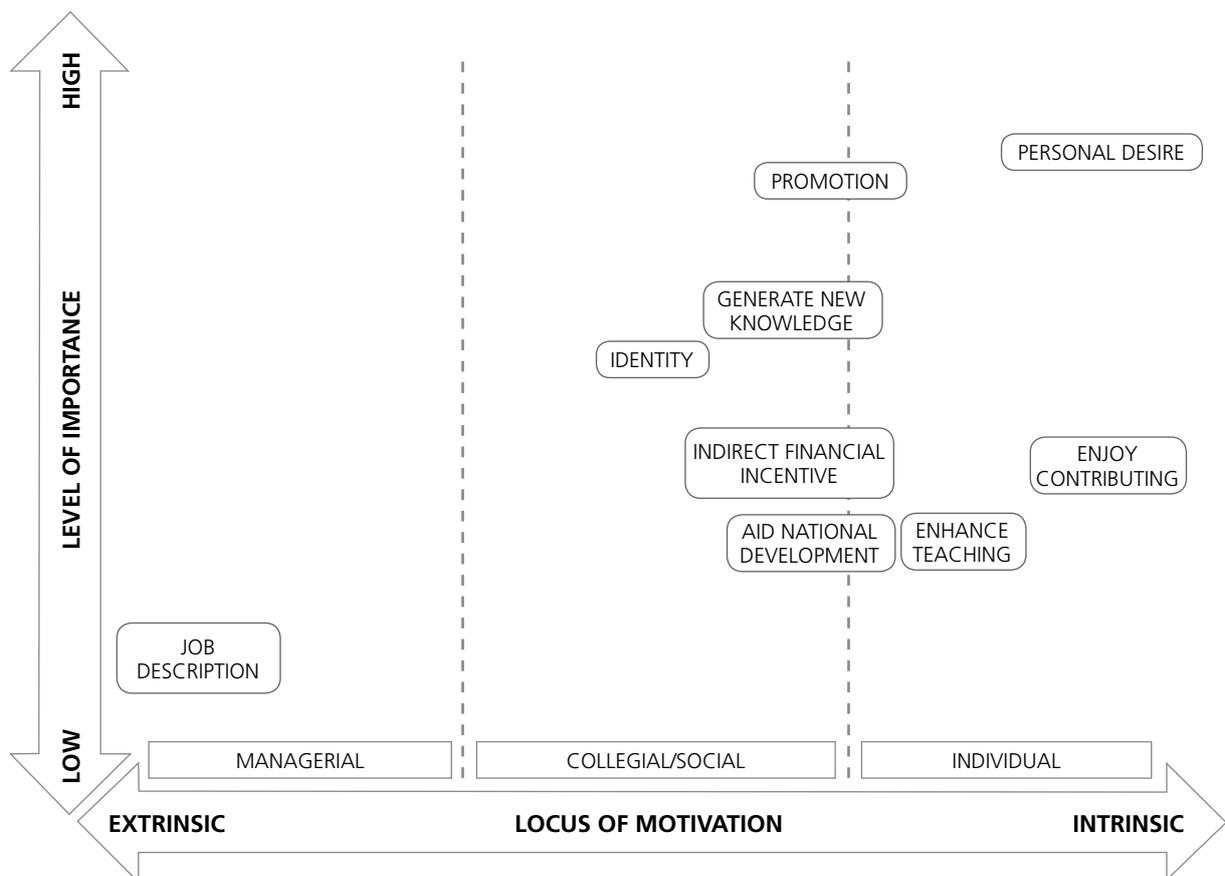


Figure 5.6 Values motivating UoM FoS scholars to conduct and disseminate research (aggregated/ranked)

Lastly, UNAM FHSS scholars are also motivated to conduct research by both intrinsic and extrinsic factors, but the top reasons (tied in terms of importance) for their doing so are to enhance teaching and to generate new knowledge, as Figure 5.7 shows.

As a teaching-oriented institution, research has great utility for UNAM scholars who want to stay current in their field and to learn new ideas through research activity. With a strong teaching heritage – and the heavy teaching loads that scholars face – the primary audience for many of their research ideas is their students, some of whom assist in their research and publication activities. We located this value on the line between social and individual motivation because most of the desire to “enhance” this aspect of their work derives mostly from themselves as individuals, and to a certain extent from their students. Since the administration evaluates teaching performance more according to quantity (hours) than quality, scholars’ desire to improve teaching performance emanates largely from themselves, with feedback from their students helping to structure their efforts.

Equally important, many FHSS scholars want to “generate new knowledge” through their research, a relatively intrinsic motivation, but structured by their field of inquiry and the various gaps it contains for a scholar to fill.

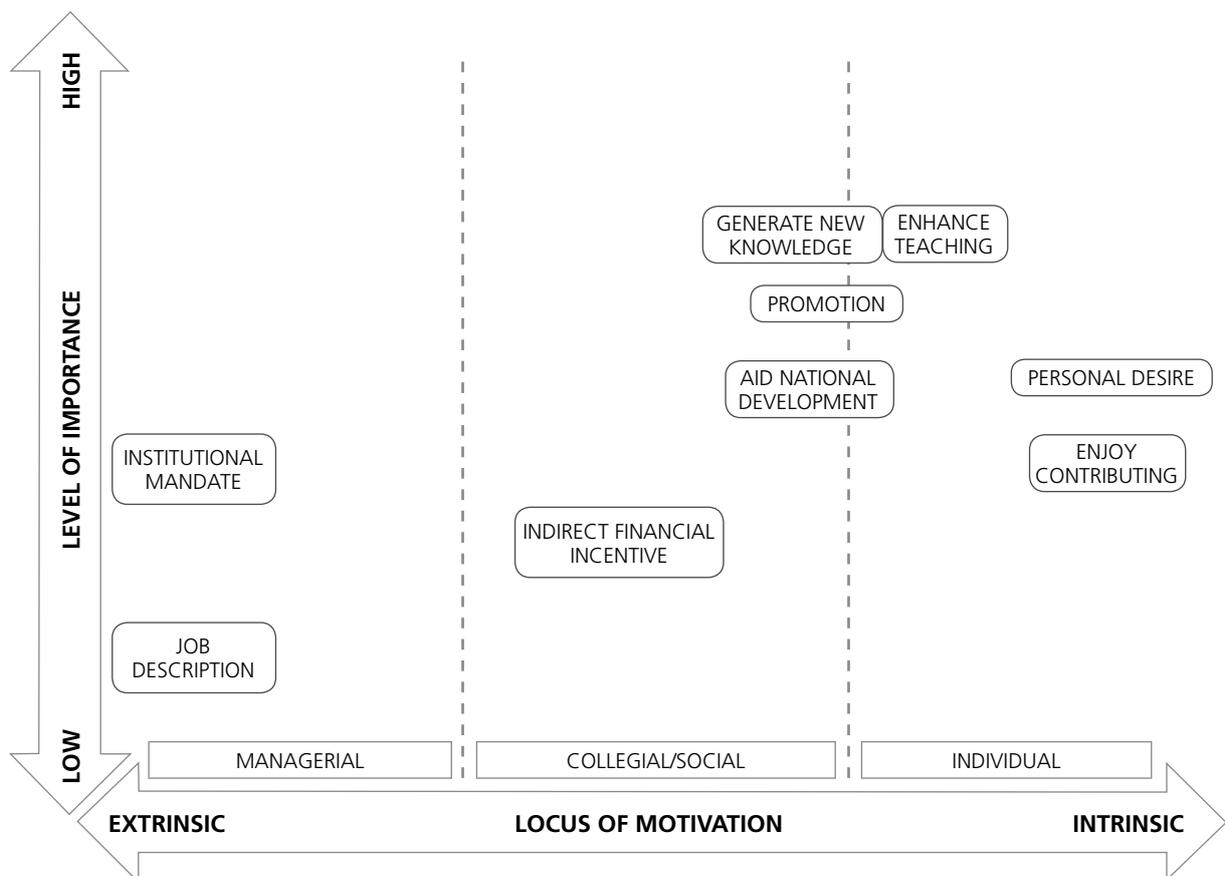


Figure 5.7 Values motivating UNAM FHSS scholars to conduct and disseminate research (aggregated/ranked)

For FHSS scholars, the gaps in national humanities and social science research are massive. They see the country as “virgin territory” for researchers who can explore numerous topics, often producing the first research on a topic in Namibia. They are excited about this fact, that their research can help form the foundation of a truly national scholarly enterprise. As one scholar related, “you want to do that kind of research which can close the gap where other people across the globe can relate to your work.” However, it is important to remember that this ranking of motivations is based on an aggregation of the entire faculty’s desires. It does not reflect the values of any particular individual who would likely rank their personal desires quite differently. But this analysis allows us to make fruitful cross-faculty and cross-institutional comparisons.

Thus, if we compare the four faculties’ research values profiles, it becomes clear how unique they are, as Figure 5.8 shows. At UB FoH, the institutional mandate is the primary research motivator. It is a highly extrinsic managerial value. At UCT Comm, peer expectation predominates, as the production of research is seen as part of the social ethos. It is a mixed, but extrinsically leaning, collegial value. At UNAM FHSS, the desire to generate new knowledge and enhance teaching comprises the two key principles driving research in the still largely teaching-focused university. It is an intrinsically leaning social and individual value. And at UoM FoS, personal desire drives research production. It is a highly intrinsic, individual value.

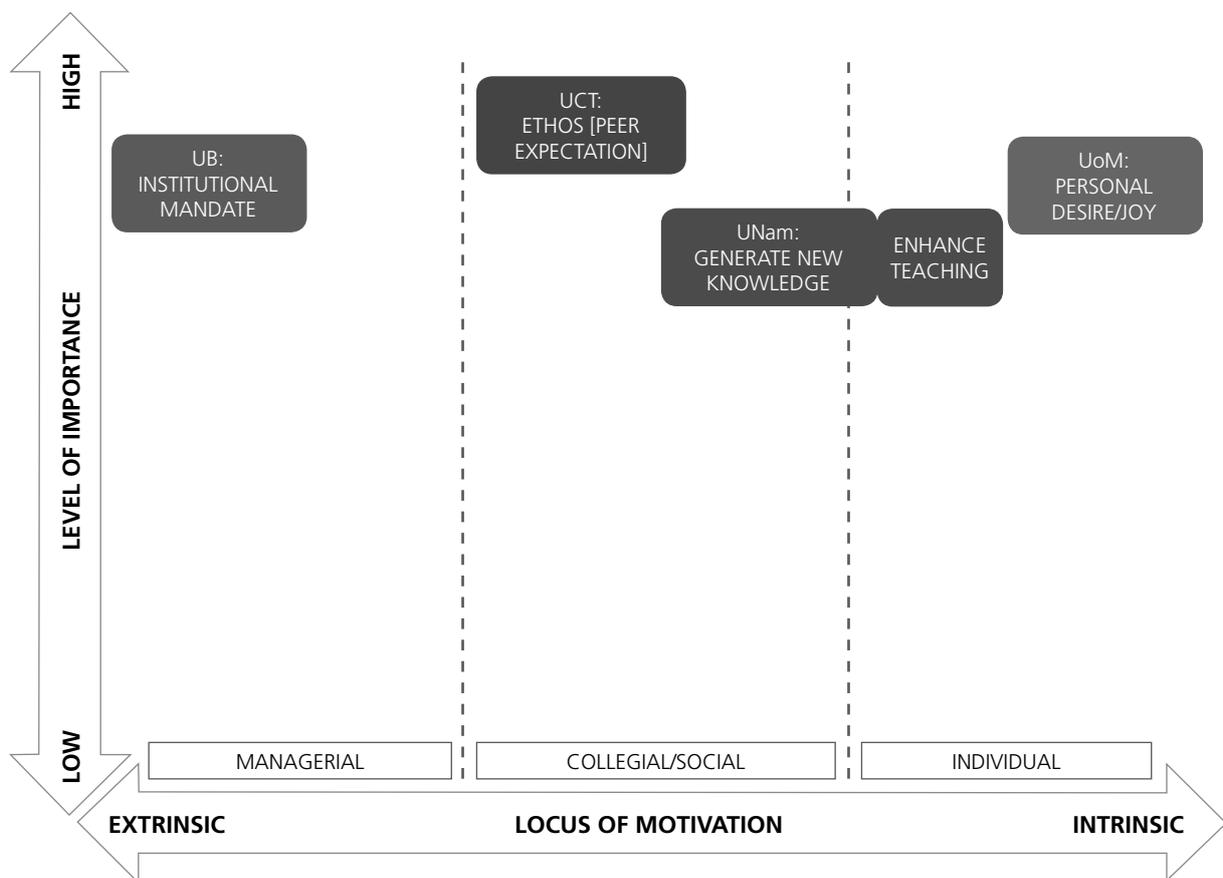


Figure 5.8 Comparison of primary values motivating production and dissemination of research at faculties

This comparison shows that, even though these universities share a number of similarities in terms of geography, history and mission, their differences are sufficient to create significant diversity in how their scholars respond to the question of research motivation.

Open access

As part of our values research, we also tried to gauge academics' feelings about open access principles. In our surveys, we asked them to indicate their level of agreement with the statement "African scholarship should be freely available on the web." As Table 5.3 show, their responses reveal a mixture of caution and enthusiasm with the prospect of such a reality.

Table 5.3 Survey responses to the statement "African scholarship should be freely available on the web"

| | UB FoH | UCT Comm | UoM FoS | UNAM FHSS |
|----------------|---------------|-----------------|----------------|------------------|
| Agree strongly | 33% | 21% | 60% | 69% |
| Agree | 42% | 46% | 26% | 19% |
| Disagree | 21% | 18% | 7% | 4% |
| Not sure | 4% | 14% | 7% | 8% |

At UB, these numbers suggest a solid level of support for open access principles amongst FoH staff members, but they reveal a relatively cautious attitude compared to other universities in the region. That is, most think open access is a good idea, and see the development potential behind it, but others worry about its impact on copyright issues and the rewards and incentive system.

