



RESEARCH UPTAKE

STRATEGY & TACTICS

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Enquiries:
Shaun Pather
RTI Strategic Initiatives and Partnerships
Email: pathers@cput.ac.za

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PART A: RESEARCH UPTAKE STRATEGIC PERSPECTIVE

Current trends indicate a renegotiation of the actual social contract between science and society - that sees society as an active partner in the creation of socially robust (as opposed to reliable) knowledge¹

1 Introduction

In general, CPUT, like other South African Higher Education Institutions (HEIs), has operated around three key pillars viz. Teaching, Research and Community Engagement. As an emerging University of Technology (UoT) we have made great strides since our inception in 2005 towards nurturing, and building our research and technology innovation (RTI) portfolio. We are hence well versed with the various elements of research practice and the management thereof, with increasing pockets of excellence across the university.

One of the key indicators of the health of a university is its research output. Academic researchers have been spurred on over the years by a “*publish or perish*” imperative. Consequently the balance of forces, from a research effort perspective, has generally been inequitably skewed towards the goal of publishing, with less effort toward the goal of ensuring the *uptake* of research output. This document thus serves as a basis to rectify this skew, and to ensure a more even focus of RTI practice at CPUT.

Over recent years the parameters related to the practice of research amongst HEIs has widened. The National Development Plan of South Africa is critical of the Higher Education System for its “*poor knowledge production that often does not translate into innovation*”². As a University of Technology (UoT), one of our strengths is our formidable partnerships with the world of work and industry, which is a hallmark of our teaching and learning programs. As such our research activity is already oriented towards an applied focus, and is generally characterized by research outcomes which are geared towards solutions to real world practical problems, and thus uptake. This in turn has ensured that we are better oriented to address the innovation chasm, and is a critical foundation of our distinctiveness as a UoT.

Consequently, the notion of innovation, as framed by national policy and its associated institutions³, has now been firmly integrated into our university system. Our Vision 2020 exhorts us *to be at the heart of technology education and innovation in Africa*. The 2012 RTI ten-year blueprint provides a framework for achieving this vision. Our RTI vision directs us

To unlock the potential of staff, students and partners to excel in research, technology and innovation that offer solutions to the needs of society.

¹ Estabrooks, C.A., Norton, P., Birdsell, J.M., Newton, M.S., Adewale, A.J. and Thornleyf, R. 2008. Knowledge translation and research careers: Mode I and Mode II. *Research Policy*, 37: 1066–1078.

² South Africa. South Africa-National Development Plan: Vision for 2030. The Presidency, 11 November 2011: 271.

³ E.g. The National Innovation Agency.

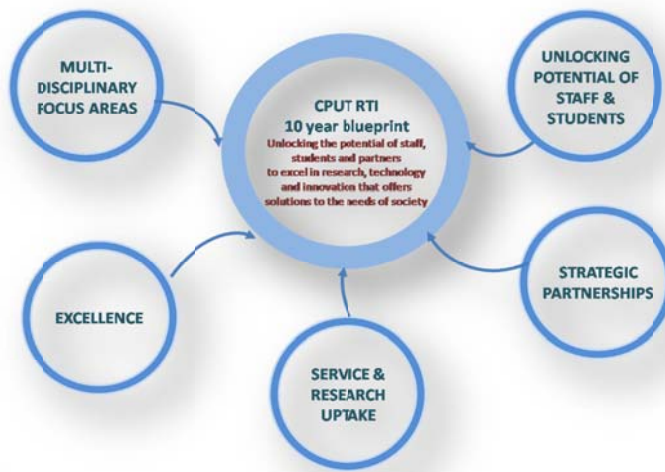


Figure 1: The Five Pillars of CPUTs RTI Blueprint provides an overarching framework for its distinctiveness

The RTI Blueprint *implementation plan* which was derived from the foregoing, seeks to ensure that our university system is continuously adapted and enriched, through the five pillars of our blueprint, to ensure we address the complexities of the innovation gap to achieve this vision. It thus provides a framework to pursue a research uptake (RU) strategy.

The CPUT research uptake strategy furthermore must be cognisant of the critique of the ivory tower notion of universities which still prevails today. Estabrooks et al. (2008)¹ make a very important case that

“Traditionally, universities served as intelligence banks that were publicly funded in return for academic contributions to the betterment of science. This relationship helped sustain the traditional (ivory tower) view of the academy. It allowed self-determination of research agendas and it limited academic accountability to scientific disciplines rather than the public”

The essence of a research uptake strategy, as indicated in the epigraph (pg 3), is indeed to ensure that the renegotiation of the social contract between science and society (*ibid.*) is pursued. In doing so the overarching goal must be to ensure the production of *relevant science*, in the first place, and then to actively take steps to ensure the application of the scientific product within society.

The CPUT research uptake strategy also recognises the research fatigue that some of our stakeholder communities suffer. It thus supports the notion of a research outcome legacy for our stakeholders to benefit from our research endeavour in a practical manner.

