

# **The Sociology of a Market Analysis Tool: How Industry Analysts Sort Vendors and Organize Markets**

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## **Abstract**

The information technology (IT) marketplace appears to be shaped by new kinds of specialist industry analysts that link technology supply and use through offering a commodified form of knowledge and advice. We focus on the work of one such organisation, the Gartner Group, and with how it produces a market analysis tool called the 'Magic Quadrant'. Widely circulated amongst the IT community, the device compares and sorts vendors according to a number of more or less intangible properties (such as vendor 'competence' and 'vision'). Given that potential adopters of IT systems are drawn to assess the reputation and likely behaviour of vendors, these tools play an important role in mediating choice during procurement. Our interest is in understanding how such objects are constructed as well as how they wield influence. We draw on the recent 'performativity' debate in Economic Sociology and the Sociology of Finance to show how Magic Quadrants are not simply describing but reshaping aspects of the IT arena. Importantly, in sketching this sociology of a market analysis tool, we also attend to the contested nature of the Magic Quadrant. Whilst Gartner attempt to establish this device as an 'impartial' and 'legitimate' arbiter of vendor performance, it is often viewed sceptically on the grounds that industry analysts are not always independent of the vendors they are assessing. Paradoxically these devices remain influential despite these sceptical assessments.

Keywords: Industry analysts; reputation; performativity; markets; calculation; community knowledge; assessment

## 1 Introduction

It is widely acknowledged that user organisations find it difficult to critically assess and evaluate large information technology (IT) solutions prior to purchase (Tingling & Parent 2004, Howcroft & Light 2006, Pollock & Williams 2007). These substantial and often business-critical decisions about what may be major strategic investments (costing perhaps several millions of pounds) are carried out infrequently and businesses often lack the expertise and experience needed for effective decision-making. One difficulty adopters face is they are assessing not just technical but intangible issues regarding the future performance of technology vendors (will they survive?), their behaviour (will they invest in the market in coming years?), as well as differences between technologies (Callon *et al.* 2002). Making sense of these kinds of uncertainties is difficult and provokes confusion amongst adopters about how to proceed (Tingling & Parent 2004, Pollock & Williams 2007). Whereas in the past, adopters might resort to ‘personal’ or ‘professional’ networks for advice (Fincham *et al.* 1994, Swan & Newell 1995) these informal avenues for knowledge exchange no longer seem to match up to the challenge of appraising today’s technologies in terms of the growing range, escalating complexity and rapid evolution of products (Glückler & Armbruster 2003).

Today, however, it seems that specialist consultants and industry analysts are taking centre stage in the IT procurement market (Burks 2006). The market is increasingly being shaped by IT research firms (such as the Gartner Group, Forrester Research, the Meta Group, the Giga Group, International Data Corporation) which link technology supply and use through offering commodified forms of knowledge and advice. Industry analysts and IT research firms appear to be successful in exploiting the uncertainties that exist in

technology procurement through generating assessments of the relative location and standing of individual vendors and the efficacies of their products (Firth & Swanson 2002, 2005). These assessments, at first glance, appear to be effective in swaying procurement decisions and influencing vendor product strategies (Pollock & Williams, 2007). Moreover, demand for such advice is large and growing (with bigger firms spending annually up to £1 million on IT research [Konicki & Gilbert 2001]). Yet despite its growing importance, not much is known about this form of expertise, the characteristics of knowledge produced by industry analysts or the kind of influence they exert in shaping the IT marketplace.

We see the growth of these actors as a response to the deep uncertainties surrounding the procurement of organisational IT but also an opportunity created by these experts to enhance their own expansion (Wright 2002). Thus, it might be argued that industry analysts fulfil a crucial role in shaping expectations about the development of technological fields and constituting markets for constantly changing supplier offerings (Firth & Swanson 2005, Wang & Swanson 2007). It is suggested here, and we will seek to demonstrate, that it is increasingly *they* who hold the ropes and set the rules of the game. In particular, we will show how they define the criteria by which vendors and offerings are judged through drawing up assessments of the relative performance and standing of these organisations.

In writing this paper, our overall purpose is to call for greater attention to be given to how the marketplace for complex IT is organised by these actors and, in particular, to the construction of market analysis tools. This is part of a broader analytical objective to move the social study of IT beyond its founding concerns and approaches which includes

finding ways to link the strengths of currently dominant modes of study (detailed interactionist, ethnographic study) with broader forms of analysis to understand how wider arrays of actors shape markets and influence local action (see Kalinikos 2004, Pollock & Williams 2009 ). In this paper, we also show two specific aspects:

- i) the process by which a group of industry analysts attempts to capture or, better still, ‘produce’ the character and status of vendors so that they can be ranked on a common plane;
- ii) the often complicated way in which these organisations attempt to establish their research as an ‘impartial’ and ‘legitimate’ arbiter of vendor performance.

To do this we investigate the work of one of the leading IT research firms (the Gartner Group) and the construction of a tool called the ‘Magic Quadrant’ (MQ). This device is widely circulated amongst the IT community to compare and rank vendors according to a number of evaluative criteria, which include intangible properties like vendor ‘competence’ and ‘vision’. Given that potential adopters of large IT systems are drawn to assess the reputation of vendors during procurement (Schultz *et al.* 2001), these tools play an important role in mediating choice.