Three issues appear to set the context for the faculty's response to open access. First, most scholars' awareness of open access has come from their engagement with (or evasion of) UBRISA, the university's IR – a point we will discuss more later. Second, many also believe that the country's "open" indigenous knowledge has, in the past, been stolen by outsiders who exploited it for commercial gain without giving due recognition or reward to the people who made that knowledge known in the first place (Kiggundu 2007). Lastly, some FoH scholars lament the losses that digitised open access communication may have on personal scholarly engagements, in that foreign scholars would no longer visit Africa to source materials if they could simply retrieve them on the internet.

UCT Comm scholars share some of these same concerns, but many were simply not convinced that open access was superior to conventional dissemination practices. They noted that there were some circumstances in which publishing restrictions are legitimate (especially if certain commercial considerations are involved) and warned that scholars who make their research publicly available should not be surprised when their work is plagiarised.

A significant percentage of UCT Comm respondents were also outright against open access, stating that it represents a threat to the integrity of research because of increased

spam, piracy, plagiarism and theft of intellectual property. It also poses an unquantifiable risk to journals' stability and financial health, and requires a big investment in time for scholars. Indeed, compared to the other Southern African university faculties SCAP researched, UCT Comm is the only faculty in which respondents were more likely to state that they disagreed with or were unsure about open access than to agree strongly with it.

At UCT Comm, the expression that best captures scholars' thoughts on scholarly communication is "if it isn't broken, why fix it?" Many academics in UCT Comm, of which 40% are over the age of 50, have built careers and reputations on a traditional means of scholarly communication. They have published in subscription-based journals for many years, contributing to their field in a way that has made sense to them. They understand and believe in the virtues of the traditional model of scholarly communication, wary of any new model that might diminish those virtues, especially quality and prestige. Younger scholars often have the same perspective, handed down to them from mentors who have advised them against straying from tried and trusted means of dissemination.

This is an important insight, as it reveals that open access is not a politically neutral dissemination model, nor can it automatically be assumed to be beneficial for all scholars. While it certainly benefits end-users who can download a far greater number of materials for free, it may in fact threaten the power and prestige of scholars who have made their names in the closed system. With open access, they have to learn a whole new way of thinking about how they communicate their research, and they must accept that their work will not only be available to their limited number of journal-subscribing colleagues, but may be consumed by the general public as well. That changes the potential reception of their work, as both scholars and the public contribute to an understanding of its value. Open access also allows for more web-savvy scholars to overcome the limits of the traditional peer-regulated closed model by catering directly to the general public, generating interest in their work based on values held outside of the academy. That is, the OA paradigm opens up collegial power relations in unpredictable ways which may not reinforce the position of those who have thrived under the closed system.

In contrast, UoM FoS scholars revealed a very strong level of support for OA principles. But this support is mainly in the abstract. For the most part, UoM FoS scholars do not go out of their way to ensure that their own publications are disseminated in an OA fashion, nor do they appear to be very familiar with the debates about open access. The primary reason why OA makes sense to them is because scholarly communication within their scientific disciplines has long been shaped, in part, by what we now consider OA principles (such as pre-print file sharing). Within astrophysics, for instance, the arXiv pre-print repository has been a space where scientists share their work, but in an open manner, allowing anyone to download their articles. In health sciences, the PubMed Central site has been shaping scholarly communication norms for many years. Some UoM FoS scholars have published their outputs on such sites.

Thus, as beneficiaries of this open norm within their own fields, UoM FoS scholars see the advantages of this approach. However, since many of these dissemination innovations

were constituted for practical reasons (rather than as part of an open access “movement”), they do not define or circumscribe FoS scholars’ own dissemination choices. Rather, when considering where to publish their own materials, they are more interested in the Impact Factor, prestige and appropriateness of the publication than in its open access policies. In their reckoning, if the journal happens to be open access, then that is great; if it is not, then that is also fine. It just so happens that science has been relatively progressive in promoting open scholarship in general, hence FoS scholars’ positive attitude about open access assertions and ideals.

However, the term “open access” has come to have negative connotations for some, especially concerning article processing charges (APCs), peer-review deficiencies and plagiarism. Some FoS members have been surprised when, having had a paper accepted by an OA journal, they were then asked to pay an APC (something which the university does not support through its budget). With their low personal salaries, most cannot afford to pay such charges, and thus negatively associate open access with APCs.

This sentiment is further complicated by some who worry about the credibility of anything that is published on the internet, conflating the mass of unfiltered public information on the web with peer-reviewed academic materials, simply because they are disseminated through the same platform. Also, a few scholars who believed that their work had been “stolen” or plagiarised were sceptical of open access, believing that scholars lost their rights to open work. Thus we can describe their perception of open access as mostly positive in sentiment, but uncommitted in practice.

The strongest levels of support for the open access statement above came from the UNAM FHSS scholars who, like the Mauritians, have also not done much to substantiate their sentiments with any concrete actions of their own. However, this makes sense in an environment where the level of research production is relatively low and the platforms for disseminating that research locally are minimal (and not open access themselves). FHSS academics understand how open access would greatly benefit their own research efforts – allowing them to access materials freely from the internet – and increase the visibility of their own research; but in an ad hoc research environment, scholars are more apt to take advantage of whatever communication channels are available to them (such as the faculty’s own journal), regardless of whether it is open access. For the moment, their actions suggest that it is impractical to insist on communicating their own work in an OA fashion, though it is their preference.

These varying responses from the four faculties show the practical, moral, technical and financial challenges involved in embedding OA commitments from the ground up. Scholars reveal a variety of perspectives on the matter and will all have their own reasons for engaging or not engaging with open access. Indeed, as the Mauritian example shows, open access flourishes more when it is constituted as a disciplinary norm that shapes whole fields of activity than as a moralised choice made by individuals. It has a chance of becoming more acceptable in environments where the scholars and the administration are in agreement about it (as at UNAM) and move forwards with an institutional approach to OA communication (as has recently happened, discussed in Chapter 4).

Research and dissemination cycle

Having established the faculties' demographics, their motivations for conducting research and their feelings regarding open access, we can now explore the scholars' research production and dissemination practices. To help us to understand them, we consulted a number of other scholarly communication models (Björk 2007; Garvey & Griffith 1972; Houghton, Steele & Henty 2009; Hurd 2000; Sondergaard, Andersen & Hjørland 2003; UNISIST 1971), many of which had been theorised prior to the revolution in online digital communication, the mainstreaming of OA ethics and the proliferation of Web 2.0 technologies. But due to the fact that global scholarly communication norms have been evolving so rapidly over the last few years, we decided to utilise Czerniewicz's (2013) research and communication cycle model because it incorporated an understanding of these important developments.

Czerniewicz (2013) compares the "traditional" (closed, scholar-to-scholar) research cycle to the digitally mediated, open access model that is shaping the current global scholarly communication landscape. Both are based on the same four core elements – conceptualisation, data collection and analysis, articulation of findings, and translation and engagement – and both include similar types of intellectual inputs (literature reviews, conceptual frameworks, etc.) and research outputs (books, journal articles, etc.). But the key difference is that, in the new model, scholars are able to communicate elements of their research during every step of the research cycle through various digital platforms, from the conception phase onwards. They no longer have to wait until every facet of the project has been completed before they start sharing thoughts, processes and findings through various online mechanisms (such as blog posts, tweets, comments).

The key virtue of the Czerniewicz model (Figures 5.9 and 5.10) is that it views scholarly research as occurring along a cyclical, rather than a linear, path, as so much of scholarly work involves retracing one's own steps through prior research data. Scholars revisit their materials and spin off new outputs, travelling around the research and dissemination cycle multiple times before moving to new projects and cycles. It also has the virtue of presenting contemporary dissemination activity as "radiant", pushing scholarly objects outwards towards multiple audiences (scholars, students, industry, civil society) at each point along the cycle. This updated understanding of the research and dissemination cycle allows us to assess the four faculties' activities from a unique vantage point.

Conceptualisation

During the first step of the research and communication cycle, scholars conceptualise the issue that they will explore through their proposed research. This process entails not only serious intellectual work (thinking through the various aspects of a potential research project and imagining possible processes, problems and outcomes) but also important planning work (assuring that the plan is feasible and worthwhile from a theoretical, practical and financial point of view).

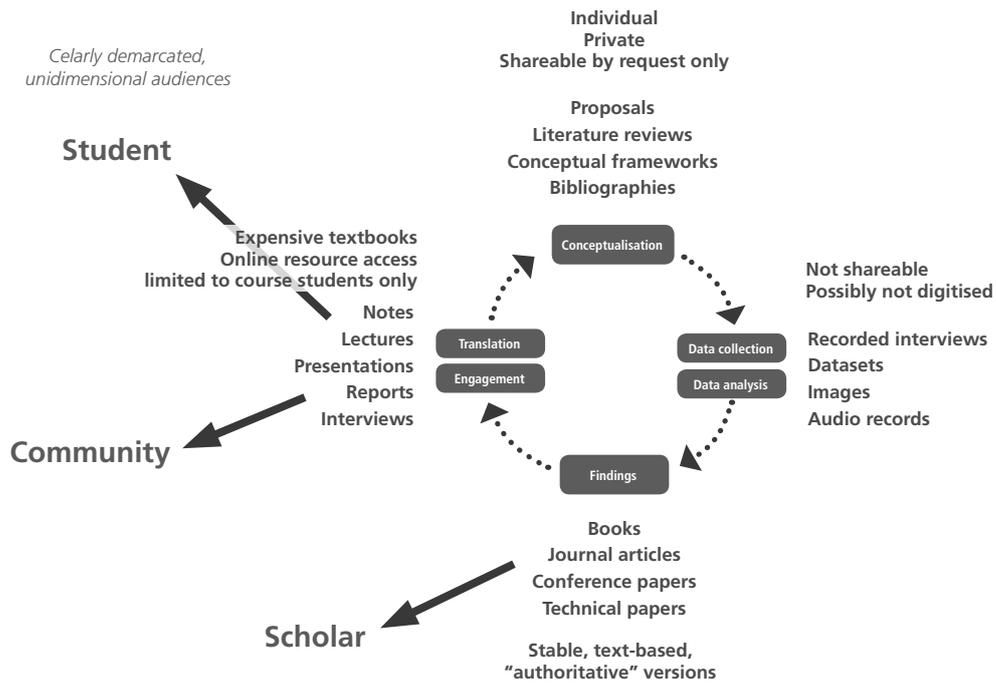


Figure 5.9 Traditional research and communication cycle (Czerniewicz 2013: CC-BY-SA)

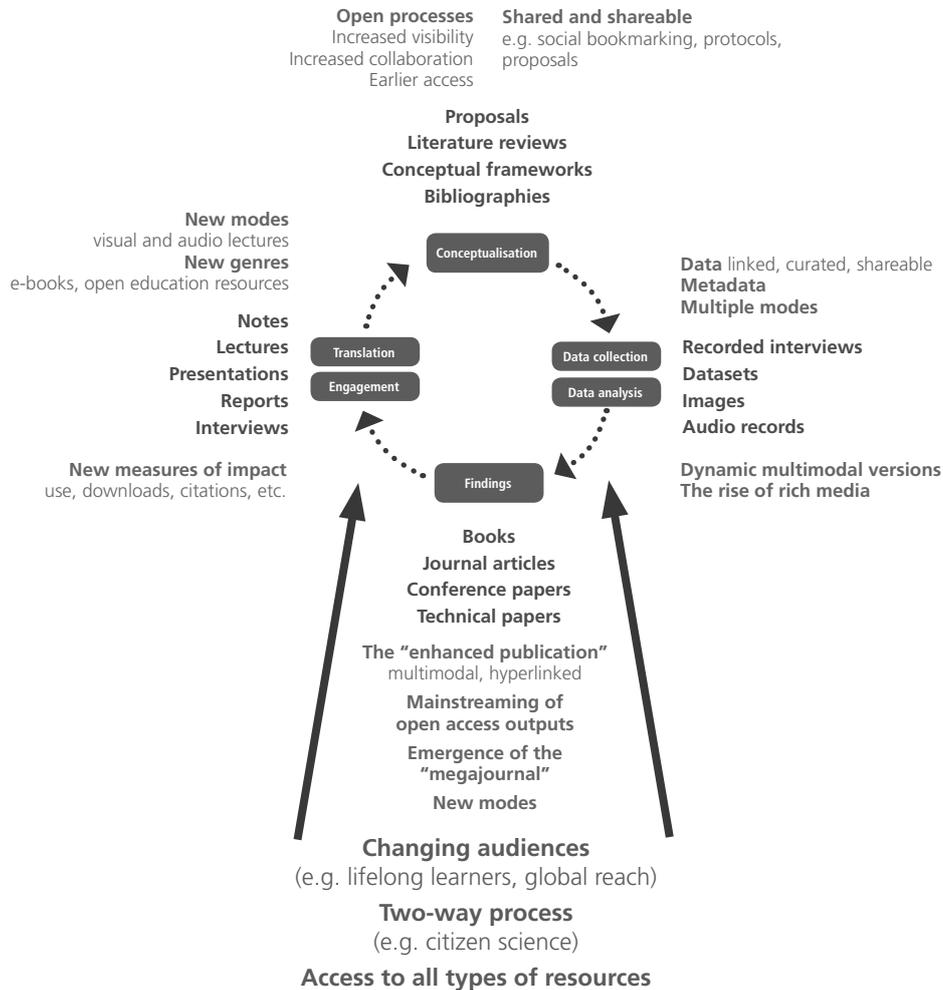


Figure 5.10 New research and communication cycle (Czerniewicz 2013: CC-BY-SA)

Part of the intellectual process involves engaging with the relevant secondary literature to establish whether a new project would have analytical value and make a contribution to the field. Such engagement not only ensures that one’s research does not duplicate previous research, but it is generative of new ideas in itself, usually offering new dimensions to a research concept.

The planning process not only involves determining where the research should take place (lab, in the field, etc.) and who should be invited to collaborate in the process, but also involves determining how much funding is required to conduct the research and which funders should be engaged to obtain the funding (if necessary).

For the purposes of this discussion, we focus less on the creative processes with which the faculties’ scholars engage during their conceptualisation activities and more on the practical elements of their research and communication practices. These relate to scholars’ use of print and electronic materials, their online search behaviour and their utilisation of various funding opportunities.