The following sections provide further background and context of the Research Uptake Strategy. This includes

- Key definitions
- An overview of the DRUSSA program
- Exploring the concepts of Research Uptake and Research Uptake Management
- The context of Research Uptake at CPUT
- Strategies to institutionalise Research Uptake at CPUT

2 Key definitions

- **Research Uptake** refers to

the processes by which the knowledge which is generated through research finds its way to those who need it, including practitioners, end-users, policymakers in government and other agencies (DRUSSA, 2012).⁴

Research Uptake encompasses the notion that research is intended for particular, pre-defined outcomes and for particular audiences and users; it is made accessible and intelligible to them by strategic communication planning, producing and publishing the research findings in appropriate formats and media. It is a planned, stakeholder focused approach.⁵

Applied Research for Uptake and Utilization refers to research that is conceptualized, planned and conducted in ways that optimize conditions so that the findings can be utilized in practical application and specifically for interested and affected stakeholders.⁶

Research Uptake Management uses a "whole research cycle" model and methodology. It is a purposeful, iterative process that addresses internal (researchers and institutional) and external (funders and beneficiaries) stakeholder requirements. It involves including a dissemination and uptake strategy when planning, carrying out and evaluating the research, so that the resultant knowledge and information is produced in formats and on delivery platforms that are appropriate for the target user.⁷

3 Harnessing the DRUSSA programme to advance CPUT Research Uptake strategy

CPUT is one of 22 universities who have been fortunate to have been selected to participate in the Development Research Uptake in Sub-Saharan Africa (DRUSSA) programme. The program aims to equip a number of universities in the region with the capacity, knowledge and tools to get their research onto policymakers' desks and into use by countries' citizenry.⁸

DRUSSA was established in October 2011 followed by a two-year design and development phase, and consists of five entities (ibid):

- UK-based Association of Commonwealth Universities (ACU), an organisation with 110 African member universities;
- The Centre for Research into Evaluation, Science and Technology (CREST) at the University of Stellenbosch;
- Organisation Systems Design (OSD), a South African-based consultancy specialising in facilitating change in the research management and capacity-building sectors in Africa;

⁴ DRUSSA. 2012. What is Research Uptake? Development Research Uptake in Sub-Saharan Africa (DRUSSA), www.DRUSSA.org

⁵ Grobelaar, S. (n.d.). Knowledge to Policy. Development Research Uptake In Sub-Saharan Africa (DRUSSA), Short Course, Presentation. Centre for Research on Evaluation, Science and Technology, University of Stellenbosch. <http://sun025.sun.ac.za/portal/page/portal/Arts/CREST/DRUSSA/Knowledge%20to%20policy%20Sara%20Grobelaar.pdf>

⁶ DRUSSA (n.d.) Handbook Series: Institutionalising University Research Uptake – A Framework For Strategy. First published at www.drussa.net/drussa.mobi under the CC BY NC SA 3.0 licence.

⁷ Grobelaar, S. 2012. Development Research Uptake in Sub-Saharan Africa. CPUT DRUSSA Inaugural workshop. Slide Presentation, 04 October 2012.

⁸ DRUSSA. 2012. About DRUSSA. [www.DRUSSA.org]

- Uganda National Council for Science and Technology (UNSCT), a Kampala-based Government Agency focused on the development and implementation of Science and Technology policies and strategies into the national development process; and
- The Council for Scientific and Industrial Research (CSIR) – Science and Technology Policy Research Institute (STEPRI), Accra, Ghana, facilitating the development, transfer, utilization and management of Science, Technology and Innovation (STI) in Ghana and Africa.

The DRUSSA programme (*ibid*)

- Addresses the demand for stronger Sub-Saharan African (SSA) participation in local pro-poor development research programmes.
- Helps Sub-Saharan (SSA) universities' efforts to ensure their local pro-poor research impacts on policy and practice in their countries.
- Promotes the dissemination of poverty reduction research beyond the academic domain to include and build a socially interactive community of organisations and individuals working in pro-poor development.

According to the DRUSSA funding organisation, the Department for International Development (DfID), UK⁹, the rationale for the programme is:

- In the context of Evidence Based Policy Making, research-intensive African universities can play an important role in contributing to the contextualised evidence base to address specific development challenges, and by stimulating demand for better and stronger evidence.
- These African research institutions' capacity is a key resource for policy makers and people working in development, but this capacity is under-resourced and under-utilised, and consequently not fulfilling its potential.
- There are numerous examples of university-based research that have an impact on poverty reduction. However, there is also evidence of dynamics at these universities that prevent research being disseminated outside the academic domain, let alone being taken up by individuals and organisations that want and need evidence to tackle development problems.
- The DRUSSA programme aims to improve the accessibility, *uptake and utilisation* of locally contextualised development research evidence on a number of focus areas, including climate change and environment, health, information, education, governance, food security, livelihoods for children, women and men in Africa, so as to inform Sub-Saharan and global development policy and practice.

4 Research Uptake

The concept of uptake, in its strict literal sense means *the act of accepting or taking up something on offer*.¹⁰ This can be construed in various ways, including acceptance, or consumption. In examining current *typical* RTI activity at CPUT the following may be considered as elements of research uptake:

⁹ Department for International Development, UK. Research for Development Project Record.
<http://www.dfid.gov.uk/r4d/Project/60848/Default.aspx>

¹⁰ Collins English Dictionary. 2009. Complete & Unabridged 10th Edition.