Crucially, however, whilst this market analysis has a large audience, it also appears to divide opinion. Some describe this a ‘low status’ form of expertise (Keiser 2002), emphasising how these kinds of assessments are regularly wide of the mark. It is also frequently viewed sceptically on the grounds that analysts are not always independent of those they evaluate (Greenemeier & McDougall 2006). Indeed, the ability of industry analysts to play their role (and sell their services) depends on their being seen to operate in a close relation to practice (Sturdy 1997). Yet this complicated (often ‘sticky’) relationship with vendors has led to accusations of ‘partiality’ and ‘bias’ (Cant 2002). Interestingly,

and rather counter-intuitively, this does not seem to have dampened enthusiasm for the research (the top firms report continued growth in revenues and client numbers – see Firth and Swanson 2005). Moreover, these organisations have not stood still in light of criticisms and are seeking to make their processes open to certain kinds of scrutiny (reflected in the strenuous attention they devote to *legitimizing* their position as impartial bearers of community knowledge in the face of criticisms of partisanship).

### 1.1 The Magic in the Magic Quadrant

Gartner are *primus inter pares* amongst industry analysts and have been particularly successful in mobilising belief and expectations amongst both supplier and user communities.<sup>1</sup> Amongst the various forms of prediction and assessment it provides, there is perhaps none more influential or contested than the MQ. In the words of its authors, these are ‘...graphical portrayals of vendor performance in a market segment which summarizes a given market and its significant vendors at a point in time’ (Gartner 2000). The MQ is an attempt to compare and rank software vendors according to a number of predefined measures. It comes in the form of a box with an X and Y-axis (labelled as ‘completeness of vision’ and ‘ability to execute’) dimensioning a two-by-two matrix, with four segments into which one can see placed the names of several vendors (see Figure 1).<sup>2</sup> Vendors are not randomly placed; each of the segments is individually labelled (niche player, challenger, visionary and leader). The position of a vendor in a particular segment signifies something regarding its current and future performance as well as its behaviour within the particular markets it is targeting (Burton & Aston 2004).

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1 Founded by Gideon Gartner in 1979, the Gartner Group has its headquarters in Stamford, Connecticut and offices in over 80 places around the world. It has 4,300 associates of which 1,400 are described as ‘expert analysts’ and ‘consultants’.

2 This figure is adapted with permission from Harwood (2002).

Figure 1 about here

These devices however turn out to be potentially difficult to study (and their influence therefore hard to assess). One reason (already noted) is that they are ‘dividing objects’. They enjoy extensive diffusion and are widely acknowledged as one of the most referenced research tools in the IT sector (Violino & Levin 1997).<sup>3</sup> At the same time, they are also seen as ‘highly simplistic’ and ‘flawed’.<sup>4</sup> Intriguingly these contrasting accounts are not always the opinions of different communities but of the *same* groups. The people who appear to use these tools are also seemingly among its biggest critics. How are we to make sense of this form of market analysis that is seen as problematic but still widely used?; which is controversial but also said to be effective in comparing the performance of vendors?

There are three possible ways of analysing the tool, only one of which helps in our task. A first strategy, perhaps the one favoured by critical social scientists, would be to *debunk* the tool. It is after all a version of the classic two-by-two matrix much beloved by European and American Business Schools. In this respect it would be relatively easy to reveal its limitations and imperfections (not least that it ‘flattens the world’ through hiding its complexity). However, we do not take this particular line here.<sup>5</sup> A second strategy might

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3 A high ranking on a MQ is said to guarantee a vendor more attention than its rivals (Hind 2004); and some practitioners argue that it even has the power to ‘make or break’ a technology (Violino & Levin 1997).

4 The MQ has also been denounced in the practitioner press as devoid of ‘intrinsic value’ and as a mere ‘marketing tool’ (Howard 2004). It is said to be overly ‘subjective’ in the way it is compiled, leading to accusations of ‘partiality’ and ‘bias’ (Cant 2002). There have also been various critical discussions with respect to how the tool actually classifies vendors and the limitations of the measures it uses for its analysis (Columbus 2005; Greenemeier and McDougall 2006; Whitehorn 2007).

5 Whilst debunking these tools might in some circumstances be useful we do not pursue such an endeavour here, as we do not believe it would allow us to explain just how this form of research has influence. Nor would it give us the ability to explain the success or failure of these tools. For a (heated!) discussion of how scholars might approach simplified forms of knowledge see the exchange in *Organization Studies* on research into groups like management consultants (Armbrüster & Glückler 2007).

be to treat the tool as a ‘convention’. This would be to explain their success through the fact they enjoy widespread take-up and use. Indeed, social scientists have used these arguments to good effect in the domain of Science and Technology Policy, for instance, where Arie Rip amongst others (Rip 2006; Borup *et al.* 2006) have described the extension of similar kinds of objects in these terms. However, whilst we agree that the MQ *is* a convention, we cannot accept the implication that all conventions are completely ‘arbitrary’ and without ‘content’, which is the reading one finds in Rip’s article. An alternative strategy - the one pursued here - would be to open up this ‘black box’ to study the production of the tool to see how vendor rankings emerge from this contested socio-technical arrangement. In doing this we set in train a specific line of inquiry. We show how the MQ is ‘performative’. That is, it does not merely describe a state of affairs that already exists in the marketplace; but nor does it simply offer a new means of representing and positioning vendors; rather it is also interacting with and modifying its object of study. Indeed the principal contention pursued here is that the MQ has become ‘successful’ because it is (re)shaping the technological field.

The article is organised as follows: we first discuss the emergence of industry analysts as a body of experts; we then focus on recent debates within Science and Technology Studies (STS), Economic Sociology and the Sociology of Science on the ‘performativity’ of theories and models; and finally we discuss our research methodology and approach. We then introduce our empirical material and conclude by discussing its implications for understanding the organisation of the IT marketplace.

## **2 The Growing Influence of Industry Analysts**

Industry analysts provide organisational consumers with research on the nature of the IT market. Some (like the ones discussed here) have an international reputation and a large audience for their work. There are various reasons why these kinds of experts have achieved growing influence. We review some of the principal factors here.