Print and electronic materials usage

To understand the types of scholarly materials that scholars engaged during the conceptualisation process, we explored their usage of print and digital materials. What became immediately apparent was that they continued to rely on both. When asked to rate the importance of certain *print* materials to their research, they rated international journal articles as the most important, followed by nationally produced journal articles, books and conference papers, but in an order that makes sense of their disciplinary practices and institutional resources.

The bias towards international print sources is probably best explained through demographics and relative levels of production: the amount of “international” scholarship available is enormous compared to the relatively smaller amounts of “national” scholarship available from Southern African countries. Though most of the national literature will be highly relevant for local issues, it won’t be of greater volume than the cumulative amount of materials generated elsewhere that are also relevant. (Some scholars also suggest that the “international” category is more prestigious than the local, national one, which may also raise those materials’ sense of importance, though this is not likely to be the decisive factor when it comes to uptake.)

Table 5.4 Most important print materials (aggregated/ranked)

| UB FoH | UCT Comm | UoM FoS | UNAM FHSS |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Journal articles (international) | Journal articles (international) | Journal articles (international) | Journal articles (international) |
| Books (international) | Journal articles (national) | Books (international) | Journal articles (national) |
| Journal articles (national) | Books (international) | Conference papers | Books (international) |
| Books (national) | Books (national) | Journal articles (national) | Books (national) |
| Conference papers | Conference papers | Pre-prints | Conference papers |

But the relatively high ranking of national journal articles for UNAM FHSS scholars shows how important the development of their own in-house journal has been for them, certainly compared to UoM FoS scholars who do not access locally produced science journals.

This pattern of international bias is replicated for digital online content as well. However, some of the academics (especially in Mauritius) indicated that they faced difficulties accessing journal articles due to some of the universities' limited journal subscription packages. To deal with this, many activated their international networks and simply asked their overseas colleagues to download the desired articles for them. Such "illegal" behaviour is not officially sanctioned, of course, but it shows how scholars located in resource-scarce environments cope with their relative deprivation: they access their networks abroad for assistance.

Search behaviour

When searching for materials online, UCT Comm said that they use Google Scholar the most (72% "often") followed closely by academic databases (71%). This pattern is reversed at the other Southern African universities where there is a clear preference for the databases over Google Scholar.

Table 5.5 Online sources consulted "often" for academic materials

| | UB FoH | UCT Comm | UoM FoS | UNAM FHSS |
|--------------------|--------|----------|---------|-----------|
| Academic databases | 84% | 71% | 74% | 72% |
| Google Scholar | 62% | 72% | 43% | 54% |

This is likely due to the fact that the other universities have highly limited journal subscriptions, making it not worth their time to look through Google Scholar where so many of the results will be unavailable to download. So, they stick with their databases where they are assured of being able to download the material.

Funding sources

During the conceptualisation phase, scholars must consider seeking funding for their new projects. Whether they obtain it, and from whom, has a significant impact on how they end up conceiving of their research, how they conduct it and how they disseminate their findings.

According to our survey respondents, the majority of their recent research projects were either funded by their universities, unfunded, or funded by international NGOs, their national governments, overseas universities or foreign governments. The rest were typically funded through international research networks or the private sector (Figure 5.11). While these responses tell us nothing about the financial value of these funded projects, they give an indication of the diversity of sources from which scholars draw for their research.

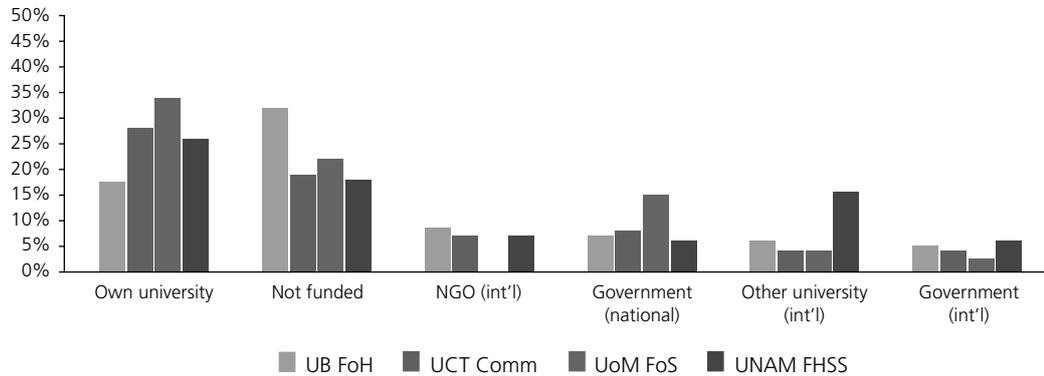


Figure 5.11 Top funding sources for respondents' research projects over the past two years

At UB, it is not surprising that many of the Humanities scholars' projects are "unfunded", not because UB is particularly resource-poor, but because a lot of research within this discipline can be achieved without outside funds.

Furthermore, in cases where the amount of money necessary to conduct research is small, many UB FoH scholars say that they pay these expenses out of their own pockets rather than spend their time dealing with all the of the paperwork required to get the funds from the university.

Though the predominance of unfunded and university funded research suggests that FoH scholars operate within certain funding constraints, the "long tail" of other funding sources that scholars tap into (especially from NGOs) suggests that some of them enjoy a healthy connection to regional and international funding sources.

At UCT, the majority (55%) of Comm scholars' projects were either funded by the university (28%), unfunded (19%) or funded by the government (8%). But similar to the other universities where scholars have to look beyond their own universities for research funding support, UCT Comm scholars also source a good deal of support from external bodies, suggesting that they enjoy the prestige and networks necessary for broad research opportunities. One of the ways in which they do this is by acting as the "African partner" in a larger, Northern-funded project that requires input from a number of global research collaborators who can provide and analyse local data for it. Another way in which Comm scholars get further research funding is through consultancy work. According to one manager, "people have to be very creative in sourcing funding for their research and really, the only way to get big ticket, expensive research done, is to find ways of combining contract work with research."

At UoM, the majority of projects in which the FoS respondents participated over the last two years were funded by the university (34%), not funded (22%), funded by the national government (15%) or funded by international research networks (12%). The role of other international universities, foreign governments and the local and international private sector was comparatively smaller (each less than 5%). These results

suggest that the university provides an important base of support for FoS research activity. Though many academics complain about the bureaucratic procedures involved in accessing these funds, they acknowledge that the university's research fund remains the first choice for many of their projects, especially if they are conceived and run at the university.

The government is also a significant source of support for FoS research, through the Mauritius Research Council (MRC), the Tertiary Education Council (TEC) and the Ministry of Tertiary Education, Science, Research and Technology (MTESRT). All of these combine to create a relatively robust national research infrastructure.

At UNAM, the majority of projects in which FHSS respondents participated over the last two years were funded by the university (26%), not funded (21%), funded by other international universities (18%) or funded by international NGOs (7%). This shows that the university provides a solid base of support for FHSS research activity. Though some complain that the university does not have enough for large research projects, they acknowledge that the university's research fund remains the first choice for many of their projects. A number of academics also sourced funds for applied projects through consultancy research, many of which were "development-orientated". And the solid percentage of projects funded by international universities shows the growing interest that the global academic community has in partnering with UNAM scholars.

While these percentages reveal an interesting picture of funding opportunities and trends, they do not say anything about actual funding levels, nor do they reveal whether scholars are satisfied with their own opportunities. In most cases – with UCT Comm respondents being the exception – scholars complained that the money available for them to carry out their research was too limited.

Data collection and analysis

The second phase of the research and communication cycle entails data collection and analysis. It also opens up opportunities for sharing preliminary findings and data publicly, prior to formal publication. For some scholars, this might involve conducting interviews or surveys, carrying out sample studies and examining archival materials, while for others it would mean conducting experiments in the laboratory or collecting materials in the field. In all cases, it would also entail some level of engagement with tools and technologies that help to process that data into results that can be analysed.

For the purposes of this discussion, we focus less on the research processes that these scholars engage in during their data collection activities and more on the tools and technologies that mediate them. Within our ecosystem framework, tools form a crucial node in the scholars' research and communication activity system. Tools also comprise the element in this phase that determines the level of research at which scholars can engage. We will also discuss whether Southern African scholars utilise this time to share research information prior to publication or whether they prefer to withhold such knowledge until after it has been formally vetted.

Tools and technologies

Unlike their colleagues in the sciences, UB FoH scholars do not require much specialised technology beyond what the university normally provides to conduct their research. For the most part, they can make do with computers, broadband internet, scanners, photocopiers, digital recorders, etc. However, this does not mean that they do not still face technological challenges. For instance, UB computers are connected to what scholars complain is a slow internet connection, hampering research efforts and debilitating any type of activity involving rapid uploading and downloading. Most indicated that they could not download articles at home. They also faced the disruptive reality of random power outages, a fact that can devastate electrical machines, wipe out data and create a general sense of uncertainty about the value of committing to a particular computer-based research activity.

UCT is well-provisioned in terms of mechanical technology, but this has not always been geared towards scholarly communication. For instance, UCT does not yet have a fully functional IR, due in part to the fact that UCT scholars are already relatively visible through their publication in high-prestige journals, to which they have left the task of curating and profiling their work. Though this means that their work is dispersed across a range of commercial journal sites, UCT scholars and librarians have been slow to move to the IR concept. A handful of departments, faculties and units have done so on a smaller scale, though. Recently, however, UCT's management has started looking into the prospect of investing in a proper IR as well.

UoM FoS academics require heavy investments in equipment to be able to do their research. Many say that while they enjoy decent access to equipment on campus (or on the island), they are limited when it comes to very expensive or new equipment. To carry out research that requires highly sophisticated technologies beyond the university or country, they must tap into international scientific networks, outsourcing elements of their data collection. This is not an unusual arrangement in the scientific community, but it adds another layer of complexity and time to local research projects. It was one of the more common complaints by FoS scholars, that they desired more laboratory and specialised equipment for carrying out original, cutting-edge experiments.

Similar to their UB counterparts, UNAM FHSS scholars do not require much specialised technology beyond what the university normally provides to conduct their research. While UNAM is relatively well provisioned in terms of mechanical technology, it is only now developing the tools that could optimise scholarly communication, such as a (fully functioning) IR and a scholarly e-portfolio platform. These will become valuable for raising the visibility of UNAM research, especially once the new Scholarly Communications Policy is implemented.

The key point here is that tools and technology make up only one element of a scholarly communication ecosystem, thus managers and funders often make the mistake of thinking that they can improve a situation by simply inserting a new technology into it. That is often not the case, especially if the supporting community lacks the capacity to use or run it, or if it is not integrated into a strategic framework or institutional policy commitment. Tools and technology must always be understood in their broader context.

Circulation prior to publication

To understand every element of scholars' behaviour in the research and dissemination cycle, we asked them whether they ever shared their research drafts, pre-prints, working papers, or datasets prior to publication, and if so, with whom.

Table 5.6 Responses to the question "Do you circulate your research prior to publication"?

| | UB FoH | UCT Comm | UoM FoS | UNAM FHSS |
|------------------------------|--------|----------|---------|-----------|
| Yes ("often" or "sometimes") | 64% | 75% | 80% | 66% |
| No ("never") | 36% | 25% | 20% | 34% |

The results showed that, at UB, almost two-thirds of FoH respondents said that they "sometimes" or "often" circulated their work prior to publication, mostly by incorporating it into their teaching. They also, with less frequency, shared such pre-publications with their immediate project team members, colleagues at the university and wider academic network. Almost none circulated these materials to the general public or the government (67% "never").

At UCT, most Comm scholars shared their work with team members and colleagues, especially since they keenly desire critical feedback from their peers and since there are a lot of seminar fora for doing so. The social ethos of the institution reinforces scholars' desire to share and engage with each other. However, they do not generally share their work prior to publication with the general public or with the government. This could be because they prefer that only their formally published research reaches these audiences, or that these audiences are not targets of their dissemination plans. From our conversations with them, it appears to be a combination of the two. First, there is no formal incentive for sharing such non-published research with these audiences, and second, scholars tend to trust that, if their work is useful in social or governmental settings, it will be recognised and taken up by these audiences at some point during the long scholarly communication feedback loop.

At UoM, FoS scholars tend to share their work with team members and with students. Both groups are often co-contributors to research projects, and they are keen for their students to be involved in various experiments as well. FoS academics tend not to share their work with their colleagues, however, since there is not only a lack of regular fora for doing so, but because their colleagues are not likely to have a specialised knowledge of their specific field, thereby diminishing the utility of their feedback. Thus they prefer to share such unpublished work at international conferences amongst fellow experts. (They also rarely share with the public or the government, though if they receive money from the MRC, they are often encouraged to give feedback to the council on their findings.)

At UNAM, many seminar series have faltered in the past due to scholars' heavy teaching commitments, thus they tend to wait to present their work at conferences. They also share their work with students and project team members, but not with the public or the government. This suggests that FHSS scholars circulate their work in a functional and

narrow sense, either to the limited members of their project group, or to the students with whom they interact multiple times per week in class. This is not an image of “the globally networked scholar” who circulates drafts widely to broad audiences, but more the “personally networked scholar” who shares with those who matter for the project, or who happen to share time with him/her on a regular basis.

Articulation of findings

The third phase of the research and communication cycle entails scholars’ presentation of findings to other scholars. This usually involves the writing and publication of peer-reviewed journal articles, book chapters, books and conference papers (an output type that can straddle the pre- and post-publication line). It is the time when scholars share their research findings with their peers through formal communication mechanisms. For many scholars – and university reward and incentive structures – it marks the imagined culmination of the scholarly research and dissemination process because academics are assessed by colleagues and managers (for promotion) according to the quantity and quality of these outputs.

For the purposes of this discussion, we focus less on the constitution of those findings or the various “impacts” that they may have had on their respective fields and more on the output types that they produce, their online dissemination activities and the composition of their research and dissemination networks. These are crucial elements in the third phase of the cycle.

