Abstract

Evidence-based policy has become rhetoric for many western governments across a broad range of health and social policy areas. However, the transfer and uptake of academic research in policy contexts has often been problematic. Academics frequently argue that policy makers ignore the research they produce, while policy makers argue that academic research is seldom relevant to their needs. Research relationships and collaborations have long been regarded as key strategies to create pathways for research into policy contexts. They are also understood to better support the application of research in understanding policy issues, and in designing and implementing policy initiatives. This paper reports on findings from a large scale project, which targeted public servants undertaking policy work in Australian Federal and State departments to investigate their experiences around the availability and use of academic social research. The paper explores the relevance of networks and linkages between academics and public servants in supporting research transfer and uptake. Reported barriers and facilitators to linkages are outlined. The paper concludes that a research-informed understanding of the factors and processes that promote and prevent effective linkages between academics and policy officials is needed to develop more realistic efforts to address the research/policy gap.
Keywords

research utilisation; knowledge transfer; research relationships; linkages; policy officials
An increasing emphasis on evidence-based policy (EBP) in Australia and abroad is creating growing demand for social research and evaluation evidence to underpin policy decision-making within governments in Australia. EBP highlights the systematic solving of problems drawing on a variety of evidence, including academic research. However, the transfer and uptake of academic research in policy contexts has often been problematic (Davies, Nutley & Smith, 2000; Banks, 2009; Cherney & Head, 2010). The political nature of the policy-making process is well known. Policy is influenced as much by values, ideologies, and contextual circumstances as by research evidence. In addition, academics frequently argue that policy-makers ignore the research they produce, while policy makers argue that academic research is seldom relevant to their needs (Bogenschneider & Corbett, 2010; Ross, 2011; Shergold, 2011; Cherney et al, 2011). The issue of “receptiveness” to evidence is therefore far from straight-forward.

Efforts to promote EBP have been underpinned by a growing understanding and expertise surrounding the transfer/mobilisation of research knowledge between research contexts and policy making environments. The study of knowledge transfer or mobilisation provides “…ways of thinking about the complex social processes that underpin the co-option, uptake and use within one sphere of practice of specialized knowledge created in another” (Moss 2013, p1). A range of strategies concerned with the production and dissemination of social research has been suggested to promote pathways for research into policy contexts and to enhance its uptake. Collaboration and improved relationships between academics and public service policy officials – often referred to as “linkages” in the literature - have long been considered a key way of facilitating the uptake of social research in policy contexts (Oliver et al, 2014).
Research evidence suggests that linkages (which are typically defined quite broadly as formal and informal processes of interaction, discussion and exchange between researchers and policy makers) are extremely important in supporting research transfer and use in policy environments (Nutley et al, 2007; Bogenschneider & Corbett 2010; Innvaer, Vist, Trommald and Oxman, 2002; Weiss, 1995; Lomas, 2000; Landry, Amara & Lamari, 2001a, 2001b; Landry, Lamari and Amara, 2003; Michaels, 2009; Jones, 2012). For example, Nutley et al (2007, p74), on reviewing a number of studies, conclude, “One of the best predictors of research use is… the extent and strength of linkages between researchers and policy makers...” Research reported in the literature suggests that effective linkages can take a variety of forms, including both formal and informal networks, and a variety of different kinds of interactions, with some studies indicating that interpersonal, face-to-face interactions are more likely to encourage effective use of research (Nutley et al, 2007; Court and Young, 2003; Weiss, 1995).

The role that linkages play in the context of the research utilisation literature is mostly concerned with overcoming “cultural barriers” between the “two communities” of research producers and end users, in order to enhance the flow of research from producers to users (Caplan, 1979; Wingens, 1990; Lomas, 2000; Gibson 2004; Bogenschneider & Corbett 2010). The “engagement” achieved via linkages is also considered to support knowledge co-production by creating joint ownership of more tailored research products (Levesque, 2008). However, as little research attention has been devoted to understanding the factors and processes facilitating and constraining these linkages, they are in fact not well understood (Haynes et al, 2011a & 2011b; Nutley et al., 2007).

This paper reports on data from a research project that aims to contribute to a better understanding of the factors and processes facilitating and constraining linkages between policy officials and the academic producers of research. The research is being undertaken as
part of a broader large scale Australian Research Council (ARC) Linkage-funded project.\textsuperscript{1}

This paper presents an analysis of data collected from public servants undertaking policy work in Australian federal and state departments. The data involved an investigation of policy officials’ experiences around the availability and use of academic social research. This paper explores the nature, functions and relevance of networks and linkages between academics and public servants in supporting research transfer and uptake. The role of cultural and institutional incentives and disincentives within the public sector in shaping capacity for effective research relationships is outlined. Perceived academic barriers to effective relationships are also presented. The analysis presented here is a contribution to the view that a research-informed understanding of the factors and processes that promote and prevent effective linkages between academics and policy officials is needed to develop more realistic efforts to address the research/policy gap.