### **2.1 Assessing Informational Products**

The IT sector is widely acknowledged to be among the most complex of terrains for organisational consumers attempting to acquire new information systems (Tingling and Parent 2004). It is typified by accelerated rates of technical change involving the constant development and proliferation of new solutions onto the market. These are rarely ‘similar’ solutions insofar as vendors continuously attempt to differentiate their technologies from those of their rivals, newer systems from previous versions, niche specific offerings from generic ones, and so on (Darr 2006). In the case of complex non-material artefacts, such as Enterprise Resource Planning (ERP) and other packaged organisational technologies, the selection and comparative assessment of supplier offerings presents particular challenges (Tingling & Parent 2004). They are what Williamson (1985) has described as ‘informational products’, meaning it is extremely hard to assess their properties since these cannot be readily disclosed by inspection (but are only verified in their organisational implementation and use) (Fincham *et al.* 1994; Wang 2002). Williamson (1975) draws attention to a condition of ‘information impactedness’ between the various players in procurement, particularly where the inability of adopters to scrutinize the process may encourage opportunistic behaviour by vendors. There has thus been increasing attention to the role of trust and reputation as factors inhibiting opportunistic behaviour by vendors, providing an incentive against moral hazard and in overcoming

adverse selection by providing an indirect indicator of vendor capabilities and performance. The lack of reliable knowledge about the capacity and behaviour of vendors and the efficacy of their products has forced buyers to resort to more systematic and impersonal 'reputational' indices of vendor behaviour (Gluckler & Armbruster 2003).

Today, however, the institutional frameworks for promoting and assessing complex IT solutions are becoming better established, as can be seen by analysing the changes in the processes of assessment of technologies in the course of procurement. In the 1980s, for instance, consultancy organisations were beginning to collate information about supplier offerings and the new kinds of IT available, followed in the 1990s by the growth in popularity of specialist industry analysts and IT research firms, which gathered information on competing vendors in the IT marketplace (Firth & Swanson 2005).

Towards the end of the 20th Century we see the emergence of a much more elaborate system of consultancy and advice where industry analysts rank and sort vendors by making available what we describe below as 'community experience' on a more commodified basis. In other words, through actively soliciting and collecting the opinions of vendor customers, industry analysts have begun to act as repositories and organisers of community knowledge about the implementation of particular products and about the reputation of its vendors. Such knowledge can be readily exploited to form the basis of market analysis tools and can be traded by industry analysts extremely profitably (as they charge user organisations for access to their assessments based upon submissions by vendors and on freely-provided experiences from its user community). However, this kind of explanation itself does not provide much insight into *how* this form of knowledge, which is surrounded by uncertainty and scepticism, has become influential.

## 2.2 The Emergence of a New Profession

There has been much written in the field of STS, Information Systems and Management research about the interesting ‘grey spaces’ that novel forms of knowledge sometimes occupy. Preda (2007) discusses the birth of the ‘Chartist’ movement and focuses on how early proponents eventually *persuaded* initially sceptical stock market traders that ‘forecasts’ about the price of stocks would be a useful addition to current working practices. This research focuses on how these experts, in the face of questions about the benefits and provenance of this kind of information, slowly began to establish their ‘credibility’ (Preda 2005). Turner (2001) provides another view on the emergence of new professional groups, distinguishing between experts for whom there exists a predefined audience and those who actively have to *create a following*. Jones (2003) follows this theme, focusing on how IT consultants do not straightforwardly ‘possess’ expertise but have to continually validate this expertise with clients. They do so, Jones argues, through routinely demonstrating their competence and knowledge of specific areas. Jones suggests, as does Preda, that these experts are ultimately successful because they actively *shape* users’ perceptions of what kinds of knowledge and help are needed. Indeed the bulk of the literature portrays these actors as actively ‘selling’ solutions. In other words, they *configure users* to appreciate and incorporate this new knowledge into their activities (see also Bloomfield & Danieli [1995] who deploy a similar argument).

Whilst these views all have their merits, we focus on a quite specific issue and this leads us to a somewhat different conclusion. The clients of industry analysts were not simply trusting of this kind of research (though they did appear to hold many of the individual analysts in high regard). Nor were they simply configured to appreciate and accept assessments. If anything, they were sophisticated and wary consumers of this knowledge

(they joked, for instance, about the possibility that the MQ might be ‘flawed’!). Despite this, however, the tool was treated as ‘real’ even though people knew it to be a simplified convention.<sup>6</sup> What we found then was a situation where the research was viewed sceptically but used *in practice* (MacKenzie [2009] makes the same point about certain mathematical models used by financial traders). This suggests we need to look elsewhere to understand the influence of industry analysts – and more specifically to investigate not the experts but the role of the device itself. To do this, we turn to a review of how these kinds of tools have been conceptualised within other parts of the critical social sciences.

### **2.3 Where is the Sociology of Market Analysis Tools?**

Whilst tools like the MQ have been a feature of business settings for several decades now, they still attract relatively little attention from scholars interested in the social analysis of technology. There is still nowhere near an adequate sociological language to describe their success or failure. The few studies discussing them seemingly only do so to demonstrate their flaws (see Lissack & Richardson [2003] who go as far as to suggest such tools are ‘unethical’). Whatever the reason for this, it is clear that there are too few fine grained accounts of the genesis and influence of market analysis tools. There are exceptions, of course, as exemplified by recent work in the domain of Business History (see particularly Ghemawat [2002] and his lengthy discussion of the ‘Boston Matrix’) and Strategy (see Jarzabkowski and Wilson’s [2006] description of strategy tools in action). Our own field of STS appears, at first glance, well equipped to understand their nature and influence, given its longstanding interest in the models produced by scientists and engineers (see Morgan & Morrison 1999). Yet the small amount of research conducted so far on industry

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<sup>6</sup> There are some interesting parallels here with Business School rankings (see Free *et al.* in press). Thank you to one of the anonymous referees for bringing this example to our attention.