Output types

We asked scholars to identify the various outputs that they had produced over the previous two years. We offered a checklist of possible output types that allowed us then to compare the various activity preferences of the scholars. We also noted whether the outputs were produced by scholars as “sole authors” or as “co-authors”. The data and figures below need to be understood with the recognition that every scholar has a slightly different interpretation of what an “output” means, though we tried to keep it as simple as possible for them. Also, our use of the term “two years” cannot be taken to mean a literal 24-month period prior to the date on which they filled out our surveys, as scholars were free to cast their minds back over a vaguely constituted “two-year” period to answer the question. However, the purpose and value of this data is to give general indications of how scholars produce outputs in their respective scholarly communication ecosystems. To that end, this data is quite useful.

At UB, the research outputs generated by the FoH scholars are quite diverse. This is because UB’s promotion criteria include significant weighting for scholar-to-government and scholar-to-community outputs, not just scholar-to-scholar outputs (which is often the norm elsewhere). UB scholars have a real incentive to publish these alternative outputs. They are also encouraged to publish in national, regional and international journals and books, a fact reflected in their activities.

Of the 183 outputs that our UB FoH survey respondents reported producing over the past two years, 148 of them were sole-authored and 35 were co-authored collaborative

pieces (a 4:1 ratio). This is a typical production ratio for a humanities faculty, based on disciplinary norms of solitary research and analysis. But depending on whether an output was produced alone or in collaboration, different and revealing patterns emerge.

For sole-authored outputs, the highest proportion of scholars worked on or produced national conference papers (70%), followed by international journal articles (59%), international conference papers (56%), book chapters (44%) and national journal articles (41%). This suggests that there are relatively good opportunities for presenting work locally and that these are ideal fora for scholars to present drafts of their work.¹¹⁹ However, the relative dearth of locally produced journals also explains why scholars publish a higher proportion of their journal articles internationally than nationally.

For co-authored outputs, grey literature is the most produced output (41%), followed by national journal articles and book chapters (29% each). International items are significantly fewer: international conference papers (from 70% sole-authored down to only 3% co-authored) and international journal articles (59% sole- to 9% co-). This suggests that the UB FoH scholars are more likely to collaborate on reports for local consumption, such as consultancies, because of the increased generation of grey literature, which went from 5% sole-authored to 41% co-authored.

It also suggests that faculty and disciplinary norms support individual production over collaborative production. This is made clear not only in the 4:1 ratio just discussed, but in the focus of those different efforts. Thus, when FoH scholars produce sole-authored outputs, they tend to be in genres that carry weight in promotion assessments. But when they produce co-authored outputs, they tend to be in genres that carry less weight for assessment purposes (such as reports), but which might entail greater financial reward (from an external consultancy) and the need for greater capacity.

Ironically, this diversity of outputs provides an insight into why UB FoH scholars' work is relatively invisible according to the major academic productivity indices (such as the Thomson Reuters Web of Science index). Indeed, of the outputs listed in Figure 5.12, only a few per cent of them – listed in the second column marked “Journal articles (int'l)” – will be rendered visible by the major indices.¹²⁰

Due to FoH scholars' temporal and financial constraints, they find it difficult to conduct fresh, empirical research projects. Rather, after they complete their PhDs, they continue revisiting that research for many years, spinning off presentations and publications related

119 This is true of conferences organised at the faculty or institutional level, but not necessarily of seminar series organised through the various departments.

120 A number of African scholars see this diversity of outputs as a negative development, proof of the diversion of African academics' talent away from their core mission (which would include writing peer-reviewed journal articles rather than reports for aid NGOs). Mkandawire (2011: 19) says that “the aid establishment today commands much of the intellectual resources devoted to development through its own research agenda, through the consultancy industry and through its selective support of research programmes and epistemic communities in developing countries. The reward system that the aid establishment dominates favours the report over the peer reviewed journal paper. Many academics inside and outside have been drawn into this system as they move freely through the revolving door linking academia, the consultancy industry, philanthropic organisations and international financial institutions. In the process, institutions of learning have, as in the colonial period, been harnessed to the task of remote management of the African continent.”

to it. They then start to supervise and build a group of students around them, with whom they are occasionally able to publish. Some apply for university funding to embark on new projects or further areas related to their PhDs. Many, however – perhaps because they do not have wider scholarly networks or because the teaching and administration loads are simply too high – never raise research funds. This means that the proportion of projects involving empirical work remains low (excluding those related to PhDs or consultancies). In fact, because it is difficult to get large pools of funding to run their own big research projects, FoH scholars often seek out international collaborators (especially from the global North, or South Africa) who can resource the necessary funds.

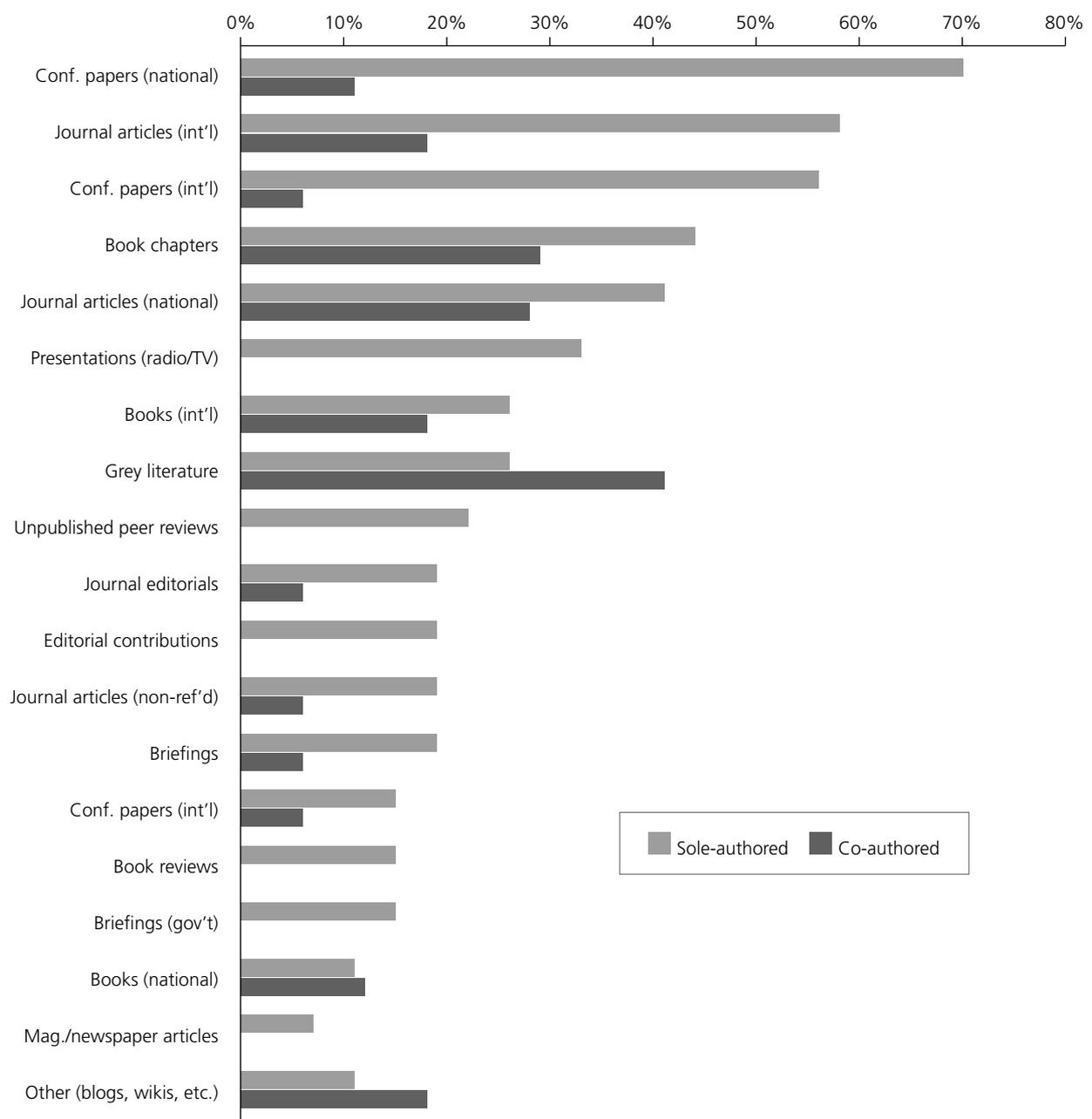


Figure 5.12 UB FoH research production over two years, by % of respondents producing these outputs

At UCT, of the 158 outputs that our Comm survey respondents reported producing over the previous two years, 77 of them were sole-authored and 81 were co-authored collaborative pieces (basically a 1:1 ratio).

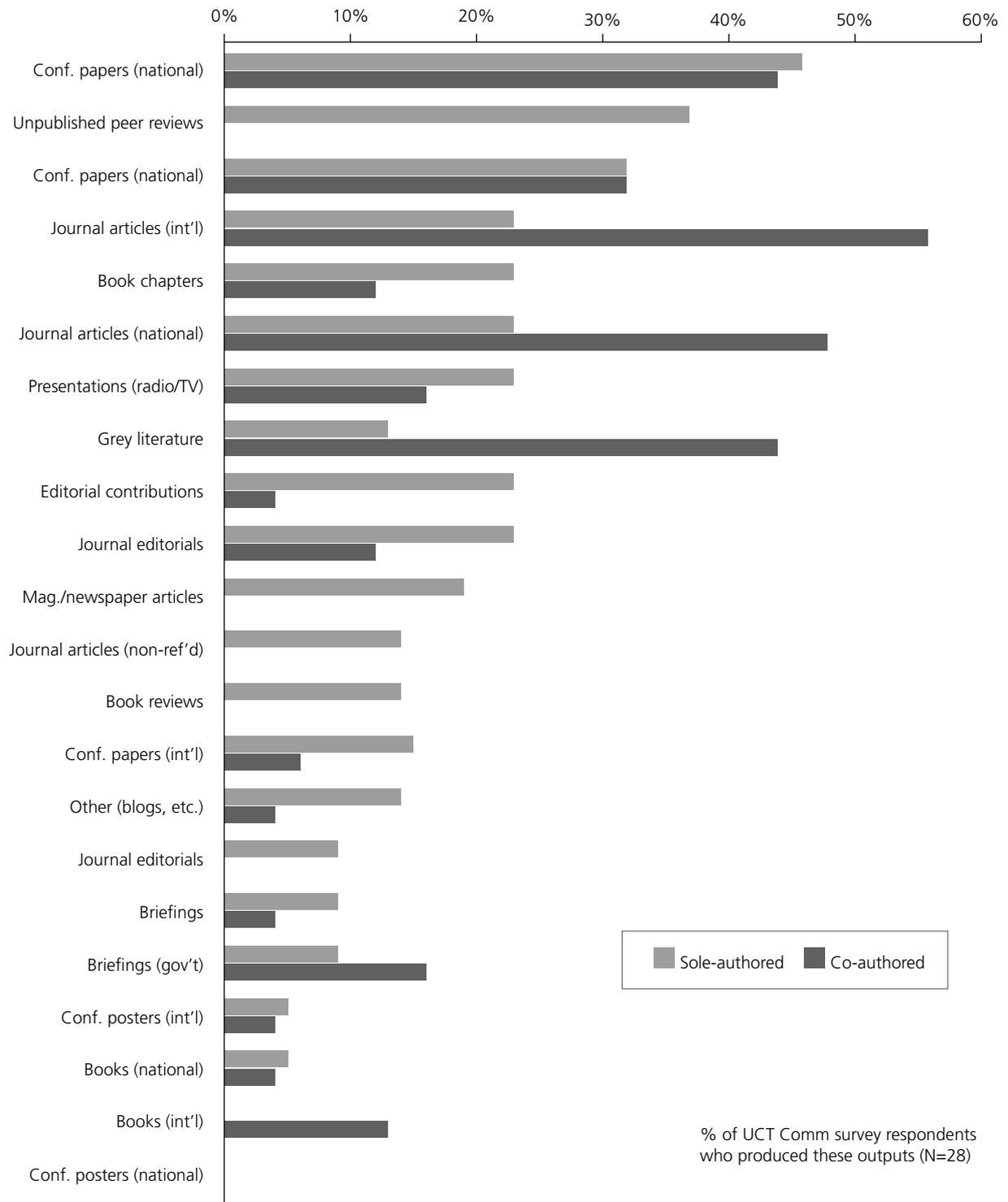


Figure 5.13 UCT Comm research production over two years, by % of respondents producing these outputs

This is very different to the high sole-authored proportions from UB's FoH (4:1) and UNAM's FHSS (3:1), and the high co-authored bias from UoM's FoS (1:4).

For sole-authored outputs, Figure 5.13 shows that the highest proportion of scholars worked on international conference papers (46%), followed by unpublished peer reviews (37%), national conference papers (32%), and then seven categories of output at 23% each: book chapters, grey literature, international journal articles, national journal articles, magazine/newspaper articles, radio/TV presentations and contributions as editorial members. This suggests that scholars are involved in many different elements of production and dissemination, especially noteworthy being their contribution to journal editing duties and translating their work for popular audiences.

For co-authored outputs, the majority of respondents produced international journal articles (56%), followed by national journal articles (48%), international conference papers (44%), grey literature (44%) and national conference papers (32%). This confirms the words of a manager who stated that "the faculty publishes four or five books a year, but articles are the overwhelming focus, in journals."

This suggests that UCT Comm academics have certain publishing and dissemination strategies depending on whether they work on an output alone or with others. For instance, most of their service work (unpublished peer reviews and editorial efforts) and scholar-to-community outputs (magazine/newspaper articles, blog posts, etc.) are sole-authored while much of their collaborative work leads to scholar-to-scholar outputs, such as journal articles. There is a good deal of overlap in what they produce alone and in collaboration, but these variations suggest that collaborative work typically leads to scholar-to-scholar communications (or grey literature, if it is a consultancy report for a big funder) while solo work also includes various service and "translation" elements that are considered slightly tangential to the scholars' core research mission.

Moreover, the 1:1 ratio between sole- and co-authored outputs suggests that the Commerce faculty's research practices do not coincide with a traditional disciplinary boundary, but are in fact comprised of multiple disciplinary elements. This gives great flexibility to the scholars as they consider the type of projects in which they engage.