- Formal research outputs (journals, conference proceedings, books): Contribution to the formal body of knowledge to be consumed mainly by other researchers, students and academe in general.
- Dissemination of results and successes via in house publications: For consumption of internal stakeholders of the university;
- Implementation of innovation processes to commercialise research outputs: Products are commercialised and thus research output is taken up and put into use through implementation of the innovated product, artifact or service.
- Contract research: The research outputs are directly consumed, as it has been contracted for by a client.

However, given the definition of Research Uptake (refer to Section 2), it is incumbent upon CPUT to expand its scope of research uptake activity.

DRUSSA draws a parallel with currently familiar terms such as ‘*research communication*’, ‘*research dissemination*’, ‘*research utilisation*’, and ‘*research into use*’ with that of research uptake. The following extract provides a more detailed perspective of what is implied by research uptake:

*Where “communication” and “dissemination” suggest a more limited conceptualisation of “pushing research out” from the university or research institute in which it was produced, and “utilisation” suggests the activities of the “end user” as they incorporate new knowledge into their practical or policy oriented work, the use of “research uptake” is intended to encompass all of these dimensions. At the same time, there is a need not simply to communicate research to users once completed, but to effectively scope and understand their needs in the initial stages of project design, and in some cases to involve them in research as it progresses. The ability of universities to respond to the research needs of its stakeholders in the design and undertaking of work therefore also forms part of a comprehensive research uptake approach”.*¹¹

The foregoing thus emphasises that research uptake starts in the early stages of the research cycle, instead of a narrowly focused end-goal of dissemination. Boshoff (2012)¹², emphasises *utilisation* in his description of research uptake:

*“the process whereby research findings enter the domains of intended but also unintended audiences. It is a complex process as the audiences can be multiple (practitioners, policymakers, scholars, general public, etc.); the notion of ‘uptake’—which corresponds to ‘utilisation’—can assume different meanings.... and a variety of modes exist whereby research can reach user audiences....”*¹²

As an illustration, an example of research uptake follows:

¹¹ DRUSSA. 2012. What is Research Uptake? Development Research Uptake in Sub-Saharan Africa (DRUSSA). http://www.DRUSSA.net/index.php?option=com_content&view=article&id=1273&Itemid=365&lang=en

¹² Boshoff, N. 2012. Nelius Boshoff on Research Uptake Management. Development Research Uptake in Sub-Saharan Africa (DRUSSA). [http://www.DRUSSA.org/index.php?option=com_content&view=article&id=1318%3Aanelius-boshoff-on-research-uptake-management&catid=206%3Aword-of-the-moment&Itemid=299&lang=en](http://www.DRUSSA.org/index.php?option=com_content&view=article&id=1318%3Anelius-boshoff-on-research-uptake-management&catid=206%3Aword-of-the-moment&Itemid=299&lang=en)

“...A good example of effective research uptake is the mother-to-child-transmission study carried out at the Africa Centre in South Africa’s KwaZulu-Natal (KZN) province some six years ago. Research seldom finds its way into policy quickly and this study was no different. The findings were adopted into government policy in 2010” (DRUSSA, 2012)¹³

The latter hones in on uptake in terms of *policy implementation*. Policy impact is associated in much of the currently publicised DRUSSA discourse, and even in other related reports such as Adolph, Herbert-Jones and Proctor (2010)¹⁴, and for example the following quote from a DRUSSA blog:

*“...and there is quite a lot more to the concept of “policy” than laws passed by national governments—research communicators can substantially increase their strike rate if they cast the net wider and smarter in their attempts to bring research to the attention of change makers”.*¹⁵

5 Research Uptake Management (RUM)

Research Uptake Management (RUM) is an emerging university management field with a practical, cost-effective and sustainable approach to getting research into use. It requires specialist individual capacity, aligned organisational structures and strategic management processes to optimise conditions for the dissemination, uptake and application of scientific evidence.¹⁶

DRUSSA (ibid.) provides the following expansive definition of RUM (emphasises by author):

- “Research Uptake Management (RUM) works with scientific research that has both a traditional focus on building and disseminating the bodies of knowledge created in the academic domains and a newer and wider focus on maximising the conditions for the application of these bodies of knowledge to achieve outcomes that have a developmental impact.”
- [RUM] has to have an additional and equally important focus: ensuring the accessibility of research findings by communicating and disseminating knowledge in different ways for different categories of users.
- [RUM] is undertaken in a context of rapidly improving ICT capacity and integration that provides research institutions with the means to reach multiple audiences and readerships in innovative ways.
- RUM uses a “whole research cycle” model and methodology. It is a purposeful, iterative process that addresses internal (researchers and institutional) and external (funders and beneficiaries) stakeholder requirements.
- It involves including a dissemination and uptake strategy when planning, carrying out and evaluating the research so that the resultant knowledge and information is produced in

¹³ DRUSSA. 2012. Defining the field. First published at www.DRUSSA.net/DRUSSA.mobi under the CC BY NC SA 3.0 licence . Development Research Uptake in Sub-Saharan Africa (DRUSSA). [www.DRUSSA.org]

¹⁴ Adolph, B., Herbert-Jones, S. , Proctor, F. 2010. Learning lessons on research communication and uptake, Part 1 – Working Paper. UKAid, Department of International Development, Triple Line Consulting Ltd.