Overview of the data

The ARC Linkage-funded project on social research utilisation collected four large sets of data via the following quantitative and qualitative methods:

- a targeted survey of academics (693 completed surveys);
- a targeted survey of government social policy officials (2,084 completed surveys);
- semi-structured interviews with academics (100 interviews);
- semi-structured interviews with social policy officials (126 interviews).

This paper draws on an analysis only of the policy official data sources outlined above – namely a survey of government social policy officials and interviews with government social policy officials. These two data sets are outlined in more detail below. Some limitations of

\textsuperscript{1} The broader ARC Linkage-funded project is entitled “The Utilisation of Social Science Research in Policy Development and Program Review”.\textsuperscript{1}
The data are presented and discussed. The approach to data analysis adopted in preparing this paper is then briefly discussed.

A targeted survey of policy-relevant personnel with responsibilities for the development and/or delivery of human service policies and programs within public sector agencies in Australia was undertaken from between late 2011 and early 2013. A total of 2084 public servants from twenty-one agencies participated in the survey. Included were Commonwealth (national) agencies, together with departments in the three most populated states which include 77% of the Australian population: Queensland (QLD), New South Wales (NSW) and Victoria (VIC). Staff invited to participate in the survey included ranged from Australian Public Service (APS) level 6 or equivalent (which excluded clerical workers and personal assistants), to the most senior management roles. This sampling strategy aimed to target those public sector staff who might have experience or involvement in a variety of policy-related activities including providing policy advice; policy development; research, evaluation, data collection or analysis; service or program planning; service design and delivery. The survey instrument included an open-ended question which also enabled a small amount of more qualitative data to be gathered across the large sample.

Table 1 and Figure 1 below provide an overview of role of agency, level of government and policy field of respondents to the policy official survey.

Table 1 – Role of Agency and Level of Government of Survey Respondents

Figure 1 – Policy Field of Survey Respondents

After the completion of the survey process within each government agency, the agency was invited to identify and nominate a small number of senior staff in relevant positions who were willing to participate in an in-depth interview. Not all of these selected interviewees had previously completed the survey.
A number of current and former senior public servants, including some in partner or collaborating agencies, were identified also by the project team and contacted directly with an invitation to participate in an interview.

The interview questions expanded on survey themes relating to the influence of research and evidence in policy decision-making, the uptake of academic research, research collaborations, and the role of networks and processes to facilitate the use of research.

A total of 126 interviews were conducted from July 2012 to December 2013. The interviews documented many examples of both policy official and academic initiated linkage efforts that aimed to support the uptake of research in policy making processes.

There are a number of limitations to this data. The following are particularly significant, with the key ones being that:

- The survey date is reliant upon self-reports which can be subject to social desirability biases.
- Quantitative data collection for the project involved the use of an online survey. Web based surveys are typically subject to low response rates (Sue & Ritter, 2007; Nulty, 2008).
- The data provides a “snapshot” of perspectives at a particular point in time, and may not identify how changes in policy contexts over time influence the impact of social research.

In line with the mixed methodology approach adopted for the project, various methods of data analysis have been employed in studying the data derived from the survey and interviews to prepare this paper. The relationship between linkages and research utilisation
was explored via a multiple linear regression model drawing on survey data. Descriptive data obtained via the survey was collated to consider the relevance of factors shaping linkage relationships. Analysis of the large volume of interview data has been undertaken in a multi-faceted way. Content analysis of a small sub-sample of the total sample using NVIVO (endeavouring to capture key insights and themes across different Departments/roles/positions) was initially undertaken. Commonly used terminology around relationships/linkages has been identified to support text searches in NVIVO and profiling strategies using Leximancer, such that themes across a broader interview sample group could be identified. Outcomes of this analysis have then been cross-checked against less specific NVIVO content analysis undertaken by a research assistant for the broader ARC project on research utilisation. Interview data analysis aimed to build a Interview data was interrogated using a combination of key term searches and thematic analysis using NVIVO to better understand the nature and function of linkage relationships engaged in, to gain further insights into which factors shape these linkage relationships, and to enable “how” and “why” questions to be explored.

Findings

Analysis of the data has led to insights concerning the types of linkages that policy officials and academics engage in, the relationship between linkages and reported research uptake, the functions of linkages in supporting research utilisation, and the barriers and facilitators to forming and sustaining effective linkages. These are briefly discussed in the preliminary findings section below—under corresponding headings.

The types of linkages reported by respondents

The linkage types outlined in Figure 4 below have been identified via analysis of survey and
interview data. They range from informal, networking focused interactions (with this networking centred on creating access to academic/research derived expertise) to interactions highly focused on the production of particular research outcomes. The degree of structure and formality around expected outputs from the relationship tends to intensify the more the focus of the relationship becomes a specific research product. While illustrated as distinct types below, analysis of interview data suggests that academics and policy officials may participate in several types simultaneously and/or move between types over time.