At UoM, of the 104 outputs that our FoS survey respondents reported producing over the previous two years, 27 of them were sole-authored and 77 were co-authored collaborative pieces (a 1:4 ratio). This suggests that the high levels of collaboration in the UoM FoS conforms to a strong disciplinary norm for collaborative publishing.

Regarding co-authored outputs, Figure 5.14 shows that 83% of FoS respondents said that they produced international journal articles during the previous two years, followed by international conference papers (54%), national conference posters (38%), international conference posters (33%), book chapters (21%) and national journal articles (17%). This shows that international journal articles are the main vehicles of scholarly communication for FoS members.

For sole-authored outputs, most would be considered “alternative” outputs by our definition, mainly briefings, magazine/newspaper articles and radio/TV presentations (44% for each category). Very few FoS scholars produced traditional formal publications as sole authors. Indeed, it appears that co-authorship is the norm for formal outputs, while alternative outputs (which have little or no impact on promotion opportunities) are the norm for individuals who want to share some aspect of their work beyond the academic community. This FoS publication profile makes sense, given: the scientific disciplinary norms that structure the faculty’s communication activities; the historical, geographic and demographic realities that mildly privilege international communicative engagement over national engagement; and the reward and incentive structure that places a high premium on international peer-reviewed publications.

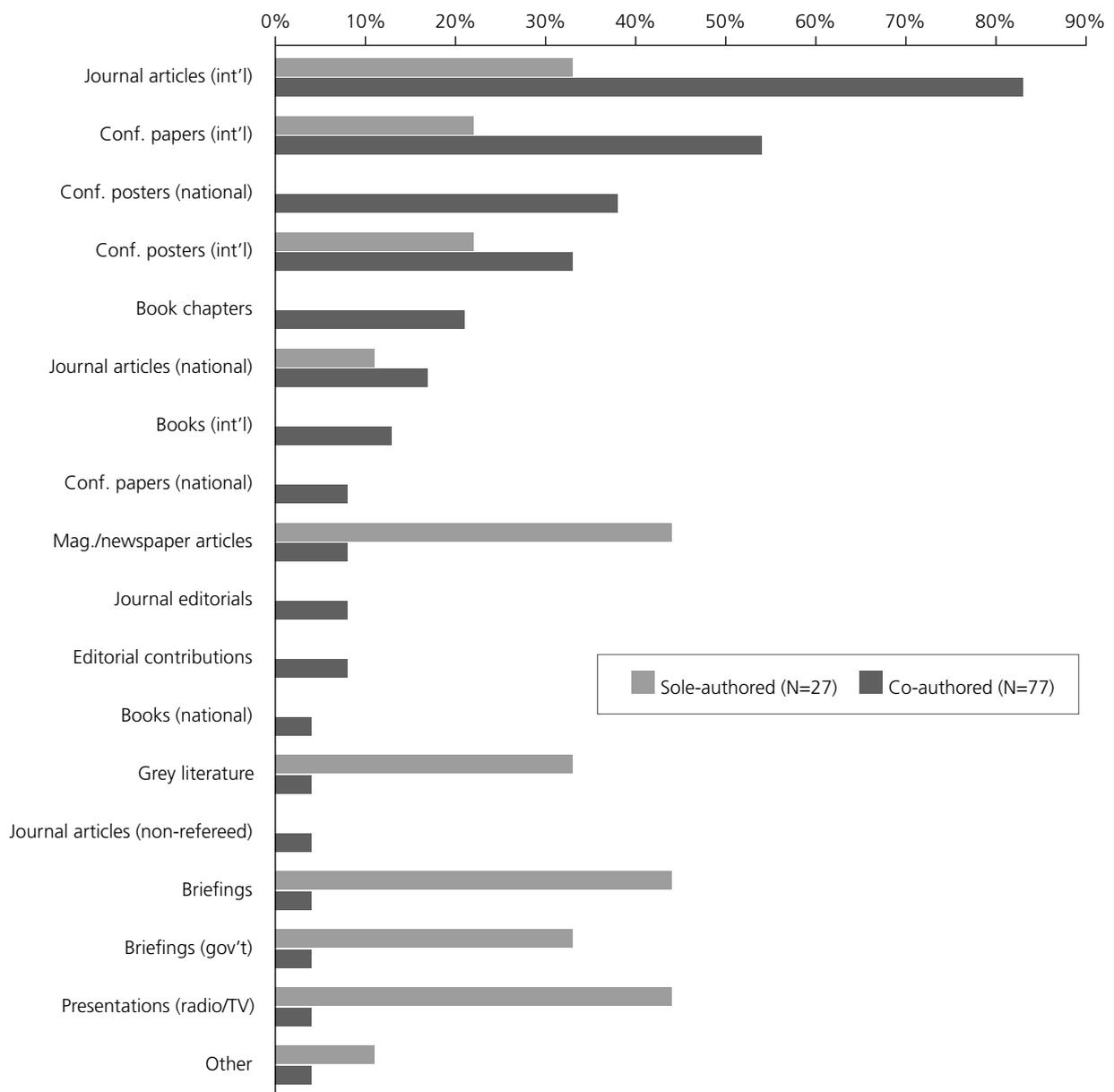


Figure 5.14 UoM FoS research production over two years, by % of respondents producing these outputs

At UNAM, of the 206 outputs that our FHSS survey respondents reported producing over the previous two years, 156 of them were sole-authored and 50 were co-authored collaborative pieces (a 3:1 ratio). This is a typical ratio for humanities and social sciences work where individual research activity remains the norm. Of the 156 sole-authored outputs listed by the 50 survey respondents, international conference papers were the top output (42%) followed by international journal articles (39%), national conference papers (36%), grey literature (33%) and radio/TV presentations (28%).

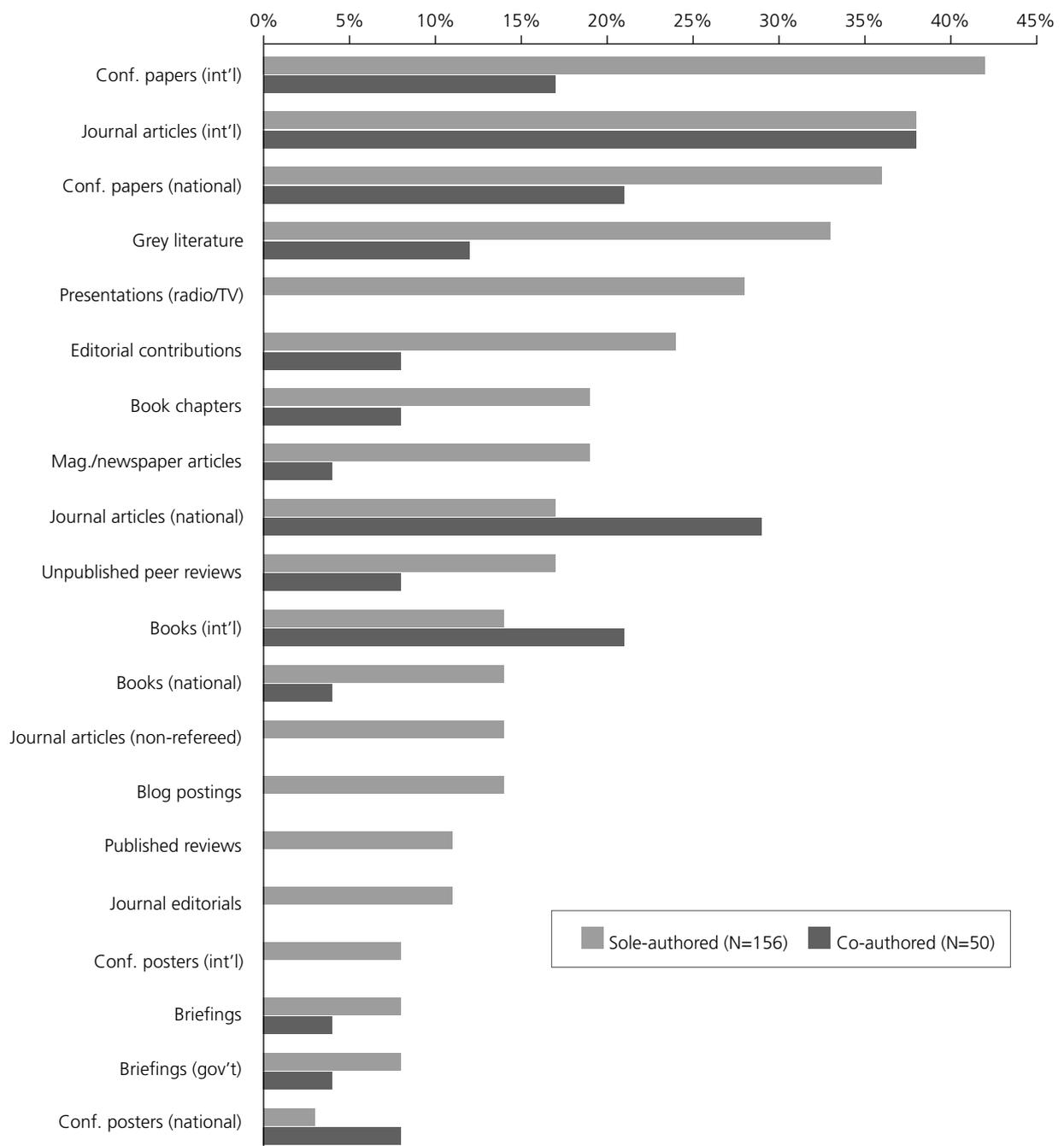


Figure 5.15 UNAM FHSS research production over two years, by % of respondents producing these outputs

The sheer diversity of outputs produced (even if in relatively small numbers) reveals the complex engagement that FHSS scholars seem to have with their work and their various audiences.

Of the 50 co-authored cases, Figure 5.15 shows that the majority were international journal articles (38%), national journal articles (29%), international books (20%), national conference papers (20%) and international conference papers (17%). Thus the rate of international journal article production was basically the same whether sole-authored or co-authored (38%).

Online dissemination activities

With the limited time and opportunities for direct engagement with their intended audiences, scholars are able to get around these constraints by simply making their research available online in some fashion, allowing audiences of all types (intended and unanticipated) to access it.

When asked if their research was available on the internet to the general public, most of our survey respondents said that at least some of their outputs were available online, but their responses revealed some crucial distinctions in their activity systems.

Table 5.7 Responses to question “Is your research available online for the general public?”

| | UB FoH | UCT Comm | UoM FoS | UNAM FHSS |
|-----------------------------|--------|----------|---------|-----------|
| Yes, a lot of it | 35% | 25% | 33% | 25% |
| Yes, some of it | 54% | 14% | 40% | 22% |
| Yes, a very small selection | 4% | 39% | 13% | 18% |
| No, none | 8% | 21% | 13% | 35% |

As can be seen in Table 5.7, the response by UB FoH scholars is relatively positive compared to other institutions in our study, though it does not necessarily correlate with intention or interest in online visibility. As discussed above, UB FoH academics do not have great enthusiasm for open access dissemination. And when they say that their work is “available” on the internet, they often mean that it has been posted by a publisher on their commercial website, requiring a fee from users. (Technically, these papers are “available to the general public” because anyone can pay the fee to download them, but in reality, because the fees are often very high, they remain essentially beyond the reach of the general public and are therefore not open access.) Also, some scholars say that their work is available on the university IR. However, this was likely not their decision. The UB library has been actively “harvesting” UB scholars’ journal articles from publishers’ websites and then linking to them for download. Thus their visibility on the IR cannot be taken for an interest in profiling their own work.

UCT Comm members’ relatively low online percentages are due to the fact that most scholars continue to operate according to a traditional model of scholarly communication in which research production and publication, not dissemination, are the key elements. Scholars have been free to leave dissemination issues to book and journal publishers,

secure in the knowledge that at least their peers will have access to their outputs. Thus many of their publications have been print-only outputs, or they have been locked behind expensive subscriber paywalls. Their rewards and incentive system does not provide extra recognition for outputs which are available online, thus it has never been imperative that they make them so. Moreover, the traditional communication model delivers their outputs to the audience that they are most keen to reach, their peers. Thus, many have felt that it is unnecessary to try to push for open access or publicly available online dissemination when the traditional model is already doing what they want it to do.

The level of online availability for UoM FoS scholars matches their positive support for OA dissemination. However, when these scholars explained how those outputs were made available online, their responses revealed that this was not due to any strategic act on their part, but was rather just a coincidence that the journal that they published in was open access. As we have discussed above, most FoS scholars choose publication outlets based on Impact Factor, prestige and thematic appropriateness, with their OA policies ranking much lower in consideration. But because certain disciplines within the sciences have a number of high-volume publishing platforms that are open access (such as arXiv and *PLOS ONE*), the chances of their outputs ending up in an OA publication are relatively high.

At UNAM, while a majority (53%) have either none or very little of their work available online to the general public, this apparently negative open access reality needs to be put into context. First, a number of the teaching-oriented FHSS scholars have not produced research outputs yet, thus they would likely not have any outputs to make available yet. Second, most of the journal articles and conference papers that they have produced have been disseminated through traditional subscription or closed communication models. Third, many scholars suggest that they could make some efforts to get their outputs online free to the public but that they do not have the time to do so. Essentially, they're saying that, considering all of the constraints on their time and capacity, they lack the support needed to make their work more visible online. That is now changing.

As a final note to this issue, a crucial complicating factor here is the fact that many UB FoH, UoM FoS and UNAM FHSS scholars are, at times, reluctant to share their research online and “put themselves out there” due to:

- a culturally informed sense of personal modesty (not wanting to call attention to themselves)
- an ambivalence about the quality of their research (“being exposed”)
- an anxiety about having no control over how they might be represented on the internet
- a worry that others may steal their ideas/data (especially if still in gestational form)
- a fear of offending their research subjects, many of whom they might continue to encounter (especially on a small island like Mauritius)
- a concern for damaging one's own reputation in a small country where “everyone knows each other” and can influence your future prospects

- a minimalist communications strategy (where dissemination is achieved through reading a paper at a conference, or perhaps allowing a journal to publish it, but nothing further)
- a teaching- rather than research-oriented approach to scholarship (which speaks to one's sense of academic identity, as a "teacher" rather than a "researcher").