¹⁵ DRUSSA. 2012. Policy is more than mere legislation. Interview Extract, Dr Kirsty Newman, 17 April 2012. http://www.drussa.net/index.php?option=com_content&view=article&id=1281%3Apolicy-is-more-than-mere-legislation&catid=203%3Adefining-the-field&Itemid=300&lang=fr

¹⁶ DRUSSA. 2012. What is Research Uptake Management? [www.DRUSSA.net]

- formats and on delivery platforms that are appropriate for the target readership(s)/audience(s)/user(s).
- Formal strategic Research Uptake Management directly addresses a neglected area in research institutions' spheres of operation. It provides the capacity for an institution to demonstrate, practically and tangibly, how it engages with the communities in which it is located.
 - RUM provides evidence of scientifically validated solutions for the natural and social challenges that people face in their daily lives.

6 CPUT's Research Uptake Context

The localisation, and concomitant institutionalisation of Research Uptake objectives presents CPUT with a unique opportunity to distinguish itself from other HEIs in terms of a unique approach to research and innovation. It presents us with an opportunity to develop our human resource capacity, and appropriate policies and systems to ensure our research output is *communicated* to appropriate stakeholders; and that such output is *transformed and applied* within appropriate societal contexts.

In terms of the latter it is important that CPUT's strategy ensures the application of research outputs towards developmental goals in the South African and African context. The multiplier effect of research uptake practice will elevate the status of CPUT and ensure the application of our collective research output for the benefit of our stakeholders across the quadruple helix¹⁷. In doing so, CPUT can make a more concerted and distinguished contribution to the improvement of life in our country and the African continent.

From a CPUT perspective, it is more appropriate to cast our definition of research uptake more widely than a policy impact parameter. Whilst we recognise the importance of ensuring policy impact, and we should encourage research in this direction, the very ethos of our identity as a UoT directs also directs us to a wider view of research uptake. For example our focus on applied research, and innovation provides a solid foundation to embrace the notion of research uptake. Thus the notion of "utilisation" as alluded to by Boschoff (2012)¹⁸ and the alignment to "end user" communities who will incorporate "new knowledge" into their practical work provide a more appropriate and a wider ambit for CPUT's Research Uptake strategy focus.

CPUT's approach to Research Uptake is thus best framed by the following:

Research Uptake encompasses the processes by which the knowledge which is generated through research is adapted, and transformed into outcomes which are applied within designated real-world contexts. Uptake thus implies communication of research outcomes to user audiences. Uptake also encompasses innovation which is the process of transforming research outputs into a new or improved service, product, process, approach or policy which addresses an identified need in any sphere of society.

¹⁷ The quadruple helix comprises for key stakeholder groups: Academe, Industry, Government, and Civil Society.

¹⁸ Boshoff, N. 2012. Nelius Boshoff on Research Uptake Management. Development Research Uptake in Sub-Saharan Africa (DRUSSA).

[http://www.DRUSSA.org/index.php?option=com_content&view=article&id=1318%3Aanelius-boshoff-on-research-uptake-management&catid=206%3Aword-of-the-moment&Itemid=299&lang=en]

Based on the above definition, we therefore place a premium on our stakeholders who are involved in our research, and who provide a rich environment for the collection of data and evidence. These stakeholders include industry, governments, NGOs, civil society, amongst others. A research uptake ethos thus will create an enabling environment for the translation of research findings into practical guidelines, frameworks, models, technologies, systems and services.

6.1 Transformative nature of knowledge creation

Hessels and Van Lente (2008)¹⁹ argue that science systems are in transformation, and that probably the most famous account of transformation is the concept of ‘Mode 2’ knowledge production. The transformative nature of knowledge creation must be considered as we pursue a modus operandi of Research Uptake. The concept of Mode 2 knowledge was posited by Gibbons et al (1994)²⁰. Its broad thesis, that the production of knowledge and the process of research were being radically transformed, struck a chord of recognition among both researchers and policy makers (Nowotny et al., 2002)²¹. It is thus important that we distinguish Mode 2 science from that of Mode 1, or more traditional approach to scientific pursuit (Figure 2).

Mode-1 science	Mode-2 science
Academic	Academic and social
Mono-disciplinary	Trans- and disciplinary
Technocratic	Participative
Certain	Uncertain
Predictive	Exploratory

Figure 2: Comparison of Mode 1 and 2 Science²²

In light of the foregoing, a key feature of pursuing a Research Uptake strategy encompasses our ability to traverse the boundaries of academe to ensure a strong interconnection between research practice, and that of society (industry, government and communities) at large, and within a framework of Mode 2 science.

