Customer-Supplier Roles and Relationships in the Management of Research Projects

Dr. Ian M. Carter
Director of Research
Research and Business Services
University of Liverpool
Foresight Building
3 Brownlow Street
Liverpool
L69 3GL
UK
+44 151 794 8723
+44 151 794 8728 (fax)
i.carter@liv.ac.uk

Author's Note

This article derives its inspiration from a conversation between the author (when he was at the University of Glasgow) and staff at the then UK Office of Science and Technology about how Government approaches the commissioning of research. The matrix derived from that conversation has subsequently been used to help understand and tease out quality and process issues.

Abstract

Recognising the existence of customer-supplier roles and relationships in the performance of research can lead to an improvement in the management, and hence delivery, of research. Research, especially university-based research, is often managed with a light touch, with the researchers operating independently, and neither their institution nor their funder intervening to a great extent. Whilst this has significant advantages, the explicit understanding and execution of specific roles will enhance the research performance for both those undertaking research and those using its results. This paper presents a simple matrix to help explore the customer-supplier relationship, and to identify some key activities of each during different stages of the research process. Three stages are identified, relating to the commissioning and winning of funding, undertaking the research, and reporting and using the results. Each of these provides a focus for a set of roles, which might be the responsibility of different individuals or organisations. The role of the research administrator in this model is also explored, to show how it is an integral part.

Key Words: Research management, customer-supplier relationships

Introduction

Undertaking research involves a range of activities: generating the idea for the research, refining it and identifying the relevant hypotheses and questions; developing the method; generating the necessary funding; undertaking the studies to test the hypotheses and answer the questions; recording and reporting the results; and making use of the results in both specific and broader contexts. All of this involves a number of roles and responsibilities, including those of a customer-supplier nature. In some cases, the customer-supplier relationship is clearer (e.g. contract research) than in others (e.g.

grant-funded and institutionally-funded research). In institutionally-funded research, and in some types of externally grant-funded work, the institution may be acting as both customer and supplier (e.g. where the idea for the content of the research comes from the researcher themselves). This paper explores these roles with the aid of a simple matrix, and aims to show how performance can be improved with only a little additional conscious effort.

A reflection on customer-supplier relationships does not mean that one is operating a commercial model, or that it reduces the effectiveness of the research process, or academic freedom to investigate and express. Being well-organised, and understanding and responding to the person or organisation that is paying for the research, can only have beneficial effects in terms of making a case, winning funding and producing interesting results. Indeed, in the vast majority of academic applications for funding, those making the decisions are other academics. This does not reduce the need to understand what those other academics will be looking for, and what they believe to be a good outcome.

There are a number of other issues about customer-supplier relationships, in terms of the fundamental role of research support functions, and their provision of service to their customers, typically taken to be their institutional academic community. Even in this context, the recognition of the alternative customer bases of the institution and the external funder are important to recognise, in the knowledge that they require a different service from that of the academic researcher. A later section of this paper discusses the role of the research administrator in the customer-supplier interaction.

Whilst recognising the sensitivities that might exist about the terminology, the terms customer and supplier are used in this paper to reflect the roles of individuals or organisations in being the recipients or providers of research, respectively, and not in other, potentially more pejorative, ways.

The Customer-Supplier Research Matrix

Table 1 presents a simple matrix of customer and supplier roles during a three stage research process. The stages represent the major phases of determining what research is to be done and who is to do it, undertaking the research, and using the results. The relevant tasks, processes, activities and decisions do not, of course, fall neatly into the six boxes, but the broad distinctions are sufficient to support the discussion of the different roles undertaking the stages.

Table 1

The Customer-Supplier Research Matrix

Stage	Customer	Supplier
1	Commissioning	Winning the Business
2	Monitoring Progress	Doing the Research
3	Using the Results	Reporting the Results

Stage 1

The commissioning of research will take different forms, typically dependent on the type of funder. A company or government department might commission a piece of contract research to meet a specific need, relating to their strategic objectives. A Research Council or Federal research funder[1], on the other hand, may make a call for proposals in a broad area, with less prescription of what should be delivered, or may have an open call for "responsive mode" applications in their subject area[2]. In between these two is investigator-led contract research, in which the researcher provides the hypothesis. The activity of commissioning is therefore different.

Contract Research

Funders at the contractual end of the spectrum would tend to determine the hypothesis and research question that they wish to have answered, and in trying to win the business, the supplier will try to show that they have the capability, capacity and track record to do so, as well as demonstrating value for money. A variation on this may be that the customer will define the issue to be addressed, with the expectation that the supplier will be able to define the research hypothesis. The nature of contract research varies, but it is often focused on problem-solving, rather than blue skies knowledge generation, and hence the commissioning process may be more constrained.