To illustrate this reluctance, one academic in Mauritius discussed a politically sensitive research study that had bearings on whether a group of people might decide to claim compensation from the government. "If the press got hold of this, it's very damaging and then the Ministry will come and say to us, 'You know, we trusted you with this and this is what you said to the papers', and they would have to explain and it would look bad."

Indeed, in small country contexts where the research community is tiny and the work that it produces may have profound effects on local political outcomes or social perceptions, scholars may be reluctant to call attention to the fact that they were involved with it, especially if it is controversial or embarrassing for anyone concerned. Indeed, a number of scholars shared their concerns about the political implications of their work and how it could affect them personally. One scholar, echoing a number of others from the three countries, stated, "Here everything is political, ministers are very susceptible about their image and they want to be seen to be doing a good job," thus scholars must think twice before making their work highly visible online, even if they want to.

Research and dissemination networks

A key aspect of how a scholarly communication ecosystem functions is based on whether the scholars within that system feel connected to each other and whether they feel connected (as researchers, as scholars) to groups outside of it. This feeling is usually indicative of an activity system that is characterised by a strong research culture. It also gives an indication of whether scholars feel that they are "researchers" or "teachers", in that those engaged in research will typically feel a greater sense of belonging to a broader research network.

To the question, "Do you feel part of a broader research network or community of scholars?" two thirds of UB FoH survey respondents said yes, four fifths of UCT Comm respondents said yes, almost three quarters of UoM FoS scholars said yes, and half of UNAM FHSS staff members said yes.

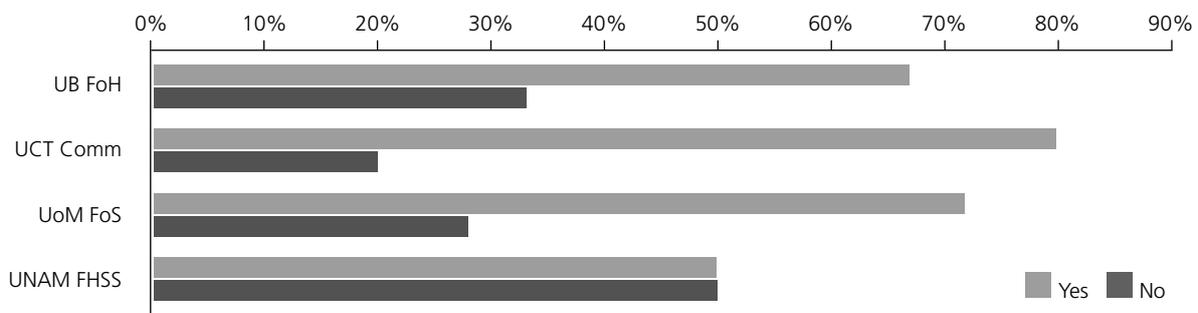


Figure 5.16 Response to: "Do you feel part of a broader research network or community of scholars?"

However, of those who do say that they feel connected, it is often with quite different groups depending on the faculty in which they are situated. Thus, as a sub-question of the one above, we asked affirmative respondents whether their connections were located internationally, institutionally, regionally or outside of universities altogether.

At UB, as Figure 5.17 shows, the relatively higher sense of belonging to an “international” community is likely due to the fact that a high proportion of FoH scholars completed their graduate training abroad in the UK, Canada, the US and so forth. Many also studied in South Africa, a country that, by Botswana’s standards, is seen as both “regional” and “international”. Many academics have maintained the relationships they cultivated during graduate school and have made new connections through international conferences. Though they report a lesser sense of international belonging than scholars at our other partner universities, it is still greater than any other category for them.

UB’s comparatively strong “regional” response is indicative of the networking opportunities that are found at disciplinary conferences held by the regional associations of professional bodies, including for librarians, archivists and information managers in Southern Africa. Many of these have their own journals, which, while not being WoS-ranked, are peer-reviewed and valuable in those circles.

On campus itself, managers and academics lament the fact that there isn’t a greater sense of community and collaboration. One manager said, “Talking is very minimal. There is a tendency for me to hide my work from the other person ... I don’t want them to steal my notes, my ideas. Particularly those in the same field as myself, there’s a bit of competition, so there is not much discussion. There’s general discussion, but not really about the actual work that one is doing.”

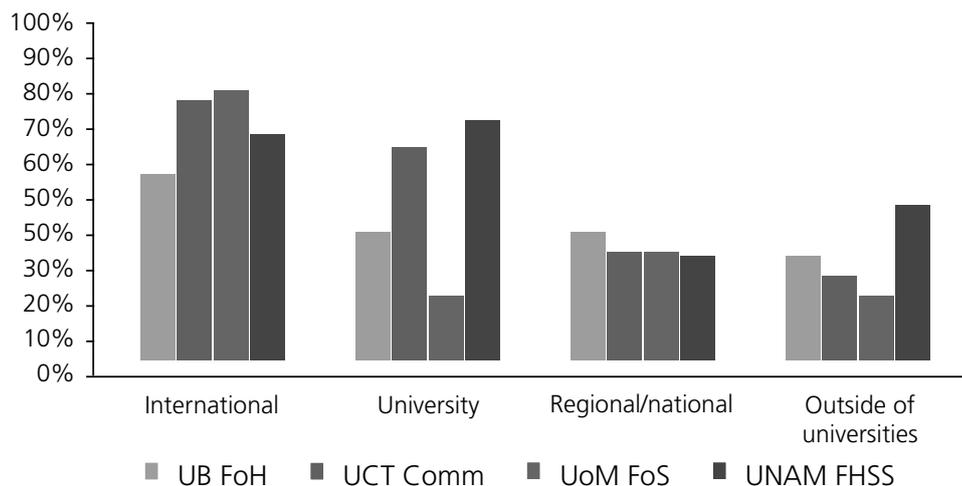


Figure 5.17 Location of scholarly research networks and communities

At UCT, the Comm scholars' response shows how networked the faculty's scholars are internationally, due in part to where many of them come from or were trained (often abroad) and due to the high regard that they enjoy as collaborators from the African continent. They are highly sought-after colleagues for international projects, often acting as the "African experts" in multi-country or multi-continental studies.

The fact that the majority of Comm scholars also list the university as a location of their research network shows how deep the expertise is that exists in the faculty and how rich the environment is in terms of collegial communication. As one of the few research-intensive universities in the country, UCT's scholars often take advantage of their literal proximity to each other, involving themselves in critical communicative communities.

Lastly, while the regional identification of 32% is virtually identical to the proportions expressed at the other Southern African universities we researched, UCT Comm scholars showed the highest comparative sense of belonging to communities "outside the university" (at 46% of the 80% who said they feel a sense of broader research belonging). This is due to the high level of practical application that much of commerce faculty's work has in governmental and industrial circles. Their work matters beyond the academy, thus many scholars feel a sense of the connection with these outside groups (Cooper 2009). Excepting for UNAM, this is not the case at the other institutions, where university linkages with the government, industry and civil society are often weaker.

At UoM, the FoS scholars' high international/low university response is best explained by the fact that, as a small university, many of the academics are the only experts on the campus in a particular field. While a number of scholars may work in the Physics department, for instance, each of them will specialise in researching quite different areas, making it difficult for them to collaborate on research projects. Thus UoM FoS scholars tend to lack the density of connections both within the university and within the country to create a deep sense of research belonging there. But for historical and cultural reasons, those networks are not so much regional as they are international. Many FoS academics obtained their PhDs overseas, with France as a particularly important site for postdoctoral study and early-career work.

The simple lack of population density – and therefore researcher numbers on campus – made it necessary for them to turn outwards for such connections. For this reason as well, UoM scholars were more likely to feel part of an "international" network (81%) than any of the scholarly cohorts that we profiled during our work.

UNAM FHSS scholars' response was unique in that, not only did only half feel a sense of broader connection, but of those, the highest proportion was with those in the university. This is different from the other universities we surveyed where most respondents said their networks were international as opposed to institutional. In this case, the relatively high institutional response reveals the collegial sensibility that the FHSS leadership has sought to instil in the faculty through various seminars, the annual faculty research conferences and the collaborative running of the faculty journal. As members of a university where the research culture is still nascent, these locally collaborative efforts have created more meaningful connections within the faculty than the opportunities beyond it.

Translation and engagement

The fourth and final phase of the research and communication cycle entails translation and engagement. This is the process of sharing one's research beyond the academic community – with students, policymakers, community leaders, industry personnel, etc. – in an accessible language and format.

This work is often unacknowledged in university reward and incentive structures (which focus primarily on scholar-to-scholar communication), though it provides one of the most productive and direct mechanisms for university research to impact national development imperatives. It shortens the feedback loop by which scholarly research gets into the hands of government ministers, community organisers and business entrepreneurs, all of whom may be able to use it for enhancing social welfare, growing the economy or spinning off new innovations.

For the purposes of this discussion, we will focus on the extent to which scholars utilise free Web 2.0 technologies to share their research and enhance their scholarly visibility, and then discuss how they engage with broader audiences by popularising their research.

Web 2.0 sharing

There are a number of freely-available Web 2.0 technologies, or “social media”, that would allow Southern African scholars to overcome certain obstacles that derive from their context (such as geographical isolation from other international academics) and achieve goals that are important in a developing research environment (such as enhanced collaboration opportunities with others). However, these tools do not yet play an important part in most of the scholarly communication ecosystems we profiled.

We conducted a “shadows and footprints” exercise to determine how engaged our pilot site participants were with Web 2.0 technologies on the internet.¹²¹ (At UoM and UNAM, the faculty research site was also the pilot site; at UB, it was the Department of Library and Information Studies (DLIS) within the FoH; and at UCT, it was the Southern African Labour and Development Research Unit (SALDRU), a unit within the School of Economics in the Faculty of Commerce.

A “shadow” is a person's passive online profile that is created without any special effort on that person's part. It is usually made up of random bits of information drawn from events (conference attendance) or organisational contributions (to an academic professional association) that are made available on different websites. It is also generated by aggregators, such as Google Scholar, which create an impression of a scholar's productivity and impact based on the number of citations it can connect to a scholar's articles or books. In both Southern Africa and the global North, the only information available about many academics comes from the shadows they have cast on the internet through their normal activities. They have not engaged with the internet in any strategic way to determine what the public learns about them and their work (Brown 2011; CIBER 2010; RIN 2009, 2010).

121 This research was carried out in September 2012 and thus may have changed slightly since then.

In contrast, a “footprint” is the profile created actively by a scholar on personal websites, departmental web pages, social media platforms (LinkedIn, Facebook and Twitter) and scholarly profiling sites (Academia.edu, ResearchGate and Mendeley). For many scholars internationally, this simply means giving their CVs to a university web administrator to upload onto their departmental web pages. But for the more proactive, it means engaging in a concerted effort to present a coherent narrative of their research interests and activities, plus a list of (and links to) their research outputs. It may also mean a more regular form of personal communication to the public through tweets, shares and blog posts.

According to this research exercise we carried out in September 2012 for our pilot sites, the only Web 2.0 tools that UB DLIS scholars engaged with any interest was LinkedIn. 44% of the staff members had profiles on the site, with the majority of those having fewer than 10 connections (which suggests a nominal, passive use of the site). As a profiling service, LinkedIn is better suited to those trying to maintain professional mobility (by providing basic information about one’s work history) than creating a rich description of one’s research activities, but the low barriers to setting up an account, plus its perceived “seriousness”, make it one of the easier Web 2.0 tools for UB DLIS scholars to embrace. In comparison, only 22% of staff members had Facebook accounts and only 17% had Twitter accounts (and none were active tweeters). This is likely due to the fact that the university prohibits the use of Facebook during work hours (across the UB internet system) while the low density of Twitter users in Botswana, and its perceived “frivolity”, likely reduces the interest in this communication technology.

This relatively low use corresponds with the globally low level of scholarly engagement with such Web 2.0 technologies (RIN 2010; Ware & Mabe 2010). Elsewhere, while scholars acknowledge the potential that these social media have to enhance collaboration (Gu & Widén-Wulff 2011; Morgan, Campbell & Teleen 2012; Pearson 2010), many also see it as frivolous, lacking quality control and unnecessary for successful scholarly dissemination (RIN 2010). Amongst DLIS scholars, the low level of social media is less a sign of resistance than one of unfamiliarity with its potential and concerns about the time that engaging it may involve.

The scholarly profiling platforms – Academia.edu, ResearchGate and Mendeley – made essentially no impact on the department’s scholarly communication activity, with only two of the 18-member department utilising these services. Most, in fact, had never heard of these sites.

More crucially, UB DLIS scholars’ internet footprints still remain far smaller than most of their Northern colleagues who at least enjoy the benefit of a departmental web page that describes their research activities and outputs. At the time of writing, no DLIS scholars were profiled on a departmental website. In the humanities faculty, only a few departments provided lists of their staff members, most just noting where they received their degrees, but not providing any more details.

The combination of the university’s tight control of the website and the academics’ low engagement with scholarly profiling sites (which would allow them to get around certain

institutional barriers) means that UB FoH scholars have far smaller online footprints than they need to have.

Amongst SALDRU scholars at UCT, the only Web 2.0 tools that they engaged with any frequency were Facebook and LinkedIn. 56% of the unit's members had Facebook accounts, though most used it for personal, not scholarly, communication. Meanwhile, 50% had LinkedIn profiles, with half using it actively (boasting dozens of connections) and half using it passively (with only a few connections). In comparison, only 13% of SALDRU members had Twitter accounts, though none actively tweeted messages themselves (at least not during our engagement with them). They were more likely to consume content, following the tweets of other academics, journalists, think-tanks and foundations.

However, due in part to SCAP's engagement with SALDRU, one of the unit's administrators created and maintained an active Facebook and Twitter profile for SALDRU, sharing information about the unit's publications and seminars with a growing number of followers. Though the unit's scholars themselves did not appear to be active consumers or producers of posts or tweets, the administrator was able to use her knowledge of these social media to reach Facebook and Twitter users who were interested in SALDRU updates.