6.2 Translational Research

While Research Uptake (RU) looks to ensure that knowledge generated by research is appropriately consumed by the correct end-user, Translational Research (TR) concerns itself with the production of that knowledge. While many definitions exist^{23,24} the broad understanding of TR is the capacity to move

¹⁹ Hessels, L.K. and Van Lente, H. 2008. Re-thinking new knowledge production: A literature review and a research agenda. *Research Policy*, 37: 740–760.

²⁰ Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P., Trow, M., 1994. *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. SAGE, London.

²¹ Nowotny, H., Scott, P. and Gibbons, M. 2002. Re-Thinking Science: Mode 2 in Societal Context. Online:

<http://comparsociology.com/wp-content/uploads/2013/02/Mode2-Science-Gibbons-Nowotny.pdf>

²² Martens P. 2006. Sustainability: science or fiction?. *Sustainability: Science, Practice, & Policy* 2(1):36-41. Published online Jan 18, 2006. <http://www.google.co.za/archives/vol2iss1/communityessay.martens.html>

²³ Rubio, D.M. et al. 2010. Defining Translational Research: Implications for Training. *Academic Medicine*.85(3): 470–475.

discoveries made in the laboratory (via basic and applied sciences) to widespread application in community settings (e.g. “bench-to-bedside” and “bedside-to-community”)²⁵. The TR agenda thus promotes a focus on the application of discoveries/innovations/new knowledge so as to accelerate embedding best practice into community or practice environments. Researchers interested in translational research (as an example those in the public health research) seek knowledge that is relevant and apply it through a translation research approach. To this end, TR is inexorably linked to the end goals of RU.

From CPU’s perspective, fostering a translational approach to research will involve producing multi-skilled, multi-disciplinary researchers that can perceive broader implications of academic findings on the individual and ultimately, those in society that are most in need.

6.3 A seamless trajectory from applied research to uptake

In pursuance of Mode 2 science, it is useful to distinguish between the two common types of research. The OECD²⁶ provides the following widely-accepted definitions of basic versus applied research:

- **Basic research:** experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.
 - **Applied research:** Original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective.
- Thus in terms of the latter, CPU already distinguishes itself in terms of an Applied Research focus and related RTI practice which strives to produce knowledge aimed at practical solutions, which are directed at the needs of society (Figure 3).

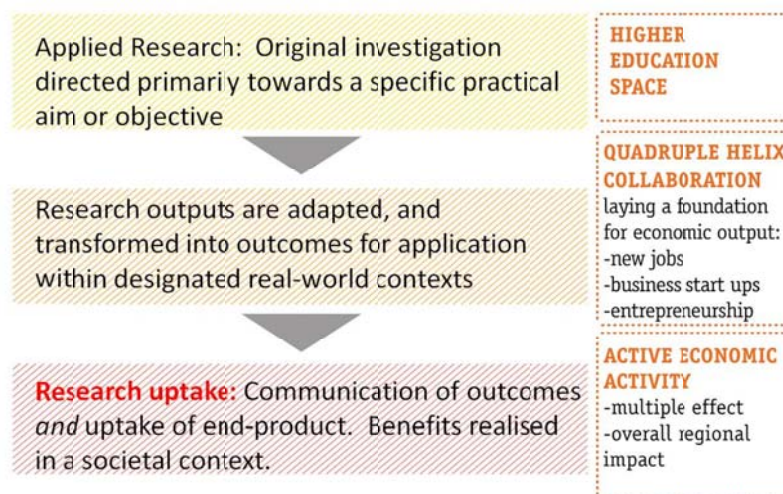


Figure 3: Key components in knowledge production: From Applied Research to Uptake

²⁴ Woolf, S. 2008. The Meaning of Translational Research and Why It Matters. *JAMA*. 299(2): 211-3.

²⁵ Khoury MJ. et al. The continuum of translation research in genomic medicine: how can we accelerate the appropriate integration of human genomic discoveries into health care and disease prevention? *Genet Med* 2007;9(10):665-674.

²⁶ OECD (2002), Frascati Manual, Sixth edition, p.30 also available through OECD Glossary of Statistical Terms, <http://stats.oecd.org/glossary/index.htm>

By implication, the pursuance of a research uptake strategy implies that CPUT's systems must be continuously adapted to ensure a seamless trajectory from the traditional activity of research to that of uptake. A research uptake orientation thus requires the institutionalising of appropriate processes, the development of supporting facilities, infrastructure and the strengthening of partnerships to ensure a more robust collaboration amongst the quadruple helix.²⁷

6.4 Planning for the whole research cycle

In addition, a Research Uptake orientation requires a re-think of the research planning processes, which must encompass planning for the **Whole Research Cycle** (Figure 4). This entails a focus on research uptake from the outset. This thus requires that the point of departure to **research problem conceptualisation** during the scoping stage should be within real world contexts. Research problem should thus, in the main be informed by the needs of stakeholders, rather than in narrow inward looking silos.

Planning for the Whole research cycle will require a paradigm shift in approach to research. A research uptake plan should become par for the course. In this regard, it must be recognised that it may not be possible to determine explicit details of uptake at an early research stage. However it is important that stakeholders should be considered from the beginning and sought out from the scoping stage if it is deemed appropriate.