Figure 2 – Linkage Types Identified via Data Analysis
Relationships are a predictor of research impact – multiple linear regression analysis to explore link between relationships and research impact

An association between linkages and research uptake has been reported in a number of studies with similar survey instruments undertaken internationally (Landry et al, 2001a & 2001b; Cherney and McGee, 2011). A multiple linear regression model, using data collected for this project, was thus employed to try and explore the relationship between linkages and reported research uptake.  

Currently there is no universally accepted/adopted model for measuring the utilisation of research. (Lester, 1993; Oh & Rich, 1996; Smith, Ward & House, 2011). Research on the utilisation of academic research has revealed three types of use: instrumental, conceptual, and symbolic. Instrumental utilisation involves applying research results in specific, direct, and concrete ways. Instrumental use involves the application of research to solve clearly predefined problems, to make specific decisions or to develop interventions. Conceptual utilisation involves using research results to shape thinking. The research informs and enlightens the decision maker but not necessarily his or her actions. Conceptual utilisation can be seen as indirectly influencing actions. Symbolic utilisation involves using research results as a persuasive or political tool to legitimise and/or maintain predetermined positions or practices (Amara, Ouimet & Landry, 2004; Beyer 1997; Estabrooks 1999; Hasenfeld & Patti 1992; Sudsawad 2007; Weiss, 1979). In order to explore the relationship between linkages and the uptake of academic research for this project, a dependent variable that captured all three types of reported research utilisation was created by drawing on survey items that represented each type of research use.

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2 This paper highlights key design considerations and analysis outcomes of the multiple linear regression only. Further details may be obtained from the author.
Independent variables for the regression model were drawn from survey items focusing on the importance policy officials accorded to information from a range of external sources, the importance of research evidence to policy making, engagement in a range of linkage activities, participation in research partnerships and the use of intermediary and link staff. These linkage-related items are all suggested to be associated with the uptake of academic research by policy makers and practitioners in the research utilisation literature. Control variables were included to account for policy official characteristics such as education level and employment history, since the ‘two communities’ literature would suggest that policy makers who have a shared background and experience with academics might overcome barriers to working with academics more effectively and report greater research impacts as a consequence (Caplan, 1979; Wingens, 1990). Control variables around position were included to explore the common conception that seniority or a specialist position within a policy making organisation may be advantageous of itself in achieving greater uptake of research. Survey items were combined, where relevant, to create a number of independent variable indices.

Reliability measures were run for the created dependent and independent variables, with acceptable levels of Cronbach’s alpha coefficient levels being attained for all variables.

Table 2 – Results of Multiple Linear Regression model for Policy Officials

The results presented in Table 2 above show that eight linkage-related variables significantly predict research impact. The eight variables are: importance of information from federal government, international organisations and university researchers; importance of information from think tanks and interest groups; government research partners (with respondents less likely to report research impacts where they have more government research partners); linkage mechanisms; policy making based on sound evidence; regular consultation
with knowledge brokers; regular interaction with link staff; and contracting academics to do research. Of all of the independent variables in the model, “policy making based on sound evidence” was the strongest predictor of research utilisation ($\beta$ 0.33, $p<0.001$). This variable captures the degree to which survey respondents consider that their organisational contexts value research evidence in the policy making process.

None of the control variables concerning qualifications, work experience or position within the organisation proved to be a significant predictor of research impact in themselves.

These findings will be considered further in the discussion section of the paper, in order to take advantage of the qualitative data analysis insights gained from exploring how linkages support research utilisation, and the facilitators and barriers to effective linkages.

How linkages support research utilisation in policy contexts

Analysis of the qualitative data revealed that policy officials consistently spoke of at least one and sometimes several functions for linkages in supporting research utilisation in policy contexts. These functions include creating access to research, supporting more effective research translation, underpinning the co-production of research products and creating opportunities for capacity-building.

Creating access to research products and initiating research production activities

In terms of dissemination of research, many policy officials highlighted that they either experienced difficulty in finding relevant research or were overwhelmed by the task of making sense of the large quantities of research available. Relationships were frequently cited as the source of new research knowledge, or called upon to assist in the process of identifying key research products for a specific policy task. Policy officials described becoming aware of research via a broad range of channels involving personal interaction - including regular conversations with pre-existing research contacts, ongoing relationships...
with prior research partners and participation in a variety of forums – or via the pursuit of more formal and targeted relationships with research organisations. These relationships can also be important in initiating research production activities via contracting arrangements and/or specific project collaborations, as illustrated in the following comment:

“Also where we’ve got a particular issue we’ll pick out particular academics that have a degree of expertise on an issue. To some extent how that occurs is more ad hoc, it’s someone knows someone, someone from within government points us outside…” … we have been able to piggyback off that relationship for other research or other reports from research on similar work.”

Supporting research translation

A number of policy officials emphasised how linkages enabled a more “dynamic” process for research transfer, where research is not only acquired but interpreted and applied within the context of the linkage. As one respondent highlighted, the linkage makes this possible by supporting ongoing communication between research partners about the focus of research, desired products, and desired policy outcomes:

“Yeah, I would say that if that medium of accessing information is built up in a way where there’s a dialogue about understanding and translating it, then I think that’s probably a better way.”