Beyond social media, the more specifically scholarly profiling platforms – Academia.edu, Mendeley and ResearchGate – played very little role in the unit members' scholarly communication activity. One reason why this was the case was because virtually all of them had personal web pages on their departmental sites where they posted information about their research interests and publications. Many also posted CVs on those sites, making them feel that it would be redundant to post all of that same material on a different site.

Thus, because these scholars were active producers of academic content, they enjoyed some level of visibility online. Their personal profiles were provided on their departmental websites and some of their outputs were profiled by journal or book publishers, which were findable through search engines such as Google and Google Scholar (where articles are listed with citation counts provided). But because departmental web page profiles are often written more as a matter of administrative obligation than personal desire, they sometimes provided a thin understanding of scholars' work because the scholars do not invest the time or energy in developing profiles that would provide full pictures of their work. Moreover, because scholars do not always list their publications on their personal pages, their outputs on the internet appeared as random or isolated rather than part of a broader intellectual effort. Indeed, for many SALDRU scholars, their scholarly shadow was more pronounced than their scholarly footprints.

Amongst UoM FoS scholars, the only Web 2.0 tool that they engaged with any frequency (48%) was LinkedIn. Thus, at least as revealed through these various profiling services, UoM FoS scholars cast a very light "footprint" on the internet. The same was true of their scholarly "shadows", especially those produced by the university's website. Though each department had a website on the UoM site where faculty members could profile their own work – or where the administration could provide such information

– only 21% of UoM FoS scholars had even basic details about themselves there. The picture that emerged was that UoM FoS scholars were essentially disengaged from Web 2.0 social and scholarly technologies.

Given that these virtual technologies offer FoS scholars the opportunity to overcome a number of the challenges facing them regarding scholarly networking, collaborating and sharing from their isolated position in the Indian Ocean, it may appear ironic that they did not use them more often. But in reality, they have ways of dealing with these challenges, typically by relying on more traditional methods of collaborating and networking, by keeping in touch with colleagues abroad from their graduate student days, by meeting new colleagues at conferences and by maintaining those relationships by phone or email. Considering the temporal investment involved in learning new social media technologies to achieve these ends, FoS scholars preferred to use more familiar forms of “physical” (as opposed to “virtual”) social networking.

Lastly, UNAM FHSS scholars utilised a number of popular Web 2.0 tools such as Facebook/Myspace (70%) and LinkedIn (50%), but they rarely used them for academic purposes. These were utilised primarily for social purposes, though LinkedIn offered a deeper dimension for occupational profiling. Thus, similar to UoM FoS scholars, UNAM FHSS academics cast a very light “footprint” on the internet.

Part of the reason for this is that most scholars are using the departmental website as the space in which they profile their scholarly activity. When SCAP started its research at UNAM, there was already a solid amount of information on the UNAM FHSS website concerning the education, background and research of each scholar. Since then, the website has been redesigned to allow for a more attractive and robust presentation of personal activity, and – more importantly – the faculty initiated a scholarly profiling effort (an e-portfolio platform) that will tie in with the development of the IR, linking profiles with outputs directly. This will massively enhance the online “footprints” of these scholars. Indeed, it will essentially take what was previously a “shadow” (out of scholars’ control) and turn it into a “footprint” (within their control).

Rewards and incentives

The last element of these Southern African scholarly communication ecosystems to explore is their rewards and incentives systems that, in part, guide scholars’ research production and dissemination. The values analysis discussed above shows that scholars have multiple, and often quite personal, reasons for conducting research, but the official rewards and incentives policies represent a crucial leverage point by the administration for influencing the trajectory, quantity, quality and impact of that research. SCAP considers the following as rewards and incentives:

- Financial remuneration, including research subsidies, patents and royalty payments, direct financial rewards such as research awards, etc. (Taylor 2003: 16)
- Increased research budgets, including conferencing budgets and travel expenditure
- Greater choice in postgraduate research supervision
- Greater choice in terms of research focus, methodology, and outputs

- Decreased teaching and administrative responsibilities (Smart 1978: 408)
- Invitation to prestigious academic societies, boards, and review or policy groups
- Formal (institution-driven) recognition from colleagues and peers (Moses 1986)

UB relies on three official mechanisms to regulate rewards and incentives for conducting and communicating research: promotion evaluations, the University Research Strategy and the performance management system (PMS). Each contains a number of provisions that are meant to encourage research production, some through positive means, others through negatives ones. The periodic promotion evaluations that scholars can motivate to go through offer the potential for a status and pay raise if they are deemed to have fulfilled the various teaching, research and community service requirements set forth for the position. But it also offers the potential of rejection by one's peers and superiors, a painful social outcome to be sure. According to UB scholars, promotion opportunities are a reality at the institution, and 83% of our survey respondents stated that it was a "very important" incentive mechanism.

The University Research Strategy also contains specific measures for encouraging research. It states that productive researchers will be able to have some discretion in the time they have allocated to teaching, research and community service. They will be recognised with performance-related pay increases, promotion opportunities and perhaps an official award. And if they bring in external funding, they will be eligible for reduced teaching obligations and some discretionary funds from the overheads for research purposes (UB 2008c: 10). While most faculty members were positive about the research strategy and its incentives, only 11% of our survey respondents thought it was actually possible to have their teaching allocations reduced through such mechanisms.

Incentives are also regulated through the controversial PMS which is described in Chapter 4. During SCAP's engagement with UB, the PMS elicited great emotion both amongst academics and managers. While most were able to see both positive and negative features in it, scholars tended to be more critical. One claimed that the relatively short (annual) assessment cycles meant that "incentives for researching and publishing are all based on short-term, immediate rewards, which end up promoting low-quality, quick outputs." Others claimed that it "shifts attention from core activities to ad hoc plans and short-term goals, i.e. end-of-year monetary rewards." Most agreed that it created as many problems as it solved, encouraging quantity over quality, and other problems related to the impact of constant surveillance. Managers recognised these deficiencies too, but still thought that the PMS had value.

Nevertheless, the PMS points allocation structure remains the scale by which outputs are assessed. It reveals a conventional preference for "high-Impact Factor" journal articles (eight points minimum), highly commended books (eight points), books (six points) and articles in nationally listed journals (six points), followed by conference papers, keynote addresses, seminar papers and other types of research outputs (one to four points each). These scores are then tallied and weighted according to the "research and publications" weighting that each scholar uses to assess his or her own performance. This point system represents an attempt by the administration to balance its desire to achieve both international recognition and local relevance through academic research.

However, the key element missing from this scoring system is any recognition of whether an output is open access, and whether it is profiled on UBRISA. The university has expressed a general desire for these outcomes, but the fact that these aspects are not included in the PMS means that UB is missing an opportunity to promote the broad accessibility of its research.

At UCT, many of the rewards and incentives listed above are available for Comm scholars. The Department of Higher Education and Training (DHET) provides research subsidies for specified publications while the university offers various research funding top-up opportunities (including for conference and travel costs); increased research and postgrad supervision opportunities; excellence and merit awards (for those who make an outstanding contribution in multiple academic activities); decreased teaching responsibilities for those formally identified as “Research Leaders”; participation opportunities for serving on academic boards and policy groups; and peer recognition (both formal and informal).

In addition to the DHET’s unique subsidy system, the commerce faculty’s guidelines for performance assessment also contain a number of provisions that encourage research production. The periodic promotion evaluations that scholars can motivate to go through offer the potential for a status and pay raise if they are deemed to have fulfilled the requirements set forth for the position. During these assessments, they are evaluated according to four categories of activity: research, teaching and learning, leadership and management, and public and professional service (including social responsiveness). The first and last categories (research and service) are the ones that bear the most on our discussion of scholarly communication.

Regarding research, the guidelines state that “a good, fully competent researcher contributes to knowledge in his/her field of research, at a level appropriate to his/her rank.” The evidence for this competence includes:

- Papers in accredited academic journals (or if the journal is not accredited, evidence needs to be provided of the academic standing of the journal)
- Major research projects such as masters or doctoral dissertations
- Chapters in scholarly, peer-reviewed books
- Authorship of scholarly, peer-reviewed books
- Papers in peer-reviewed conference proceedings
- Applied research reports
- Preparing competitive grant proposals and/or obtaining research funding from outside of the university
- Being rated as a researcher by a recognised research body (e.g. the NRF)
(UCT 2012b: 2)

Thus, the faculty stresses not only the primacy of the research role in a scholar’s work, but also research production that is aimed primarily at fellow academics through journal articles, books, book chapters and conference proceedings.

Regarding public and professional service (including social responsiveness), the guidelines state that staff members are assessed according to their contributions “to bodies outside the University.” While this includes various types of service – as office bearers in professional societies, as editors of research journals, as members on national research or education committees and as advisors to governmental regulatory bodies – it also comprises activities that deal with disseminating scholarly research to non-academic audiences. The guidelines include:

- being asked to give public lectures or participating in public education
 - according service to NGOs, including participation in committees and councils, as well as contributions to policy forums
 - communicating and diffusing the results of academic expertise and research to the public media
 - preparing policy documents for public bodies, companies and civil society agencies
 - publishing results from consultation to a profession closely linked to the candidate’s field of study
 - conducting professional and private work based on the staff member’s academic skills and which contributes to scholarship
 - authorship of textbooks
 - recognising senior staff members for assisting junior staff in making contributions to public and professional service.
- (UCT 2012b: 3)

Thus, the Comm faculty (and UCT in general) does desire that scholars look beyond the academic community for communicating their research, though it ranks this well below that of communicating with fellow scholars. As Table 5.8 shows, while academics are given scores of 1–10 for each of the four categories relative to the staff members’ current job levels and their agreed-upon activity weighting, their service work and communication to outside audiences will likely rate far lower than their other activities.

Table 5.8 UCT Comm scholars’ performance assessment weights

| Scholarly activity | Weight |
|---|--------|
| Research | 25–50% |
| Teaching and learning | 25–50% |
| Leadership and management | 10–25% |
| Public and professional service (including social responsiveness) | 10–25% |

While this weighting system tends to place a higher premium on research and publication activity than at other Southern African universities, UCT Comm scholars did not believe that this focus was as intense as it is in other parts of the world. For instance, one senior academic commented, “I don’t think we’re on a publication mill like they are in the USA. I think if we were on a publication mill I’d probably be a lot more vociferous about the importance of some of these other [outputs and measures of achievement].”

At UoM, scholars are incentivised in only a few of the categories listed above. At the national level, the MRC sponsors the Best Mauritian Scientist Award which provides a

cash prize of MUR200,000 (USD6,451), a stipend of MUR50,000 (USD1,612) to be used for visiting overseas institutions and an award ceremony.¹²² This is a useful form of recognition, but according to scholars, it does not have a great impact on their research and dissemination decisions.

At the institutional level, the UoM Strategic Research and Innovation Framework (SRIF) commits to “reward excellence and achievement in research” (UoM 2009: 9) through:

- financial remuneration, such as prizes for “outstanding accomplishments in research”, “new prizes and awards to best researchers on campus” and the creation of a “UoM Research Excellence Award”
- increased research funding, including provision for overseas workshops and conference attendance
- reduced teaching and administration loads to active researchers
- formal recognition, such as “profiling the achievements of UoM researchers” and “publication awards for quality papers”.
(UoM 2009)

These are all excellent proposals, but FoS scholars say that they are not implemented. One of the reasons why implementation has been incomplete is because of the fluctuations in the top levels of the administration. The former VC, who helped to spearhead these strategies, resigned, and a new institutional champion has yet to emerge to drive the implementation of these strategies.

Because of the shifting fortunes of various institutional strategies, the primary reward and incentive structure to which UoM scholars respond is the official promotion policy. As our values discussion showed, this acts as a highly motivating factor in spurring FoS research. For promotion consideration, scholars are assessed according to three criteria: teaching, research and service (to the university, the profession and the community). Table 5.9 shows the relative weightings that each category can receive, depending on the preferences of the promotion candidate.

Table 5.9 UoM Promotion assessment guidelines

| Promotion | Teaching | Research | Service |
|----------------------------|----------|----------|---------|
| Lecturer to sr lecturer | 30–50% | 30–50% | 10–20% |
| Sr lecturer to assoc. prof | 20–30% | 45–55% | 20–30% |
| Assoc. prof to prof | 10–20% | 55–65% | 20–30% |

As Table 5.9 shows, the relative value of teaching for promotional purposes declines with rank while the research and service components go up. To assess scholarly research, the promotion policy uses a point system in which all types of scholarly outputs are allocated a numerical value which are weighted (according to whether the outputs are of a “very high category” (1 × full mark), “high category” (0.8 × full marks) or “average category” (0.6 × full marks)) and totalled to give assessors a raw score to grade the applicants. The

122 Best Mauritian Research Award, available at: www.mrc.org.mu/Documents/Schemes/BMSAba5.pdf

applicant can argue for the category in which he or she thinks a publication falls, usually relying on indices such as the WoS rating of the journal in which an article is published (if there is one), the level of importance that a particular set of conference proceedings are to one's field, etc.

With regard to format types, the point system rewards the publication of internationally published books, journal articles, book chapters and refereed papers in conference proceedings over those published nationally (by a two-to-one margin), and provides mild recognition for alternative outputs such as reports, technical papers and briefings.

Nevertheless, this leads to a situation in which publication is often erratic, achieved only when scholars seek promotion. It does not provide the constant pressure to produce outputs annually because there is no recognition for temporal consistency. And for scholars who have chosen a more teaching-oriented approach to their careers, it provides little incentive to produce any research at all. Moreover, some scholars suggest that there is no real penalty for not conducting research (if you are not seeking promotion) because teaching remains scholars' "real" obligation, as one scholar shared:

Your performance is measured based on your teaching, and maybe your administration, how far you've been able to successfully run the teaching programme for maybe two years. But even if you do have publications it's no big deal ... If the research doesn't get done, the university doesn't bother. If the teaching doesn't get done, the university bothers.

Of course, for those scholars who do seek promotion, the reward and incentive structure motivates them well enough to publish. This is the case for the majority of FoS scholars.