Suppliers will be best placed to respond, and hence to aid the customer's business, if they have an understanding of the needs of the customer, including the uses to which the research results will be put, so that they can demonstrate a good match with and understanding of the customer's underlying objectives. Submitting a standard grant proposal to a call for tenders[3] is not likely to be successful. In some cases, suppliers will have to be on an agreed/accredited list of suppliers.

An extension of contract research is service provision: the use of existing knowledge to the benefit of the customer, for payment, without the generation of new knowledge (i.e., the activity does not meet the Frascati definition of research (HEFCE, 1995)). In this type of activity, a standard purchaser – supplier relationship is more likely to apply, whereas research relationships will tend to have more dialogue and iterative participation between the parties.

Grant Research

A large proportion (and in some universities the vast majority) of research is closer to the grant-funded end of the spectrum, in which the details of the hypothesis, questions, method, etc. are determined by the academic researcher, to be evaluated by the funder on the quality of the research. In this case, the commissioner of the research, and hence one of the customers, is the researcher him- or herself, along with the institution. Many, if not most, institutions require grant applications to be approved by a researcher's head of department and/or Dean, plus institutional authority. Doing so is a form of commissioning process: "Yes, this project fits with the institutional/faculty/departmental strategy." This is becoming a more conscious process than it has in the past, although it is unlikely that the Head of Department and the Dean, let alone the researcher, is thinking of themselves as a "customer." Perhaps they should. This is already relatively common in the context of the resources required for the projects,

[1] The author is writing from a UK perspective, in which the Research Councils are the UK Government's research agencies, akin to the US National Science Foundation and National Institutes of Health, whilst individual Government departments commission specific research either directly or through a tendering process. References to Federal throughout the paper therefore relate to U.S. Federal agencies.

[2] Responsive Mode refers to a mechanism used by a funder in which proposals may be submitted at any time, or against specified deadlines, within a general area of interest, as opposed to Managed or Directed Mode, in which the funder defines more precisely the required research topics.

[3] A Call for Tenders is the formal contractual process used to elicit offers against a specification of work, and is used for a significant proportion of Government department-funded research

where the department head or Dean is being asked to confirm that there is space available, technical support, and so on. It is starting to become more explicit, as more countries move to or consider a full economic cost basis for their research (HEFCE, 2005). A consequence is that the researcher needs to show more explicitly why the research is worth supporting. Although this makes sound management sense, there will be arguments that this sort of approach is a restriction of academic freedom. Understanding that there is a form of customer-supplier relationship within the institution (as well as what is the true, legal nature of academic freedom (SURPC, 1997)) can help us to work through these issues.

This shift of focus of the responsibility for defining the research is interesting and important. It underlies the nature of academic freedom – to be able to ask questions – and is relevant to the increased emphasis on universities undertaking more research with industry, on a contractual basis; i.e. is it as reasonable in a research contract to modify the hypothesis as the work progresses as it might be in a research grant? The relationship between customer and supplier in terms of the work to be done is much more tightly bound in a research contract situation than in a research grant. Although this could be considered as an issue for Stage 2, it merits attention at this stage, as the freedom for manoeuvre will be determined by the agreement reached during Stage 1.

Some customers may be happy for divergence from the original goals to occur. However, they are likely to want to know, and to be part of the decisions to allow redirection and replanning. Understanding and enabling this partnership is important, and the means of doing so need to be addressed at the start, rather than half-way through, when the need arises.

In terms of winning the business, the grant process requires the supplier to understand the customer's needs, too. It will often be the case that certain areas or techniques are favoured or even in fashion. Understanding what has been funded recently can help. Equally, being in a position to influence (appropriately!) the interests, policies, objectives, and targets of the funder can be beneficial. This takes multiple streams of activity, including institutional interactions with the funder at senior levels, involvement of researchers on the funder's committees, and interactions of the individual researcher with the funder's staff, to talk through specific proposals. Those researchers who are more actively involved in the wider research community (e.g., reviewing proposals and publications, being members of decision-making committees) tend to have better success rates because they understand their subject and its funding environment; i.e., they understand their customer (which particularly includes their peer community) (Viner, Powell, & Green, 2004).

The role of the university's research support office (or equivalent) will also vary, depending upon the customer, and also on the researcher(s) involved. A support office should be researching the market needs, whether that is Government or Federal funders' objective areas, or the commercial market for research outputs or products. Both markets, but particularly the commercial market, require the ability to understand the institution's own expertise and capability, and how to package the range of options to best effect.