Underpinning research co-production

Many policy officials expressed a view that effective engagement and the collaborative research process were highly important in the production of policy-relevant research. Policy officials expressing this view noted how effective engagement and collaboration shaped the relevance of research questions and the feasibility of the research processes that they had participated in. A number noted how collaborative processes can
create greater joint ownership of products. Many highlighted how linkages facilitated the research transfer process by enabling delivery of research outcomes to be much better tailored, and noted how research outcomes can be much more readily accepted in the context of a relationship. The importance of collaboration is highlighted in the comment below:

“Projects that I’ve been involved in have been generally collaborative. Even if an in-kind support mechanism hasn’t been offered up in the contract it has been collaborative in that— you know discussions happen. Is the research on track? Are we getting—is the brief being met? Has the contract spelt out very clearly what we expect to see in terms of a product at the end of it and delivering with a timeframe... Any successful research project, whether it’s instigated in academia for government or on a contract basis by government from academia, has to have that level of collaboration and the meeting of the minds in the middle of it. Otherwise it is money wasted.”

Creating capacity-building opportunities

Finally, a number of policy officials highlighted how having a good, ongoing working relationship with research producers enables both parties to develop their capacity to effectively engage with each other – such that mutually beneficial research products can be produced and utilised. The comment below suggests how capacity for ongoing research partnerships can be built:

“Telling them what we might need in three and five years' time so that at least that brought guidance in place. Some mutual discussions before program decisions were made on both sides…so that when it comes to needing a specific piece of work done, it’s more likely the university will have the capability to do it. The turnaround will be quicker, the quality should be higher.”

Comments by policy officials also suggested that linkages also build capacity in less expected ways – by creating pathways for exchanges of staff across organisations and by enabling universities to be more attuned to the needs of the public sector when educating the students whom the public service will seek to employ:
“The links with the universities have paid off in terms of often we get the cream of the crop in terms of graduates. Because their lecturer has been doing some work with us... We can't always hold them, but they're often coming to us.”

The facilitators of, and barriers to, effective linkages between academics and policy officials

Both interview data and qualitative responses reported in the survey in the survey results have been analysed to identify key facilitators and barriers to establishing and sustaining effective linkage relationships between academics and public servant policy officials. The analysis outcomes are structured around the key themes identified below. Analysis of the large volume of interview data has been undertaken in a multi-faceted way. Content analysis of a small sub-sample of the total sample using NVIVO (endeavouring to capture key insights and themes across different Departments/roles/positions) was initially undertaken. Commonly used terminology around relationships/linkages has been identified to support text searches in NVIVO and profiling strategies using Leximancer, such that themes across a broader interview sample group could be identified. Outcomes of this analysis have then been cross-checked against less specific NVIVO content analysis undertaken by a research assistant for the broader ARC project on research utilisation.

Facilitating linkages – key themes in the qualitative data

A number of The key facilitators for effective linkages between academics and social policy officials were identified via an analysis of the qualitative data collected through the interviews and open-ended survey responses. The data suggests that policy-relevant research needs to be valued, and that existing networks and relationships, the reputation and credibility of academics, and the degree to which they are policy knowledgeable and committed to producing policy-relevant research are all critical factors in supporting the creation and
Policy-relevant research is valued. A very high proportion of policy officials' qualitative survey responses, and many of the policy officials interviewed, expressed perspectives on the extent to which their organisational environment valued research in the policy making process. These perspectives either reflected an organisational environment that valued research and had a culture of supporting staff to use research, or an organisational environment that devalued the use of research. Both of these perspectives are illustrated in the comments below:

“A culture of evidence-based policy development has evolved in the department. Staff are expected to use research to inform the development and delivery of policy. Articles and research reports are regularly circulated within the Division.”

“...there is definitely commitment from the top level to really partnering in a real way and making sure we have access to the best possible information and that we’re being clear and communicating clearly what information is useful to us.”

“Evidence-based policy is not a priority in the department, despite political rhetoric. Most departmental workers, from senior executive to the policy writers (executive level 1 and 2s) do not value or know how to access or use evidence.”

Whether a Department valued or devalued the use of research, it was acknowledged that research use could be shaped by factors that held more weight in the policy making process – for example, political pressures, time pressures and feasibility concerns. Further, in some policy contexts, such as policy areas where there is rapid development or where multidisciplinary research efforts are required but have not yet been co-ordinated, there can be an absence of rigorous research to support decision-making. However, despite this, it was felt that organisational valuing of research evidence made it more likely for measures to be in place to make research products available, for strategies to create and/or participate in

maintenance of effective linkages. These issues are discussed in more detail below. They are outlined first below.
linkages to be encouraged across the organisation, and for there to be more of a focus on the development of capacities that support effective involvement in research relationships.

Specific strategies such as research training, brokering positions, the availability of research resources, capacity-building programs such as exchanges with universities, and organisational involvement in key research networks were cited as specific examples of the ways in which organisations that value research enable their staff to access and apply it in policy processes.