analysts does not adequately reflect their complexity, but overwhelmingly tends to focus on the intrinsically flawed, simplistic assumptions embedded in their assessments, the often contested nature of analysts' research, the cases of failed predictions, etc. (see Bloomfield & Vurdubakis 2002). As a result, the role and presence of such organisations is not adequately explained. Nor has anyone satisfactorily reconciled the contradiction where such seemingly highly limited forms of research both command a significant price and have extensive influence.<sup>7</sup>

Scholars working in the science and technology policy area, for instance, have described the models and predictions of industry analysts as 'folk theories', to capture the way certain tools evolve out of practice rather than academic research and to point to how the veracity of this research comes not from its accuracy *per se* but the fact it is widely taken-up and used (Rip 2006, Borup *et al.* 2006). However, whilst this work is suggestive, their terminology is arguably problematic as it places emphasis only on the *diffusion* and *acceptance* of this knowledge rather than its production. The implicit reading is that this advice is 'arbitrary' without 'content'. Indeed some have gone as far to describe this form of knowledge as 'lacking research' and in some cases 'plainly wrong' (Rip 2006, 353). In short, the intellectual work of industry analysts has been dismissed outright; scholars have failed to investigate its emergence and lifecycle, which leads to unsatisfactory accounts of its influence.

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<sup>7</sup> It should be noted that there is a body of work on the economics of consultancy which suggests that in order for such forms of knowledge to be seen as valuable then high prices must be asked (see Glückler & Armbruster [2003] for a review). However, we are not convinced that the economic argument fully explains this contradiction. Thank you to one of the anonymous referees for pointing this work out to us.

## 2.4 The Performativity of Market Analysis

We are dissatisfied with these portrayals of intermediary groups like industry analysts and IT research firms current within much of the social sciences, particularly when it seems that industry analysts produce their assessments through systematic, albeit complicated, forms of research and that their tools *do* exert powerful albeit complex forms of influence. Our thinking is influenced by scholars sensitive to the role that theories play in constituting economic markets. Recent work from Economic Sociology (Callon 1998, 1999, 2007) and the Sociology of Finance (MacKenzie 2003, 2006 a,b), for instance, argues that economic theories and financial tools are ‘performative’; that is, they not only describe but can help produce the settings in which they are applied. Through their application, theories and their related tools change how people think about markets and go on to enact the ‘framing’ processes that serve to allow their operation. This is an important insight, which, if it can be used to illuminate the study of economic and financial transactions in general, can also aid our understanding of the workings of industry analysts within the IT arena.

The actual notion of ‘performativity’ stems from the work of the linguistic philosopher J.L. Austin (1962) who wrote that a statement was performative when it did more than just describe a reality but was instead actively engaged in the constitution of that reality (c.f. Barnes 1983). This begs the question (and here we highlight the limitations of the concept of folk theory when applied to these tools) as to whether any kind of assessment is possible. Could industry analysts make whatever judgement they choose? In Austin’s original discussion, he was careful to avoid discussing the ‘veracity’ of performatives. What was important was not whether statements were true or false but how, in actually making them, the speaker was ‘setting something in motion’ (Callon 2007: 320). Callon

has built on this argument in two ways: through replacing the concept of truth and falsity with ‘success’ and ‘failure’; and setting out a partial framework to study whether performatives have ‘successfully’ brought about that which they previously set in motion.

This first point is relatively straightforward, especially for those familiar with the pragmatism of Actor Network Theory, but the second less so. What Callon intends is that performatives do not exist in isolation; they have meaning and effect in the ‘world’ they create for themselves.<sup>8</sup> Callon describes theories and their world as a *socio-technical agencement*. The term (derived from the work of Deleuze and Guattari) is used to depict a heterogeneous collection of material and textual elements that act on and modify each other. As Callon notes there is nothing ‘outside’ a socio-technical agencement – theories or descriptions of the agencement, for instance, are not ‘external’ but part of the configuration, acting and bringing it into being. Callon argues that a theory is successful (performative) when it can create its corresponding socio-technical agencement.<sup>9</sup> One other important aspect is the assertion that no one element (human or nonhuman) is assumed *a priori* to be more important than any other; they all, methodologically at least, have equal status, and in this sense they all can *act*. It is because of the implied symmetry here that Callon can argue that *theories* also set worlds in motion.

Employing these ideas Callon (1998, 1999) can therefore suggest that the ‘market’ and ‘homo economicus’ are no longer ideas that exist simply in economic text books but are

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<sup>8</sup> This notion of a ‘world’ is important for Callon’s argument. Drawing on semiotics, he points to how statements are ‘indexical’, meaning they are always ‘located’ (referring to particular circumstances, time and space). To say the same thing in different words, a ‘statement contains its own context’; statements cannot exist outside their context but require this context or ‘world’ (to use the language Callon prefers).

<sup>9</sup> Callon writes that a theory or formula imposes a world or ‘socio-technical agencements outside of which it cannot survive’ (2007: 324). A formula ‘progressively discovers its world’ and that there is a world ‘put into motion by the formula describing it’ (*ibid*: 320).

continuously enacted within the economy. If people trade and purchase goods in a 'market' (as opposed to any of the other ways the exchange of goods might occur) then this is because economic notions of the market have successfully constructed a socio-technical agencement. Callon emphasises that the mechanisms enabling this are not part of human nature (actors in Callon's view have a variable ontology) but are actively constructed and that academic economics has played a role in this performance. Moreover, actors and objects are so thoroughly entangled in other (competing) socio-technical agencements that there have to be processes of 'framing' and 'disentanglement' if economic man is to exist. If this framing is successful then a socio-technical agencement can give an actor the ability to 'act'.<sup>10</sup>

In what follows, we will analyse the MQ as a socio-technical agencement to show how it implies and gradually enacts a new world. This includes how Gartner set out an alternative way to describe of vendors as well as a research process they construct to enable their comparison and ranking. Using Callon's argument we can say that the MQ is successful (i.e., performative) when it is able to bring about the world that it points to (i.e., actors come to think of others and themselves according to these terms). We finish by showing how the MQ becomes part of the equipment allowing people to act in the IT market.