Stage 2

Having won the research grant or contract funding, the researcher then needs to get on and do the research. In a significant number of contexts, this is all that happens in this stage: the customer (internal or external) may have little contact and no involvement in the progress of the research. This may or may not be reasonable, depending on the scope and timescale of the project. Longer-term grants will often require annual or intermediate progress reports, and some may involve a mid-stage review, to confirm continuance. Contracts will often require regular reporting or monitoring, which can come as a bit of a shock to a researcher more used to grant or Federal funding.

There are particular challenges at this stage. From the supplier's/researcher's position, maintaining contact with the customer and making regular reports can be highly valuable. Not only does it help to meet any specific reporting requirements, it can also help to give the customer confidence in the researcher, hence possibly allow some flexibility in the current work, as well as strengthening the researcher's position for extension or follow-on work. If this sounds as though it's only relevant to contractual situations, consider for a moment the position of a researcher running a Research Council or Federally-funded project. The funder will be keen to hear of successful progress, so that they can use that information in their own processes of seeking and allocating funds between programmes, and in demonstrating beneficial research outputs and outcomes to their own paymasters. Equally, the researcher providing progress reports to his or her department/faculty will help to disseminate the research results, and help to demonstrate their competence up their management line.

For the customer, active engagement with the research can help to ensure that the desired objectives are met, and importantly that the subsequent transfer of the results to their target is achieved more successfully. The customer will need to be careful to balance their involvement and need for reports, to be sure that such activities do not become detrimental to the research itself or be perceived to bias or influence the outcomes. However, maintaining a suitable oversight may enable the customer to make use of key results without having to wait until the formal completion of the work and its final report. This can also apply where the researcher is the customer, and may take the form of patenting and/or publishing results during the course of the work. Thus, in both these cases, elements of Stage 3 are taking place whilst the research is on-going during Stage 2.

Stage 3

Once the research is complete, the researcher will have to report the results. This may be a formality, or the payment for the work may rest on the quality and suitability of the report or other research product. In the institutional context, we might consider how much attention we pay to this, to ensure that all possible outputs are identified. For example, do we ensure final reports are of a suitable quality, make explicit links between outputs and the work that produced them, and maximise publicity for the findings? The customer, having received the results, should ensure that they answer the original questions, and act accordingly – depending on what their objectives were for the research. However, they should also look for tangential or secondary uses for the results: for example, could they be used by someone else in the organisation. This is especially relevant to grant-funded research in which one of the customers is the researcher's own institution: as well as other researchers potentially using the results, they should inform or feed directly into the institution's research-based teaching. Results may be used, directly or in modified form, to count for the knowledge transfer metrics against which many of us are now measured.[4] Similarly, whilst the results (hopefully)

[4] The UK uses metrics of knowledge transfer activity to demonstrate levels of activity and by implication the socio-economic effects. Some of these metrics are used directly in allocation of core Government funding to universities to support knowledge transfer: e.g. the Higher Education Innovation Fund in England, and the Knowledge Transfer Grant in Scotland.

answer the original questions, they may prompt additional issues to explore, or the methodology used might be applicable to another problem area. This discussion is also relevant to Government-funded research: the findings in one Department's research may be usable by another Department, which will require transparency of the activities and good communication links, for example via the departmental Chief Scientific Advisors.[5]

All of these comments apply equally where the institution or the researcher is the customer: Where does this lead next? Can the methodology be extended? Can it be applied elsewhere (e.g. on a different topic, or the same topic for a different customer)? Should this area of research still be a focus? Answering these questions will be part of the process of commissioning the next piece of research, and may happen explicitly or implicitly. Within a university, aside from further research, the results could be relevant for development into an exploitable technique or product, or creation of a Continuing Professional Development course, as well as becoming incorporated into mainstream learning and teaching.

Expanding the Matrix

This description of the research process, and the perspectives of both customer and supplier, necessarily suggests a linearity that does not generally exist. Stages 1, 2 and 3 overlap, and blur into each other, both for the single piece of research, and between different pieces of research. This makes understanding the roles even more important: not providing reports to the customer might lead to the supplier missing a second piece of work that the customer intends to commission; not being aware of the supplier's capacity constraints may lead to the customer missing a critical opportunity for their research to be done, with competitive / market implications. For an institution, being aware of the range of research being undertaken for a specific customer is necessary so that issues (such as slippage) can be headed off before they become crises, and new opportunities are identified and pursued (especially those in which several different researchers/groups are needed).