Access is facilitated by existing networks/relationships Policy official interviewees highlighted, sometimes repeatedly, how the importance of pre-existing relationships or networks are for creating connections around particular policy issues or for engaging academics in research collaborations/partnerships.

As the following comment shows, pre-existing relationships are a way for busy public servants - who are often under considerable time pressures - to know who might be helpful around a particular policy issue:

“You'd still have a process behind it, but I think you're right. It's probably people that you know. If I'm thinking about something, I'm more likely to pick up the phone and ring someone and go oh, I don't even know how to start this conversation, but what about X.”

In addition to knowing who to approach, many policy officials highlighted how a pre-existing relationship can mean that an element of trust already exists between the policy official and academic research partner. However, it is important that the pre-existing relationship is characterised by a track record that an academic will deliver outcomes that can be readily understood and applied. Control over the process and outcomes can also be important where policy issues are sensitive - so a positive past history of working with an
academic can be an important part of selecting a researcher or continuing a research relationship. The following respondent comments illustrate these views:

“This might sound a little offhand but again there's a lot of trust involved in this whole process and I think over time certain departmental heads or certain executives, certain departments trust certain researchers so they might keep going back to them.”

“...we asked them to do a particular piece of work for us. Again, it was because we had a good working relationship, they knew what we were after, and they delivered a great piece of work.”

“I think if people are confident with the institution and the researcher’s ability to understand the issues, that’s really important. Whether we like it or not, it’s about your relationships – if you feel you can work with people and who you know, that gives you a level of confidence to work with people.”

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“...the relationship helped that, because it ensured that things happened as they were supposed to happen. It also proved to be able to deliver in very short timelines, and meet all those sort of pressures that we're under.”

Finally, there was a strong theme in the qualitative data collected around how more lengthy, positive pre-existing relationships can be built upon to produce more effective research collaborations between policy officials and academics. These relationships mean that academic researchers and policy officials build up an understanding of each other’s needs and priorities over time, and can be more measured in how they develop joint working strategies and capacities to meet these needs. This theme is conveyed in the respondent comments presented below:
“I think where we establish tangible and close relationships with academic institutions, I think that’s always more constructive in how we leverage off opportunities that come out of academic research.”

“I guess if I’m thinking of a long term policy agenda the evidence may show one thing but, for a whole range of reasons, it’s not practical, pragmatic for government policy to adopt that. That doesn’t mean it’s wrong, it just means now’s not the right time. Over an eight year period if you had that relationship you can always come back to things…”

The right reputation/credibility creates both access and influence for academics. Flowing from the need for existing networks and relationships, but not entirely defined by these, many policy officials emphasised the importance of academics having the right reputation and professional credibility. Reputation and professional credibility were viewed as fundamental in creating the linkages that support policy-relevant research, and having influence within these linkages. Further, policy officials suggested that these factors can act as a proxy for trust in the early stages of a research partnership. Reputation and credibility were often referred to together or interchangeably, but an analysis of the discussion revealed that they can in fact be considered as two separate but related dimensions.

“Reputation” essentially involves a track record of working effectively with policy officials to produce policy-relevant outcomes. Many policy officials highlighted the importance of academics relating well to their research partners within a collaborative project, the timeliness and targeting of their research products, having a sound understanding of the policy process and needs of policy officials within this, and the ability to translate and communicate research findings to a range of target audiences. Where this reputation is positive, this can create ongoing demand for an academic to participate in collaborative research processes with policy officials. The perception can be created directly with policy officials, or be built on “word of mouth” between policy officials.
“Credibility” relates more to perceptions around how “expert” an academic is in their field. Credibility can form the basis for “trust” for an academic researcher’s skills and expertise in a context where a policy official’s own knowledge and expertise may be limited. Thus it helps to reassure policy officials that research products will be of a high standard when they may not be in a position to evaluate this from their own knowledge and experience. 

For example:

“…if I had like a zero knowledge base I'd be looking for someone with a good profile or a reputation. I'd probably look for someone, obviously that they were published, that there was some demonstration that their research had been applied and had been usefully applied. I'd look for some confidence that the way they did their research was good.”

It is important to highlight that policy officials viewed an academic’s credibility more from the perspective of their perceived expertise or “standing” within the community than that of attainment of any particular academic professional benchmarks (such as a track record of publication). While in this sense a publication track record can be important for helping to create this standing, it—but may be insufficient of itself. And in some fields policy officials suggested that this might be far less important than other research and dissemination strategies. This view of credibility is illustrated in the following comment:

“It depends how you define reputation. For us it's not necessarily published reputation, it's about in the field... It's more about in our sphere of influence how important is either the organisation or the researcher in that space?”

An academic’s credibility in the sector seemed to be considered important for several reasons. Firstly, policy officials felt that this could be important in shaping the quality of the research process itself. For example:
“So having those relationships with the sector is important and seeing that you’re viewed with credibility by the sector. If the sector views you with some credibility, they’ll engage in the research with you.”