### **3 Research Method**

Researching the work of industry analysts is very difficult indeed (and this may be one reason for the paucity of studies). This is because these organisations are highly guarded when talking about their work, which is perhaps not surprising since many of them have

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<sup>10</sup> In this last respect, the notion of socio-technical agencement has two meanings: it depicts the various equipment, tools and prosthesis that allow people to calculate; and it captures the fact that actors are constituted by the various agencements surrounding them (Hardie & MacKenzie 2007).

been the subject of much criticism (especially from the practitioner press). Another difficulty relates to ‘where’ to study these actors. MQs are not shaped in one specific place but across what we describe below as a ‘calculative network’. Thus during fieldwork the most insightful way to study this phenomena proved to be by examining the interactions of IT research firms with other players across organisational settings. This meant we conducted our fieldwork in inter-organisational nexuses rather than within the confines of particular sites. Indeed, this explains where our initial interest in industry analysts was born. We had been conducting a long-term research project on software vendors and their interactions with user communities and various others (reported in Pollock & Williams 2009). We had chosen to study the supplier/user nexus and the complex web of relations that existed between them, which, in turn, alerted us to the important role of these kinds of intermediaries. Having established a good relationship with one particular IT manager (described here as ‘Sergio’) working at a user organisation (described here as ‘UserOrg’), we were observing him when he subscribed to the services of Gartner and began to interact with them on a regular basis. Before long Sergio had established what looked like a strong working relationship with one particular analyst (described here as ‘Bob’) and in doing so appeared to have become an important actor in the shaping of the MQ. It was mostly through our observations of Sergio that a window onto the world of industry analysts was opened up to us. Importantly, it meant we could follow the shaping of the MQ for one particular market sector over a period of a year.

### **3.1 Data Collection**

We gathered most of the insights presented here during ethnographic research where we were able to view Gartner from a number of different analytical viewpoints. There were three main sources of data. Firstly, we found observing industry analysts ‘in action’

(Latour 1987) to be very fruitful where one of the authors (NP) attended a number of IT forums. We supplemented this method of data gathering with informal discussions. NP was able to question Gartner analysts, the vendors subject to these assessments, as well as the clients and users of this research. Whilst this was a demanding and often intrusive form of fieldwork, it gave us access to what would normally be 'private' discussions that included sensitive topics. NP's prior ethnographic practice (as well as his technical background and market knowledge) allowed him quickly to become considered an 'insider' (Forsythe 1999).<sup>11</sup> Secondly, we conducted formal interviews with vendors and IT practitioners to ask them about their involvement and relationship with Gartner. Thirdly, we had access to Gartner documentation and reports (some of which were available freely on the internet and others were sent to us by one of the Gartner clients we were observing). Finally, and one of the most important sources of data we drew on, were electronic mail exchanges between Sergio, particular Gartner analysts and a software vendor. Much of the discussion about (and interactions with) Gartner took place via email which meant we had unfettered access to the important effects this kind of assessment was having on vendors and users alike as well as with how these actors attempted to shape Gartner's view. Sergio helpfully provided us with direct access to his email account over the period of a year giving us the ability to accumulate hundreds of emails.

### **3.2 Data Analysis**

In terms of how we conducted our analysis and arrived at our findings, our work has been influenced by two interrelated aims. Firstly, as we have said, our overall purpose is to develop sociological work on the IT marketplace which includes assessing the potential

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<sup>11</sup> Though we are able to record and transcribe formal interviews, the sensitivity of these informal intra- and inter-organisational settings meant that we were frequently obliged to dispense with tape recording and rely instead upon field notes.

for an empirically grounded characterisation of the methods by which industry analysts produce and communicate assessments. The popular conception of IT research firms is to see assessments as constructed ‘in the heads’ of individual analysts. This contrasts with the fieldwork reported here which suggests that their creation cannot be put down simply to the vagaries of individual discretion but result from more observable ‘social’ and ‘distributed’ processes; hence our call for a sociology of market analysis tools; and an argument exemplified by our discussion below of ‘community knowledge’. This links to our second purpose, which is to understand the relative influence of the tools and assessments produced by industry analysts as well as how we might provide evidence of their sway. Indeed, the case of industry analysts appears to build on the emerging performativity thesis. Here we are dealing with more complicated forms of influence than, for instance, financial theories. Beunza and colleagues (2006), for instance, show how financial research can modify a ‘price’, where there is a relatively ‘straight line’ between theory and setting. In contrast, the assessments of industry analysts may change the trajectory of complex software products, though in so doing so they may be in competition with other ‘competing’ performative statements. No one actor ‘owns’ this space. However, we argue that industry analysts have emerged recently as particularly influential players.

## **4 Case Study**

### **4.1 The Genesis of the Magic Quadrant**

Let us begin by discussing the genesis of the MQ. Articles in the practitioner-focused press have attempted to discuss its history but always reach the same conclusion – ‘no one is really sure’. Something of a mythology has grown up around the object (Whitehorn 2007). From our own discussions with Gartner we know it first appeared around the mid-

1980s but interestingly, and something that helps sustain its mythology, our informant was also uncertain about how it was first developed. She identified the tool as stemming from the work of two particular consultants but was unsure as to when it was first used (and she even suspected it to have begun its life with a different name):

We believe the first presentation use of the quadrant (though it wasn't called that at the time) was in 1986 at Gartner's Scenario conference.... We looked through our Scenario conference binders from 1985 to 1987 - did not find any MQs in the 1985 binder, one in 1986 and 1987. The analysts who used it at that conference were Mike Braude and Peter Levine in their Software Management Strategies Scenario - again, though it wasn't formally called a MQ. Given our rigid discipline back in the 1980s of limiting Research Notes to two pages, we suspect that the MQ appearance in presentations most likely predates their appearance in a Research Note, but are uncertain. Nor can we be certain that it wasn't used at another 'theme' conference earlier in 1986 (correspondence between Gartner and authors).