Thus planning must at the very least incorporate a high-level plan which articulates the parameters for uptake to take place. As a minimum, however, all research planning should include a plan for *communication* and *messaging* of research results to a range of applicable end-users and stakeholders.

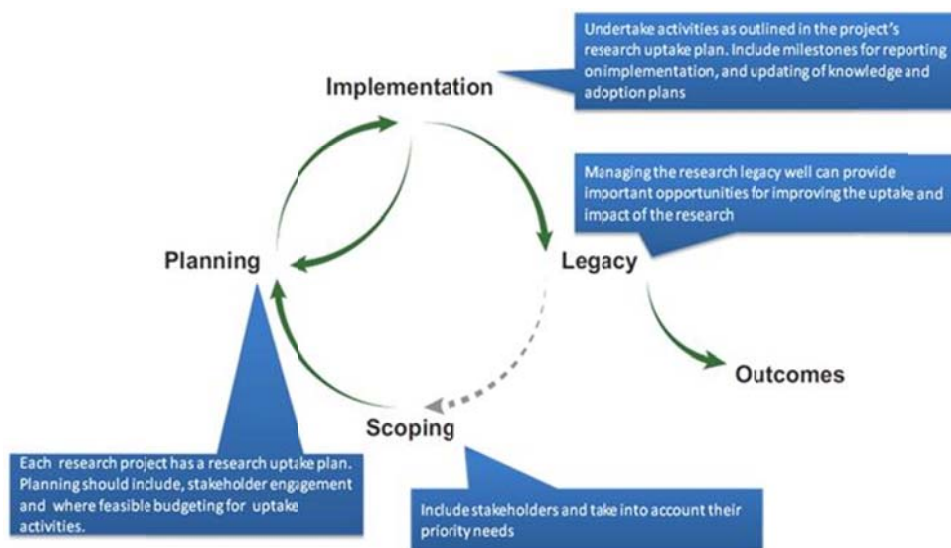


Figure 4: Research Uptake focuses on planning for the Whole Research Cycle²⁸

²⁷ The quadruple helix comprises for key stakeholder groups: Academe, Industry, Government, and Civil Society

²⁸ Andrews, K. 2012. Knowledge for Purpose: Managing research for uptake—a guide to a knowledge and adoption program. Australian Government, Department of Sustainability, Environment, Water, Population and Communities, Canberra, pp. 14-15.

7 Strategies to institutionalise Research Uptake at CPUT

Adolph et al (2010), propose that the way in which uptake mechanisms are sequenced and combined to form a coherent strategy will form the basis for change (over time) of practice in research uptake. This entails moving from a linear, supply driven, transfer-of-technology model to a more interactive, demand-driven collaborative model (ibid).

At CPUT, the model for research uptake is subject to continuous debate, development and refinement, as opposed to a static model. The discourse and body of knowledge concerning research uptake will continue to inform CPUT strategies. However, what is clear is that the university will have to give careful consideration to its uptake strategy, and the collective synergistic mechanisms which are required to support it, so as to realise the long term strategic goals of the CPUT RTI Blueprint.

The following are a list of strategic actions to institutionalise Research Uptake. This is a non-exhaustive list, and serves as a foundational set of strategic actions which advance the Research Uptake pillar of the CPUT RTI Blueprint.

RESEARCH UPTAKE STRATEGY	DESCRIPTION
Policy:	Research uptake and management is clearly defined and embedded in CPUT's RTI long term strategy and all related policy to be adapted as needed.
Conscientise key stakeholders of our internal research community:	Engage in workshops and other communications to disseminate and conscientise staff of the value of research uptake. Both bottom up and top down processes to be pursued. Buy-in from the university executive, deans, directors are needed and equally at researcher level.
Awareness:	Develop a RU marketing campaign to promote awareness and visibility of the importance, and value proposition of Research Uptake to both the institution and individuals.
Synergise research and support structures:	The objectives of RU and RUM cannot be achieved in silos. An alignment of activities between key research portfolios is required for an integrated approach. In addition the role-functions and strategic outlook of support Directorates such as MCD, and others will also need to align to RU and RUM goals.
Build internal capacity:	Harness HR staff development programme and Research Capacity Development programmes. This requires the identification of the emerging skill-set required by both researchers and managers, such as, in Science Communication.
Incentivise:	Identify incentives to encourage uptake practice. Create a CPUT "research uptake" research project database. Provide a yearly 'impact' rating of research uptake projects and incentives at Research Day for highest impact projects. Adapt promotion criteria, to include uptake as a category.