Further, a number of policy officials emphasised how an academic researcher’s professional credibility or standing is critical in helping to ensure that research outcomes can be accepted by the broad public audience for the policy initiative it impacts on. This is particularly the case for politically sensitive policy issues. As one respondent succinctly noted:

A number of policy officials also highlighted how an academic researcher’s professional credibility or standing is critical for helping to ensure that research outcomes can be accepted by the broad public audience for the policy initiative it impacts on. This is particularly the case for politically sensitive policy issues, as the following comment attests:

“People in government, particularly if it’s a political problem or a significant policy problem, they want someone with a name who’ll give gravitas to the eventual report.”

It is important to highlight that policy officials viewed an academic’s credibility more from the perspective of their perceived expertise or “standing” within the community than that of attainment of any particular academic professional benchmarks (such as track record of publication). In this sense a publication track record can be important for helping to create this standing—but may be insufficient of itself—and in some fields policy officials suggested that this might be far less important than other research and dissemination strategies:

“It depends how you define reputation. For us it’s not necessarily published reputation, it’s about in the field… It’s more about in our sphere of influence how important is either the organisation or the researcher in that space?”
Finally, as illustrated below, a number of policy officials noted that the influence of professional credibility and reputation can be limited. Whilst they can be critical in establishing linkages, it is the quality of the ongoing linkage that ultimately defines the nature and quality of ongoing or future linkages, as highlighted in the respondent comment below:

“There is a beginning to everything, so that beginning is important in terms of forming an impression about reputation, about relationship, about trust, and about respect. If it works well it will be carried forward. Once there is a virtuous cycle of trust and respect, based on those qualities, it's very efficient, it's really efficient and it's really effective.”

**Academic partners need to be policy knowledgeable and committed to producing policy-relevant research** Policy officials suggested that collaborative research initiatives were most likely to be successful where academic research partners were policy knowledgeable and had a firm commitment to producing policy-relevant research that is relevant, digestible and readily applied. These facilitators are illustrated in the quote below, which is one of many similar comments made throughout the qualitative data.

“Okay, so... the thing about this evaluation group was that the way that they engaged in understanding the content, the subject matter, the way they absorbed themselves totally to what it is that we were seeking to evaluate....What that demonstrated to me was an organisation that obviously was trying to understand the very essence of what it was that we were trying to achieve here and how it is that we were trying to operationalise it, and then to tailor an evaluation framework that was going to be very conducive to both that operational environment and thinking about the sort of policy considerations that we would need to have as we worked our way through it to then be able to inform government and assist in informing government about the effectiveness or not effectiveness of the proposed approach.”

Several policy officials noted that academic researchers could not always be policy knowledgeable, but that policy officials themselves had a role to play in resourcing and supporting them as part of a research relationship.
“…you quarantine the resources to support and walk along with the researchers, check in on how things are going, whether it be for a research purpose or particularly for an evaluation purpose. Then you are more likely to get success in the end. You're more likely to get something that is meaningful to government but also has strong value from an academic perspective.”

Barriers to linkages – key themes in the qualitative data

Numerous barriers to linkages could be identified from an analysis of the qualitative data. Key barriers are outlined below.

The nature of the policy process itself acts as a constraint to forming research linkages Many policy officials highlighted how the very nature of the policy process itself can act as a significant barrier to research uptake in policy making and to the development of effective research linkages to support this research uptake. Specific policy process characteristics highlighted included political pressures around policy priorities and feasible policy options, the pressure to produce rapid policy responses and budgetary constraints. As suggested below, such pressures impact on the extent to which research evidence is valued and sought, constrain policy officials’ capacity to engage in linkages, and can impact on how research relationships are perceived by academic and policy official participants:

“…while a department may commission/utilise research on an issue the final decision is often influenced by other factors such as the current political environment, the capacity of the government to implement unpopular decisions and the government's desire to "be seen" to be addressing an issue quickly.”

Differences in research priorities and perspectives create tensions This barrier was cited the most frequently across the qualitative data and goes directly to the issue of cultural differences between academics and policy makers as captured through the highly prevalent “two communities” metaphor (Bogenschneider & Corbett 2010; Dunn, 1980). The
literature suggests that there are professional and institutional dimensions to these cultural differences. It— and suggests a number of domains where differences can be identified – for example the focal interest of research efforts, the audiences and stakeholders of research, the cognitive frameworks applied to research, interactional preferences and concepts of what constitutes successful research. (Bogensheneider & Corbett 2010). Each of these domains was raised and discussed by the policy officials interviewed, and, as the following comments show, the tensions created by differences in expectations, preferences and practices between academics and policy officials were considered to have the potential to undermine a linkage relationship.

“Academic researchers often ignore the political and budget practicality of when making their recommendations, but these are legitimate constraints in a democracy and therefore should be at least acknowledged. Practicality of recommendations is sometimes represented by researchers as trying to bias or influence research outcomes, when it is in fact trying to make their research of some use to decision makers in the 'real world' of policy.”