The original matrix can be expanded, as in Table 2, to include a number of activities that can be associated with each role and stage. As already observed, the appropriate agent to fulfil each role might vary between projects. Thus an organisation or individual needs to understand when it or they should fulfil a particular role, and hence is responsible for certain activities. The actions within the roles might vary depending on whether it is an internal or external customer. This can cause issues within an institution, such as a researcher negotiating contractual details rather than an authorised institutional official, or an administrator pursuing a commercialisation route that does not fit with the researcher's plans for the work.

The Role of Research Administrators in Customer-Supplier Relationships

The discussion so far has tended to concentrate on the academic researchers and their role in these relationships, and particularly noting that they might be their own customer. A couple of observations have been made about research administrative support staff, and it is worth some more thought on this area.

Aside from the support role, in helping researchers to apply for, win, and operate research and related activities, in which the administrator is providing a service to the researchers, support staff are also crucial

[5] Many UK Government Departments have a Chief Scientific Advisor; they interact under the auspices of the Government's Chief Scientific Advisor, who is the head of the Office of Government Science.

Table 2

The Expanded Customer-Supplier Research Matrix

Stage	Customer	Supplier
1	**Commissioning** • Define objectives, targets, and real needs of the research. • Understand suppliers (capability and capacity).	**Winning the Business** • Understand customer and their objectives. • Interact formally and informally at all levels with customer to understand and influence. • Know own (individual, group, institution) capabilities and capacity. • Understand the brief; pre-qualify. • Apply/tender/propose work to meet objectives.
2	**Monitoring Progress** • Keep watching brief. • Provide assistance where appropriate. • Look for further opportunities.	**Doing the Research** • Report regularly, to self, internally and to external customers. • Check customer is happy with progress. • Identify protectable IP • Look for "spin-off", other opportunities.
3	**Using the Results** • Read the final report! • Use the results, against original objectives. • Look for other uses of results. • Consider follow-on research/other research. • Exploit the results.	**Reporting the Results** • Produce final report – ensure it meets the customer's objectives. • Follow up to check it is OK, enquire about or suggest follow-on. • Publish the results (if permitted)

to the wider customer-supplier relationship that is being discussed in this paper. The administrator, whether centrally or locally-based, can have a role in understanding the external opportunities and market for their researchers' skills, might be responsible for elements of market analysis and promotion, and may be significantly involved in preparing the proposal for funding. All of these need attention to the customer requirements of the research. In some cases, the administrator will have a more established relationship with the funder than the researcher does, which can be used to good effect. Equally, the administrator may understand the institution's own workings better, and hence enable their researchers to have their proposals approved and enhance their internal profile.

We are now seeing more opportunities for key account relationships, in which a range of research and related activities are provided for a customer (typically a larger organisation, but can be both public and private sector); e.g. research projects, studentships, placements, consultancy, secondments, and training. Managing the relationship across these activities becomes necessary, with a level of complexity in most universities because they are supported by different parts of the administration (as well as probably being delivered by different parts of the academic structure, to reflect the skills and subject mix). The role of the research administrator can then be to help to form internal consortia, construct packages of products, and act as the bridge to the customer.

This change in approach may appear antagonistic to some researchers, and hence the administrator will also need to provide reassurance, for example about the researcher's freedom to undertake research. Research administrators can thus take active roles within the customer-supplier relationship, as well as supporting their researchers in fulfilling their roles.

Conclusions

The customer-supplier relationship is simple, but is also very accessible, and helps us to understand the roles in the commissioning and delivery of research, roles that may not have been particularly well explored in the past. In the context of governmental pressures for universities to assume responsibility for contributing a greater, even significant, part in the future economy (HM Treasury, 2004), there will be more need for the explicit management of customer-supplier relationships. This will be best achieved where there is a balance between the researcher's freedom to explore an issue or hypothesis and sufficient communication to ensure that the customer can be reassured about progress and outcomes. Customer-supplier relationships may currently be most often considered in the context of a contractual relationship with an external organisation, and hence possibly are already being managed appropriately. The benefits for a research organisation may therefore be in considering the internal customer-supplier interactions, and those involved in grant-funded research work. Much of what has been presented is intuitive; however, a more conscious approach could bring benefits to the individual researcher and to their institution.

Those who perform best will fulfil their own responsibilities, but will also be aware of others' responsibilities and support them where appropriate. Some individuals and organisations are already doing this. However, many of us may not be, and hence have opportunity for improvement. That begins by asking a critical question: Do you really know *your* customers and suppliers?

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