RESEARCH UPTAKE STRATEGY	DESCRIPTION
Encourage, and foster multi-disciplinary research:	Developmental problems are rarely limited to a single academic knowledge area. Create the physical space for interaction of multi-disciplinary teams e.g. the planned Design Park. However we can start small and prototype multi-disciplinary environments. We can also foster the strategic clustering of researchers from different disciplines.
Alignment of research focus areas with government priorities	Consider adopting certain key government priorities as our foci. This would encourage research to be undertaken in areas of developmental need.
Improving ‘research impact’:	Collins (2007) ²⁹ argues that it is not the number of articles published that reflects the return on research investment. A piece of research, if it is worth funding and doing at all, must not only be published, but used, applied and built-upon by other researchers, worldwide. From a CPUT perspective, we can and should emphasise citation impact of our research. However, given the specific development dynamics of our country at large, we also need to foster processes which ensure the “use” and “application” of research outputs. This translates into a more fundamental impact and can be achieved through a more efficient environment for the promotion of innovation.
Strategic partnerships:	Establish more formidable partnerships with external organisations which facilitate uptake – including policy makers.
User participation:	Encourage the development of new user participation models in research design and implementation (as per Adolph et al., 2010).
Alignment of research activity at grassroots level via action research paradigms:	Provide opportunities to popularise and capacitate researchers to adopt methodologies aligned to action research paradigms. This could also include supporting and encouraging living labs.

²⁹ Collins, S. Open Access and Research Uptake. RTNA Water Cooler Session. March 07, 2007. Research Transfer Network of Albertan. [<http://www.aihealthsolutions.ca/publications>]

RESEARCH UPTAKE STRATEGY	DESCRIPTION
Focus on the research cycle at inception:	Develop an ethos of <u>formulating</u> research projects with clear links to development goals. Encourage the consideration of research uptake at the project planning stage. We could for example make it a requirement for all funded research to explain research uptake strategies at project inception and including a research uptake plan with any project proposal.
Foster a new ethos of institutional marketing and communication:	Research uptake entails, inter-alia, a focus on Research Marketing and Communications – as opposed to Corporate Marketing and Communications. Note also the CPUT brand and image is also promoted when Research Uptake is implemented.
Fundraising strategy:	Develop a programme of implementation taking above into consideration, formulate budget, and identify sources of funds internal and external.

8 Institutional arrangements to support Research uptake management

The existence of key structures listed below puts us in a good position for effective RUM. It is important though that we should seek to improve alignment of these structures. The following from amongst our current institutional structures will play a pivotal role in ensuring we strive to attain the goals of research uptake. In the main core directorates reporting to the DVC RTI will jointly be key champions, in conjunction with all Faculties and Research Units. In addition, the realisation of research uptake objectives will also require support directorates to play a role. The following structures have been identified (not an exhaustive list):

- DVC RTIP (*strategic leader*)
- RTI Strategic Initiatives and Partnerships (SIP) (*strategic driver and oversight*)
- Marketing and Communication Department (MCD)
- Research Directorate
- Technology Transfer Office (TTO)
- Centre for Community Engagement and Work Integrated Learning
- The Centre for Postgraduate Studies (CPGS)
- Library Services
- Institutional Research and Planning
- Quality Assurance Directorate
- Fundani
- Research Chairs
- Research Centres with a strong uptake agenda e.g. Centre for Water and Sanitation Research CWSR
- *Any other* CPUT entity which will enhance RUM.