“So it's a different pace or time frame that I think we end up working on and that's the dilemma. The only way that I can think around that is for academic researchers to structure their work in more bite size pieces so that every three months we're getting a snippet of something. So we stay connected with the work, rather than waiting until it's a perfect piece to be published in an article at some point in the future. "

Insufficient research capacity within the public sector Many policy officials highlighted how changes to the structure, focus and practices of the public service in recent years have reduced research capacity within the public sector. Such changes include the loss of special research units and positions within the public sector which had previously provided a clear focus for research linkage efforts, a trend toward more generalist recruitment leading to a loss of specialist subject expertise, and less emphasis on research training within the public sector. These changes have resulted in a reduced ability to understand and utilise research across
departments, and have impacted on the public sector’s ability to effectively commission research. This can, in turn, create unrealistic expectations and tensions within research relationships between academics and policy officials. Specific examples of the impact of insufficient public sector research capacity are illustrated in the following comments:

“Most senior staff and staff who actually do the policy work are policy generalists…Use of research is very superficial and instrumentalist, without an understanding of the real issues or debates in the field.”

“We needed to maintain enough expertise to get the research questions right, to understand the quality of the information we were getting back and how it could be exploited.”

Lack of networks/forums to build relationships A number of policy officials bemoaned the lack of existing forums that enabled researchers and policy officials to communicate about research, and to develop the relationships that support ongoing communication:

“…we're just not getting academic research to actually come and talk with government about the sort of work that they are doing or considering doing and how it might align with…areas the government is also looking at”.

Policy officials felt that these forums were particularly critical in policy contexts where research evidence can be required very quickly but quality research products are time consuming to produce. Such forums enable relationships to be formed so that research knowledge can be produced and disseminated more consistently over time. Further, when there is demand for specific research products to meet a policy making need, existing work can be more rapidly identified and new work can be commissioned more quickly.

The value and importance of a range of knowledge brokering organisations, including think tanks, research institutes and peak bodies, who often adopt dissemination/clearinghouse
functions in addition to relationship building activities, were frequently raised in this context. For example:

“…There’s quite a lag time for research or evaluation work that is commissioned that doesn’t often easily align when other stars are lining up, when you have those moments of political and policy attention to issues; which I think goes to the benefit of having standing institutional arrangements that deliver a program of strategically relevant research and evaluation, like the AHURI model or like Centres of Excellence.”

Discussion
This paper has focused on exploring linkages between academics and policy officials in the context of collaborative policy-related research efforts. It drew on data from a large scale survey of public servants undertaking social policy work in Australian federal and state Departments, together with in-depth interview data.

Policy officials reported that they participate in many different types of linkage relationships that support them to access, translate, commission and co-produce research. These relationships range from informal, networking focused interactions (with this networking centred on creating access to academic/research derived expertise) to interactions highly focused on the production of particular research outcomes.

The analysis drew on the results of a multiple linear regression model using survey data, which revealed an association between reported research utilisation and a number of linkage related variables. Such an association between linkages and research uptake has been reported in a number of studies with similar survey instruments undertaken internationally (Landry et al, 2001a & 2001b; Cherney and McGee, 2011). The eight linkage-related variables that were significantly associated with reported research utilisation were: importance of information from federal government, international organisations and university researchers; importance of information from think tanks and interest groups; government research partners (with respondents less likely to report research impacts where
they have more Government research partners); linkage mechanisms; policy making based on sound evidence; regular consultation of knowledge brokers; regular interaction with link staff; and contracting academics to do research. As noted earlier however, the strongest predictor of research utilisation was the independent variable “policy making based on sound evidence” ($\beta 0.33$, $p<0.001$). This variable captures the degree to which survey respondents consider that their organisational contexts value research evidence in the policy making process.

Analysis of the qualitative data revealed that policy officials consider that valuing policy-relevant research is a key facilitator for effective linkages. Policy officials reported that organisations who value research evidence in policy making are more likely to have measures in place to support access to research products, to encourage the creation of and participation in a range of research linkage relationships, and to have a focus on the development of capacities that support effective involvement in research relationships. Policy official perspectives on the importance of an organisational culture that values research are consistent with the body of literature around “absorptive capacity” which provides a framework for understanding how organisations take on new knowledge and use it to enhance their performance (Harvey, Skelcher, Spencer, Jas & Walshe, 2010; Zahara & George, 2002). The term was first employed by Cohen and Levinthal (1990) who suggest that an organisation’s ability to evaluate and use outside knowledge is a function of both the individual staff members’ skills, experiences and abilities. It also reflects organisational level characteristics - such as the degree to which new external knowledge is valued within an agency, the existence of structures of communication with the external environment and the character and distribution of expertise across the organisation – as these factors shape how new knowledge is assimilated and exploited.
A focus on identifying and exploring reported barriers and facilitators to linkages, which have been little researched and are not well understood, highlighted that the barriers to linkages themselves can act as inhibitors to research uptake and transfer.