Despite continuing to ask, we were unable to uncover the MQ's original name, so can throw no further light on the issue.<sup>12</sup> However, we were fortunate in being able to observe one senior Gartner analyst discuss early thinking on decision making within the information systems domain (and specifically with how they were attempting to change the nature of technological assessment).

## **4.2 A New Comparative Machinery?**

We originally approached our study of the MQ using conventional forms of analysis. We too had initially conceived of the tool as a 'convention' that was mostly 'arbitrary', that was successful through its widespread diffusion and take-up, all of which was bolstered by Gartner's standing in the IT marketplace. Thus, one of the authors (NP) was genuinely surprised to find himself sitting listening to a talk that pointed to a rather different story. To give some indication of this we present a lengthy extract from a presentation given by

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<sup>12</sup> All Gartner's early research is housed in a storage facility to which our informant did not have access. MQ's inventors have long since left Gartner for new positions, and one has since retired.

a senior Gartner analyst to a large audience of IT professionals and practitioners.

Typically, this analyst delivered the keynote speech each year at this particular conference and one of the themes he had decided to reflect on this time around was the history of decision making within information systems procurement. The analyst began by discussing the means by which people traditionally assessed systems prior to purchase:

...we put together [in the 1990s] an outline of how you should evaluate administrative applications... And, we looked at *functionality*, *costs*, *service*, *support*, *technology*, *vision of the company* and *ability to execute*. And what we said was that in a stable environment you would look at '*functionality*'... That was pretty much what we were looking at. Why? Well a mainframe is a mainframe so *technology* wasn't that different from one to another, it was basically a vendor's box that you were buying but it was built around a common architecture. When you looked in terms of *cost*, that was the driving factor for us; And *service* and *support*? We really didn't think much about *vision of the company* or their *ability to execute* we just bought what they had to offer... So, we had some need but it was kind of focusing on *functionality* and *cost*. What we said in '97 was change. You need to look at *functionality* but most vendor packages are mature enough to where there is at least common functionality, so it is a matter of *goodness of fit* that you are looking at... And we started seeing that trend in the early 80s...that said we had ageing of systems, people were using these systems...whether they were proprietary or home-grown for 15, 20, 25 years... And, the point is that you had to look at buying software as being a partnership with a vendor, and that's a long-term relationship. It's not something short term. And so, the *vision of the company* - do they understand the business of [specific sector]? Do they know where you were going? - and the *ability to execute*, those are still crucial. We still say it is about half of what your criteria should be. Now, if I am a...Chief Financial Officer...I am probably going to look at *functionality* as being crucial. That's fine. But somebody better look out for the good of the [institution] as a whole. Because your institutional perspective is the one that we're responsible to look out for in IT (*our emphasis*).

There were at least three moves in this long extract. Firstly, we saw the problematisation of the conventional approach to information systems assessment. His critique particularly focused on the measures people were using ('functionality', 'cost', 'service', *etc.*) which he suggested were no longer as effective in sorting out vendors as they once had been.

How could you select between vendors using the criteria of 'technology' when systems were no longer significantly 'different from one another'? How effective was

‘functionality’ when vendors increasingly offered ‘common functionality’? The analyst also thought it had now become necessary to replace current measures as user organisations tended to use the same solution for longer. Nowadays, he argued, users increasingly had ‘partnerships’ with vendors, the implication being that organisational consumers needed to assess not only systems but also distinctive characteristics of the vendors themselves. In other words, he was suggesting a shift in decision making from the evaluation of functional and local concerns to more ‘strategic’ ones. In addition, and in order to do this, he mentioned how a potential adopter might apply Gartner’s own evaluation criteria from the MQ when evaluating vendors - which they term as ‘ability to execute’ and ‘completeness of vision’.

A second move was that Gartner was proposing to reframe decision making through bringing into being new kinds of actors. We do not think it is overstating the point by talking about the MQ in this way (to think of Gartner as attempting to produce a way for vendors ‘to be’). A vendor’s ‘ability to execute’, or their ‘completeness of vision’, did not exist prior to Gartner’s intervention; they are ways of seeing vendors established by Gartner. This is not to say that others have never conceived of vendors in strategic terms (they have: see for instance the discussion of the Boston Matrix by Ghemawat [2002]). Our argument is that Gartner are attempting to extend this through reframing decision-making and ‘remaking’ vendors in this strategic guise. Moreover, their intervention, as we will demonstrate, is making a difference to vendors, who increasingly think of themselves in these ways, and the users of Gartner research, where ‘ability to execute’ and ‘completeness of vision’ were, in some respects, seen as unproblematic, assessable vendor properties.

The third move was that these strategic criteria prioritise comparative forms of assessment rather than local accuracy. That is, they give form to ‘ordinal’ characteristics as opposed to those that establish commensurability with local sites.<sup>13</sup> In the earlier decision making frame, vendors were assessed on measures that were effective in detailing how a potential system related to the needs and shape of a specific user (i.e., they were ‘accurate’) but provided little purchase on how vendors compared in catering for such requirements (i.e., they were not ordinal measures). By contrast, the new frame renders vendors commensurable with each other, as appears was Gartner’s intent (Burton & Aston 2004). Thus, we can say that MQs generate comparisons that do not exist elsewhere.<sup>14</sup>

In short, we are arguing the MQ is transformative and that, in producing the tool, Gartner was reconstituting the ‘technological field’ from one where people were concerned with local and functional issues to more strategic ones. However, the world that Gartner is attempting to set out also requires a research process – a method to gather information about vendors. It is this to which we now turn, showing how this is one of the most controversial aspects of the tool.