At UNAM, the Research Strategy (Kiangi 2005) states that scholars are meant to be incentivised in a number of the above categories:

Financial remuneration: Income after costs from commercially viable original intellectual property will be divided in the following fashion: one third paid directly to the inventor(s), while two thirds are divided equally amongst the research group, faculty and university.

Increased research budget: UNAM offers a greater allocation of the university research fund to research groups that publish prolifically (Kiangi 2005: 13). Research groups looking to increase their research infrastructure may, subject to approval, request that the subdivision of income that would normally be allocated to the university from contract work be instead allocated to the group (Kiangi 2005: 30).

Profits earned on contract research may be divided equally between the faculty, the research group involved and the university. Special dispensation for the funds allocated to the university to be redistributed to the research group may be made if the group intends that the funding be used for research infrastructure development. This may be seen as an incentive for researchers as it would increase the prestige of the group and its ability to perform further research, which facilitates future employment for individuals.

Research focus, methodology, outputs: “In order to encourage staff undertaking research, the University affirms the following principles regarding research: the individual scholars will be free to select the subject matter of their research, to seek support from any source for their work and to form their own findings and conclusions” (Kiangi 2005: 12).

Decreased teaching and administration: “For those active in research, the Research Group Leaders and Research Programme Chairpersons will need to discuss with the Head of Department to arrive at a reasonable portfolio of teaching and research commitments for an individual staff member” (Kiangi 2005: 11). Also, “The University will work to provide staff with generous sabbatical leave, and research leave to allow staff to publish results of important research outcomes that would otherwise take longer to reach publication” (Kiangi 2005: 12).

Context-specific incentive: The Research Strategy makes special consideration for research staff on fixed-term contracts, allowing them accelerated promotion (able to apply for promotion after one year, as opposed to the two- or three-year minimum for long-term academic staff). In addition, whenever funding allows it, a 10% premium should be added to the basic salary of a researcher to compensate for their less-secure positions (Kiangi 2005: 44).

FHSS scholars say that most of the incentives above are useful in spurring greater research activity, even if they do not necessarily ensure that the research outputs get disseminated in an effective or open manner. They suggest that there is room for improvement in both the formulation and implementation of these incentives (a fact that has led to the development of the new communications policy) (UNAM 2013).

In addition to these incentives, the administration hopes to motivate scholarly research production through its various promotion and performance guidelines (UNAM 2011b). Thus UNAM research is assessed on a point system that feeds into a broader promotion system. Points are allocated to different types of research and publication outputs. To earn promotion to a higher position, staff must earn a certain number of required points. Essentially, with each promotion up the ladder, scholars are meant to show greater and greater research proficiency, productivity and impact in their fields. They must also possess the requisite advanced degree (i.e. MA or PhD) and have served a certain number of years in the current position before moving up. Table 5.10 shows the relative point values given to the different scholarly outputs that UNAM recognises.

This point system rewards a wide variety of outputs, taking into account both the desire for quantity and quality. As one would expect, it rewards scholar-to-scholar outputs, while allowing for a good deal of discretion in whether the points allocated will be at the high or low end of the range (depending on quality and perceived importance). But it also rewards alternative outputs, allowing, for instance, for the same number of points for the publication of a teaching manual as a journal article (depending on quality). This encourages scholars to produce outputs in multiple formats for multiple audiences.

Table 5.10 UNAM point allocations for scholarly outputs

| Category of publication | Range of units |
|--|--------------------------------|
| Academic books (ranging from medium-sized standard academic work to original, substantive academic contribution) | 3–8 |
| Smaller books and monographs (depending on volume and academic weight) | 1–4 |
| Chapters in books | 1–4 |
| Article in refereed journal/proceedings (depending on research input, academic substance and originality) | 2–4 |
| Research report (depending on the quality of the research, sample size, depth of analyses, etc.) | 1–2 |
| Academic papers published in conference or workshop proceedings | 0.5–1 |
| Consultancy, technical and commissioned reports available for reference in local/regional libraries | 1–2 |
| Teaching manuals and study guides (depending on size, format and academic quality) | 1–4 |
| Contribution as editor (ranging from compiler of workshop or conference proceedings to editor of academic work) | 1–3 |
| Creative work: original creative work (art, music, novel, drama, literature, computer software, electronic media, video production, etc.); depending on the nature and quality of the creativity | 1–4 |
| Unpublished national and international conference papers and posters | 0.5–1 |
| Article in popular publication e.g. newspapers and magazines – these are not considered as refereed scholarly works and a maximum of one publication point can be earned under this category | 0.5–1 |
| Recognition for administrative duties | 4–8 (1–2 refereed articles) |

For a development-oriented university, this point system tries to ramp up the production of traditional scholarly outputs while also trying to communicate scholarly knowledge beyond the academic domain by recognising alternative outputs that are more likely to be aimed at civil society, industry and government, the very groups that can leverage scholars’ research for developmental purposes.

Do these reward and incentive systems achieve their goals?

However, the key question to ask about the reward and incentive structure is not just whether it is resulting in the desired quantity and quality of research outputs, but whether it is having the impact that the university and the government wants it to have. To put the question in another fashion: a university’s values should inform its mission; its mission should inform its policies (rewards and incentives); and its rewards and incentives policies should yield the impact that it desires (Figure 5.18). But do the rewards and incentives actually lead to the impact that the university says it desires?

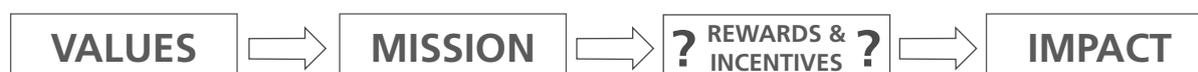


Figure 5.18 Visual representation of rewards and incentives’ relationship to impact

1. Does the UB reward and incentive system help FoH research outputs to:

- aid national development?
- secure international recognition?
- reach a broad national audience?

Only the university and the government can say whether the university's research is aiding national development, but the policy environment and the research funding priorities of the Office of Research and Development (ORD) enhance the likelihood that it will do so since development-related projects are prioritised in terms of research funding allocation.

Regarding the desire for international recognition (prestige) through university research, the PMS's high point allocation for Impact Factor journal publications offers one method of trying to secure it. Such publications (in WoS-rated journals) are often the only metrics that matter to overseas assessors, thus the PMS does provide a useful incentive for scholars to produce them. However, if the PMS runs in tandem with an annual performance assessment that promotes quick and easy outputs, then this could undercut the longer-term efforts necessary for high-prestige outputs.

Lastly, the PMS incentivises the production of multiple output types, a fact which increases the likelihood that UB research will be accessible to multiple audiences nationally. But it is not enough to produce outputs in different genres to reach a broad set of stakeholders. It is also important to find the right method for disseminating those diverse outputs, which we believe is open access.

2. Does the UCT reward and incentive system help Comm research outputs to:

- secure international recognition and impact the field?
- usher in a knowledge economy?
- spur national and social development?

The answer to the first two questions is largely "yes". Certainly within Africa, UCT is the most "recognised" university for research impact, and Comm faculty members are well-connected to scholars around the world. The faculty is also a large, dynamic body that is responsible for training scholars, researchers, accountants and other types of people who help to drive a knowledge economy. Though it is difficult to quantify the faculty's impact in either of these regards, Comm members feel confident that they are making a positive impact on both scores.

Regarding whether their work spurs national and social development, many Comm scholars believe that it has the potential to do so if it is seen, understood and acted on by the right people (such as policymakers, civil society personnel, industry players, entrepreneurs and so forth). The problem has been that they are less incentivised to communicate their work to these audiences than they are to other scholars (as we have seen above). Thus, most of their outputs end up in scholar-to-scholar communication channels with long feedback loops, meaning that they circulate within a relatively bounded academic

sphere for a long time until they are either forgotten or accepted as “knowledge”, and then enter the broader public sphere of communication.

3. Does the UoM rewards and incentives system help FoS research outputs to:

- achieve the nation’s goal of becoming a regional innovation hub?
- usher in a knowledge economy?
- spur national and social development?

According to a number of scholars we interviewed, their research does do some of these things, or at least it could if it were more visible, or if it reached the right audiences. The problem is that most outputs end up in scholar-to-scholar communication channels with long feedback loops, meaning that they circulate within a relatively bounded academic sphere for a long time until they are either forgotten or accepted as “knowledge” (at which point they enter a broader public sphere of communication).

In many cases, this long feedback loop makes sense because it is useful for ideas to be vetted by colleagues who can critique, refine and enhance them. But the long feedback loop can also add an unnecessary delay to the dissemination of good ideas to members of the public – including government ministers, civil society organisations, entrepreneurs, community activists, students and industrial players – who could leverage them for developmental purposes in their own contexts. The problem, ultimately, is that it is unclear whether the government (and also the university) can achieve its developmental and “knowledge hub” ambitions by relying on the traditional, closed, scholar-to-scholar communication feedback loop. We would argue that these goals can be reached more quickly through an open communication approach that allows all Mauritians (not just industry players) to have access to UoM’s research outputs.

4. Does the UNAM rewards and incentives system help FHSS research outputs to:

- spur national and social development?
- usher in a knowledge economy?
- secure international recognition?

In many ways, the university’s policies are in alignment in this regard, especially because it offers substantial recognition for non-traditional communication formats. However, it is misaligned in that the promotion policy focuses on rewarding scholars for publication without any regard for whether publications are open or closed, disseminated to the public or not. The policy appears to trust commercial publishers to disseminate their scholars’ work, failing to take into account that most of those publications will only be accessible to other scholars who boast university subscriptions to the relevant journals (many of which UNAM cannot even afford). This was the case while SCAP was engaged with UNAM formally, but at the time of writing this study, UNAM was engaged in a substantial revision of its research and communications policies (which contain explicit OA commitments), thus these may serve to inform the rewards and incentives under which scholars operate in the future.

Conclusion

In this chapter we have seen how challenging it is to make generalisations about different institutions' and faculties' scholarly communication ecosystems, even if they share a common "Southern African" location and identity. Their particular histories, traditions, disciplinary norms and visions for their futures impact how their academics carry out and disseminate research. But we can summarise some of the key elements of those ecosystems for analysis and comparison.

The UB scholarly communication ecosystem is in a period of significant transition. While its activity is still characterised by the goals of the previous teaching-oriented mission, it is starting to grapple with the challenges entailed in moving towards a research-oriented mission. Teaching loads remain heavy, administrative loads are substantial, yet scholars are responding to the new institutional mandate to produce research and publications. But FoH scholars say they require more time set aside for research and more funding opportunities to carry it out. At the moment, they feel pulled between too many obligations, with each of them suffering as a result.

Governed by a strong, centralised administration, FoH scholars feel increasing pressure to ramp up their level of research productivity. But this top-down control has bred a certain resentment of, and resistance to, the administration's dictates, negatively impacting scholars' uptake of UB's IR, the proposed open access commitments in the IR policy and the constant assessment of scholarly performance through the PMS. However, the institutional mandate to produce research has led to identifiable increases in research production, even if that has not been accompanied by a cohesive communications strategy. While scholars produce a range of diverse outputs, they are relatively content to share them with fellow colleagues through traditional publishing formats (journals, books), regional conferences and seminars. The reward and incentive structure that shapes such communicative behaviour does not give greater recognition to outputs that are open vs closed, meaning that a lot of the research produced by FoH scholars remains unavailable to government, civil society and industry personnel who might be able to leverage it for their own – or broader social – purposes.

At UCT, the Comm scholarly communication ecosystem is a highly productive research activity system driven by a collegial institutional culture and supported by a relatively generous national funding system. As part of an elite university, the challenges facing the Comm activity system are not so much that of the various "lacks" that typify conditions at many other Southern African universities – lack of money, resources, time, staff, capacity, graduate students, etc. – but that of remaining in touch with the realities of the surrounding environment (which, for so many South Africans, *is* defined by a series of "lacks"). Another challenge it faces is recognising that the world of scholarly communication has changed and that the traditional mode of dissemination no longer suffices to assure visibility and impact.

At UoM, while the FoS is the most productive faculty in terms of research outputs – boasting an internationally trained academic staff, many of whom are leading experts in their fields – they work in a largely teaching-oriented institution where research comprises just one of many scholarly activities and where local collaboration remains

rare due to a lack of specialists in the same fields. Governed by a centralised, but weak, administration, scholars are free to determine their own level of research productivity based on the intensity of their personal desire. But this freedom is limited by heavy administrative burdens that make it difficult for them to get even basic things done quickly or efficiently. However, while the high level of autonomy that scholars enjoy allows them to pursue research on their own terms, it also leads to an ad hoc research culture, characterised by highly variant levels of research excellence. This carries over to the question of scholarly communication, in which the institution provides little strategy or guidance for how scholars should communicate their research in an optimal, open fashion. While some senior scholars make a point of sharing their findings with the public through non-academic channels, most are content to direct their outputs only to colleagues through traditional publishing formats. The reward and incentive structure that shapes such communicative behaviour does not give greater recognition to outputs that are open versus closed, meaning that a lot of the research produced by FoS scholars locked behind journal subscription paywalls (unless they are on arXiv or *PLOS ONE*).

Lastly, at UNAM, the FHSS has recently started running its own research journal. It has shown leadership in the field of scholarly communication. Its senior academics, in particular, have shown great interest in and energy for increasing the faculty's research production, visibility and impact. As part of a young institution that is trying to move from a teaching-oriented mission to a more research-oriented one, the FHSS is trying gradually to enhance its nascent research culture so that it can make a greater contribution to national development and global scholarship. This is in line with both the government and administration's desire for UNAM research to lead to developmentally relevant outcomes. It is also one of the reasons why the primary motivations for conducting research are to generate new knowledge and to enhance teaching.

Scholars work in a policy environment characterised by high levels of responsiveness to changing research and scholarly communication trends. The UNAM leadership, and FHSS leadership in particular, have sought to engage the institution with global communication practices even as UNAM remains true to its own locally determined development imperatives. This has meant that the administration has been relatively quick to investigate, develop and promote policies that upgrade research production and open access scholarly communication. Though few FHSS scholars go out of their way (at the moment) to assure that their own research outputs are made open access, they believe in the open access ethic, a sentiment that the administration is leveraging in its new policies.