Access and influence, for example, were reported as significant issues in creating and sustaining effective linkages to support research use. An analysis of the data revealed that existing networks and relationships could create access to research collaboration opportunities and thus further linkages. Having the “right” reputation and professional credibility could also create access to collaborative research opportunities, and could enhance an academic’s access to research opportunities and influence within linkage relationships. The interactive nature of these processes was highlighted, with existing relationships contributing to an academic’s reputation, credibility and access to new relationships, which then builds the academic’s network, reputation and credibility, which further builds access to more opportunities for collaborative research opportunities and so on. Conversely, a lack of relationships and networks creates challenges for accessing collaborative research opportunities and creates greater challenges for building the reputation and professional credibility sought after by policy officials. More thought needs to go into addressing these important issues proactively, particularly for early career academics, so that more interested academics get “a foot in the door” in the first place.

It is interesting to note that the impact of reputation and credibility dimensions on linkages seems to be slightly different to the impact on research uptake alone. Other studies have reported that professional credibility alone can be sufficient for the research products of academics to be adopted by policy officials where these are readily accessible (Haynes et al., 2011a & 2011b). Policy officials interviewed for this study suggested that, while the professional credibility needed to create access to linkage opportunities with policy officials can be built partially via traditional academic publishing activities, this is only part of the
picture. Because it is an academic researcher’s “standing” within the wider community that is often critical to help ensure that research outcomes can be accepted by a broad public audience, targeted promotion strategies need to create a “profile” publicly for the academic. Credibility building strategies that help to build this “standing” include reporting research outcomes through the media, or publishing in the papers, newsletters and other key documents of well-known think tanks, policy forums and interest groups.

The role of cultural and institutional incentives and disincentives to forming and sustaining effective linkages between academics and policy officials was also highlighted throughout the barrier and facilitator themes identified in the data. Many of these cultural and institutional incentives and disincentives were wrapped up in discussions of the need for commonality of understandings, experiences and values around research between academics and policy officials in order to support linkages. Specifically, a common knowledge base around research and research methods, shared understandings of the policy process and the role of research within policy process, and a joint commitment to effective use of research were considered very important for initiating and sustaining effective research relationships.

The need for such commonality was highlighted in the context of discussion of both facilitators and barriers to effective linkages presented in this paper. Where commonality did not exist in research relationships, policy officials reported a much greater likelihood of tension, conflict and, ultimately, the demise of research collaborations. Bad experiences within a collaboration further impacted on the likelihood of future relationships and collaboration opportunities.

Given that the role of linkages in the context of the research utilisation literature has often been considered one of overcoming the “cultural barriers” between the “two communities” of research producers and end users (Caplan, 1979; Wingens, 1990; Lomas, 2000; Gibson, 2004; Bogenschneider & Corbett, 2010), such findings indicate
that this needs further evaluation. Perhaps linkages are not a simple panacea for overcoming cultural and institutional differences between partners engaged in research. Linkages may help to build common ground across “communities” – but a degree of common ground in terms of firstly, understandings and values around research and its contribution to the policy making process, and secondly, the respective expertise and roles academic and policy officials might play in producing that research, seems to be needed to create the capacity for effective linkages in the first place.

CONCLUSION
Linkages between academic social researchers and public servant policy officials have consistently been found to be associated with the uptake of social research in policy contexts. However, little is understood of the dynamics of these linkages. This analysis of survey and interview data collected from Australian public servants with policy making responsibilities revealed an association between a range of linkage activities and reported research utilisation. Exploration of the qualitative data provided insights into the important functions that linkage relationships serve in accessing, producing and using research within policy making contexts. Analysis of this same qualitative data also enabled the identification of a number of key facilitators and barriers to forming and sustaining the linkages that support effective research utilisation. Key facilitators included the need for policy-relevant research to be valued by the policy official’s auspicing organisations, existing networks or relationships with academics, the need for academics to have a recognised track record of producing policy-relevant research amongst policy officials and professional credibility that is more widely recognised, and the significance of academics being policy knowledgeable and committed to producing policy-relevant research. Barriers, on the other hand, included the very nature of the policy-making process, differences in research orientation and priorities between academics and policy officials, insufficient research capacity within the public sector, and a
lack of networks and forums to make connections and build relationships with academics. A number of these facilitators and barriers, such as the degree to which policy-relevant research is valued by public service organisations, insufficient research capacity within the public sector, and a lack of networks and forums to make connections with academics, shape policy officials’ capacity to have access to the linkages that support effective policy-relevant research. The differences in research orientation and priorities between academics and policy officials highlighted by policy officials as a significant barrier to forming and sustaining linkages, however, point to cultural and institutional differences between academics and policy officials that need to be overcome to varying degrees for research processes to operate smoothly and have effective outcomes. By focusing on linkage dynamics such as barriers and facilitators, in addition to an exploration of the importance and role of linkages in research uptake, this research suggests that linkages are not the simple panacea for cultural differences that they have long been considered. Rather, this research suggests that a certain degree of “common ground” needs to be put in place to support the establishment and early development of effective linkages.
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