### **4.3 Constructing a Research Process**

Gartner do not entirely calculate MQs within the boundaries of their own organisation. They are partially the product of interactions analysts have with the vendors themselves and a geographically dispersed network of vendor customers. In this section, we discuss these groups through conceptualising how the former respond to the tool and then with

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<sup>13</sup> Theodore Porter has argued that there are strong incentives in both the sciences and the economy for precise and standardizable measures rather than highly ‘accurate’ ones. He writes ‘[f]or most purposes, accuracy is meaningless if the same operations and measurements cannot be performed at other sites’ (1995: 29).

<sup>14</sup> Through bringing vendors together in the same space, and through producing new relationships between them (Callon & Muniesa 2005), we might therefore describe the MQ as a *technology of comparison* as opposed to one of accuracy.

how the latter are organised into what might be thought of as ‘calculative networks’. We describe the information flowing within these networks as ‘community knowledge’ and discuss Gartner’s attempt at objectifying and commodifying this knowledge.

When one of our research team was able to ask a senior analyst about the construction of the tool, he would say very little about them except to emphasise how: they were the result of a ‘long period of careful research’; they were put together over the period of ‘several months’; they involved the work of different Gartner analysts; and that these analysts met regularly with vendors and their customers. This is all he would say. However, we were able to find more detail through reading their documentation. One report describes how:

During the research process, we may ask for new information and briefings from vendors. We often gather information from vendor-provided references, from industry contacts, from unnamed clients, from public sources...and from other Gartner analysts (Burton & Aston 2004: 4).

Whilst conducting fieldwork we were able to focus on two of the groups mentioned here: we interviewed a number of vendors that had been subject to Gartner’s assessment; and we talked with some of these so called ‘unnamed clients’, as well as observing Gartner’s interactions with these people.

#### **4.3.1 Vendors Are On the Move**

We spoke to several vendors about their relationship with Gartner. SoleSys (a pseudonym) is a US based software package vendor who had been consistently well placed on the MQ. This year they were again identified as a ‘Leader’, and they made every effort to publicise this. After contacting the Marketing Director of SoleSys to arrange an interview, initially about a different issue, for instance, he sent us a recently published MQ to show us how they had maintained their position. When we met with him, we took the opportunity to ask

him about their continuously positive ranking. We broached the subject rather simply enquiring whether they ‘marketed themselves to Gartner’. He responded:

It takes a lot of work, actually [laughing]. And, you don’t really *market* yourself to Gartner as they are very focused on the communications they have with corporations. So what they do, if you want to be considered for coverage on the Magic Quadrant, they send out a questionnaire in advance of the Quadrant. And it ends up being like a 50 page response that is required from a vendor, from, you know, the high level product strategy down to the feature and functionality and architecture. So we make an investment to respond to that as thoroughly as possible. And, that’s how, where our placement in the Quadrant comes from (author interview with Marketing Director, SoleSys).

Whilst polite enough to laugh at our question he did, however, chastise us for the suggestion that they ‘marketed themselves’ to Gartner.<sup>15</sup> This exchange was instructive. Our reading of this was that to be well positioned was far from a simple marketing exercise. The respondent from SoleSys was replying to a tacit derogatory definition of marketing as ‘selling’ something irrespective of its quality. Instead, he made the point that responding to Gartner required much internal ‘investment’ and ‘work’. He went on to insist that there needed to be substance behind the claim (even though his description did look like straightforward self-promotion and positioning). We thus imagine a dual process whereby a vendor has to first disentangle itself from the existing (functional) ways it currently conceives of itself and then to reframe these according to more strategic measures. This suggests that the subjects of Gartner’s research were ‘on the move’ so to speak; the vendors were remaking themselves in terms of the new world Gartner was attempting to set out.<sup>16</sup>

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15 Interestingly, other vendors made similar points, often explicitly refuting claims they did anything other than provide ‘real information’. This was seen in an email exchange between a different vendor (whom we identify as ‘SoftCo’) and one of its closest customers: “We have spent quite a lot of time bringing [the Gartner analyst responsible for their sector] up to speed on what we have achieved in terms of development and successful projects. I don’t mean just ‘marketing’ to him - I mean real information on real achievements, which have not been visible to him” (email from SoftCo to customer).

16 This resonates with Ian Hacking’s (1999) insightful observation how new classification schemes rarely simply stabilise settings but encourage newly sorted actors to act in different ways (often either conforming to, or rebelling from, the classification).

### 4.3.2 Community Knowledge

The second group from which MQs were derived are ‘unnamed clients’. These were (as far as we can gather) people who were customers of these vendors and, in most cases, but not always, subscribers to Gartner research. Gartner’s relationship with this group was particularly interesting. We observed how one particular analyst had built up and was managing a large network of people with whom he interacted on a regular basis. These people would continuously feed back ‘judgements’ to him on the particular vendors with which they were working. During fieldwork, we observed how vendor rankings were enacted within these interactions – which constitute what might be thought of as a ‘calculative network’ (Callon & Muniesa 2005).