PART B: TACTICS TO ADVANCE CPUT'S RESEARCH UPTAKE STRATEGIC INTENT

1 Mechanisms to implement Research Uptake

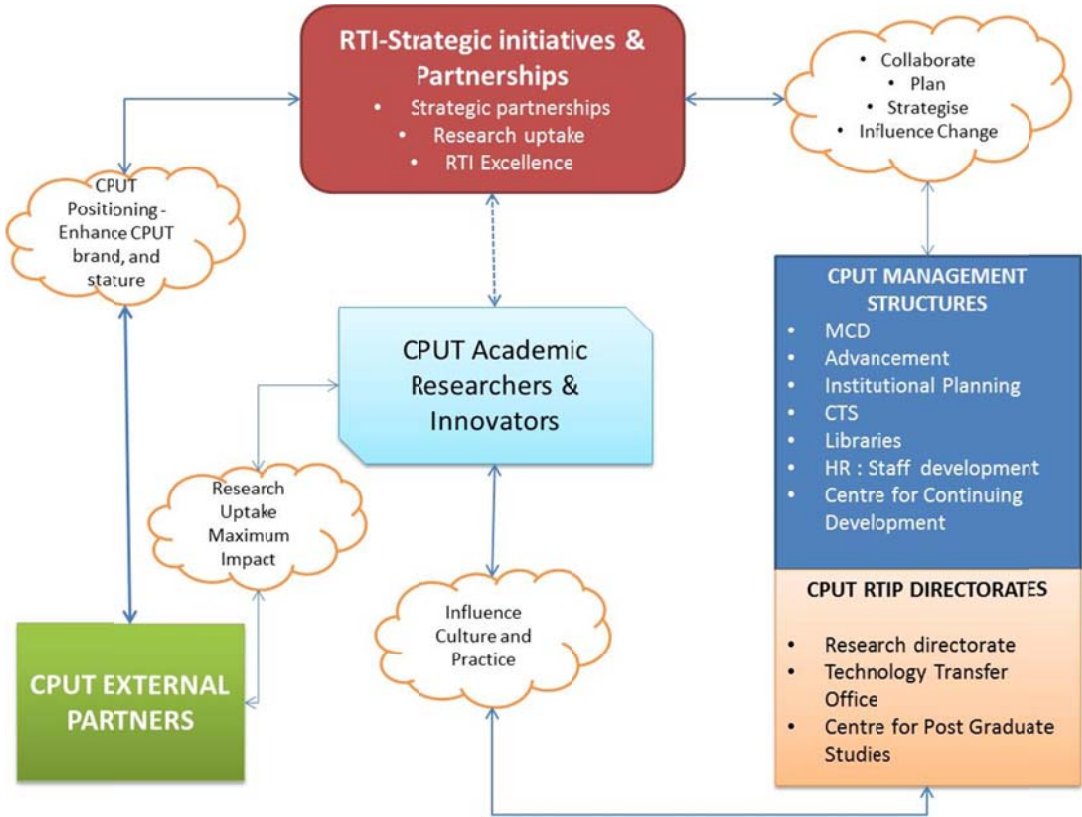
MECHANISM (based on DFID's Working Paper, 22 Sept 2010)	Examples of actions
Dissemination of research findings (message)	<ul style="list-style-type: none"> • Research publications, Books, Magazines • <i>Requires Science Communication training – for both MCD staff and Researchers;</i> • <i>Enhance web-visibility: Research Uptake Web-site</i>
Capacity development (learning)	<ul style="list-style-type: none"> • Science Communication <i>for both researchers and MCD staff</i> • <i>Awareness on the value of Research Uptake</i> • <i>Improving researchers and research visibility</i> • Planning for the Whole Research Cycle • Research Stakeholder engagement planning, and management • Increasing visibility of Research Outputs • Evaluating impact of research / Research Impact Assessment • How to Write a policy brief
Influence (social influence)	<ul style="list-style-type: none"> • <i>Can be driven via typical Community engagement activity; Service learning;</i> • <i>Assess how to merge CE and research projects.</i>
Collaboration between researchers and users (communication)	<ul style="list-style-type: none"> • Stakeholder engagement: Identifying stakeholders; Training to develop skills for appropriate approaches when engaging with stakeholders; Information generation/sharing, consultation, collaboration or partnership. • Develop capacity to engage with potential users from start-up / inception phase of research project. • Training in employing participatory methods in research (e.g. workshops, participatory action research, Living Lab concept, community mobilization, etc.)
Incentives and reinforcement (motivation through reward)	<ul style="list-style-type: none"> • Add on a NEW category for research award at Research Day viz. Top 3 Research uptake projects. • Adapt promotion policy to include criteria which award research uptake.
Enabling environment (facilitation)	<ul style="list-style-type: none"> • Adapt policy for funding of research uptake

MECHANISM (based on DFID's Working Paper, 22 Sept 2010)	Examples of actions
	activity <ul style="list-style-type: none"> • Support for science communication (from MCD first, but more specialists needed in medium term). • Administering and managing the University's knowledge base so that RU is a core resource that is effectively utilized.
Research on research uptake and use	<ul style="list-style-type: none"> • Development of indicator set to measure knowledge impact in a typical UoT environment - (led by Library Services)

2 Managing and coordinating Research Uptake

Given the high strategic value of the research uptake strategy, and the complex programme and activities, the programmatic interventions require the dedicated support at an institutional level.

The Strategic Initiatives and Partnerships Directorate has a mandate to drive the RU agenda as reflected in the figure below.



3 Funding Research uptake activity in research projects

CPUT is already currently working within a funding framework which is oriented towards research uptake e.g. Currently grant applicants are required to provide information pertaining to *expected impact of project*, including:

- Publication output
- Artefact or Patent output
- Capacity development

Thus we need to extend this to also include a response to *what activities researcher will engage in to promote impact and to ensure the uptake of research outcomes amongst designated users and stakeholders*.

The following may be a means to expand current CPUT research funding policy to promote research uptake activity. The possibility exists to expand the funding application for the following to include components for **Research Uptake activity (post-research result stage)**:

- **URF Template:** Currently requires information on: Publishing, Patent, Artefact, Capacity Development. Can be extended to also include *Research Uptake*.
- **ConfCom:** An added requirement could be to request details of what are the post-conference activity, and include Research Uptake as a requirement

4 Research Uptake Capacity Development

As indicated in the list of Uptake mechanisms, capacity development is important. RTI capacity programmes must include a Research Uptake focus. Where possible, a research uptake ethos should prevail within existing capacity development programmes such as research proposal writing and supervision development. Research Uptake must thus be conceptually linked to other aspects of training including science communication. Refer to Section 1 for typical examples of Research Uptake capacity building.

5 Open access research policy

The CPUT open access policy is an important component of Research Uptake. This has recently gained more attention, given the NRF declaration on open access. The policy states its intent:

- ...to automatically grant CPUT license to make any scholarly output (including datasets) produced by the university staff and students at the time of their employment or enrolment with the university freely available to the world public through Digital Knowledge (Institutional Repository). This is done to increase access, visibility of scholarly work produced and simultaneously forming a university's permanent record of digital scholarship.

END.