We describe this calculative network in more detail below, but for now, we simply sketch some of its features. It was ‘selective’ in that analysts kept themselves close to certain people and excluded others. It was ‘tactical’ in that people recognised the importance of these interactions and used them to further goals. Finally, interactions in the network were often highly ‘informal’ – being typically based on telephone calls or quick chats at conferences, *etc.* We might conceive these users who continuously feedback information to the analysts as ‘satellites’ and Gartner which, in turn, translates these judgements into positions on the MQ, as a ‘centre of calculation’ (Latour 1987). Further, we can characterise the information within these networks as ‘community knowledge’ to emphasise both its informal and distributed status, as well as its shared provenance. When pressed, for instance, Gartner would often deny it was in fact *them* acting but, rather, they were merely representing within the tool knowledge originated by others elsewhere. There are obvious parallels with science: both seek to make their knowledge claims ‘objective’; though scientists tend to validate their claims in terms of ‘objective nature’ (Shapin 1994),

whereas Gartner continuously pointed to the community of vendor customers from where the claims originated, and, as we will now describe, to a number of research protocols and ‘qualitative rules’ that sat between this community knowledge and final assessments.

#### **4.4 The Commodification of Networked Reputation**

What we are arguing is that Gartner is shaping the world so that ‘community experience’ is no longer highly particular and local but a form of knowledge that can travel the world. This is to say that this informal knowledge can be commodified and fed back to the market. However, these kind of ‘judgements’ were not easily objectified (Porter [1995] argues that judgements do not fit straightforwardly into quantification). During fieldwork, for instance, we noted how Gartner often struggled to account for the provenance of community knowledge and how there was a certain amount of ambiguity surrounding the methodological status of the tool. In its early life, for instance, we found the more ‘quantitative’ aspects of the MQ were highlighted; and then some years later it was described as resulting from ‘qualitative research’. It is typically described today as having a mix of both these aspects: “Gartner analysts use a combination of objective and subjective criteria to evaluate individual vendors...” (Soejarto & Karamouzis 2005: 5)

When Gartner says the tool includes ‘subjective criteria’, we take it to mean it is shaped through analyst interactions with clients. Indeed one might think that incorporating this kind of knowledge increases the tool’s credibility, for instance giving weight to the argument that Gartner analysts are ‘close to the action’ so to speak.<sup>17</sup> It is this community

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<sup>17</sup> The creation of ‘calculative networks’ was, we imagine, a response to a practical problem. One analyst may be monitoring the activities of many dozens of vendors across an entire sector. These organisations will be operating and implementing in countries across the world. If she is to remain informed about these activities then she is reliant on this distributed and informal knowledge network. How else could she maintain oversight (of this market) and insight (into the practices of the vendors)?

knowledge that Gartner is attempting to objectify, to bring into the calculation these customer judgements (seen as important but having till now remained outside the frame). Yet, this was also seen as one of the weaknesses of the tool (leading to accusations of ‘partiality’ and ‘bias’).

#### **4.4.1 Partiality and Bias**

One issue appeared to be the obfuscation that existed around these calculative networks and community knowledge. That Gartner refused to make the names of their sources public, for instance, was a cause of much concern. There was also little information on how they chose specific customers as well as with the weight given to their views. During fieldwork, for instance, we spoke to one IT manager who was critical of how, despite the claim that Gartner consult widely when conducting their research, they had never solicited *his* views. He was the IT Director of a large US organisation and active in the wider software community, having until recently served as president of a SoftCo User Group for his particular industry sector. We interviewed him initially about this presidency but the topic of Gartner came up. He described how he thought the particular Gartner analyst responsible for his sector had not been completely even-handed when assessing SoftCo’s solutions:

...he has been very negative to [a new SoftCo computer system]. He has never called. He has never visited our site. [SoftCo] wants me to be on a conference call with him, but I really don’t want that. He just knows everything; he never listens... There are just some people you know that, I took an immediate dislike to him and that is because of that arrogance. But he does know a lot and Gartner is important... He is not against [SoftCo] he just thinks that they are a bit player and they are not serious. That is what I gather (author interview).

Despite the fact he was well informed about SoftCo, and someone who might have been expected to be contacted, this practitioner was not part of Gartner’s calculative network. It

seemed that Gartner actively differentiated between customers when gathering information: that access to calculative networks was ‘unevenly distributed’ (Callon & Muniesa 2005). Indeed the issue of ‘bias’ implied in the above account was an aspect voiced several times during our fieldwork. It was, for instance, the focus of an email exchange between one SoftCo Solution Manager and a customer:

Up to now I perceived their [...] chief analyst [...] being pretty vain - it is hard to turn his mind around just by facts. For the last Magic Quadrant we proved him being wrong in every single sentence of his comments to his (bad) assessment of [SoftCo], but I believe this has made him more negative about [SoftCo] than before (email from SoftCo to IT Manager, UserOrg).

Others at SoftCo made similar points. One of the most striking features of the various criticisms we came across were their identification of ‘attachment’ and ‘authorship’. Gartner are a large, global organisation with many hundreds of analysts but nonetheless our informants identified one particular analyst as the source of ‘negative’ assessments. We mention this because it contrasts with the strategies Gartner is employing in an attempt to ‘objectify’ their knowledge. Whilst certain practitioners and vendors highlighted the ‘particularised’ nature of expertise, Gartner was pushing in the opposite direction through attempting to demonstrate how MQs resulted not from individual but ‘collective expertise’. On their recently established Ombudsman Blog, for instance, a ‘code of ethics’ was published which explicitly refuted the claim that MQs embodied bias and how, by contrast, they resulted from a ‘collegiate’ style research process:

Each piece of Gartner research is subject to a rigorous peer-review process by the worldwide analyst team. Sign-off approval by research management is required prior to publication. This process is designed to surface any inconsistencies in research methodology, data collection and conclusions, as well as to use fully Gartner's collective expertise on any research topic (Gartner Website).<sup>18</sup>

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18 Source Gartner website, page entitled Guiding Principles on Independence and Objectivity: [http://www.gartner.com/5-about/company\\_information/guiding\\_principles.jsp](http://www.gartner.com/5-about/company_information/guiding_principles.jsp) (accessed 17 December 2007).

The objectification and commodification of community knowledge includes a process of ‘purification’ (Power 2003) whereby Gartner was attempting to detach specific contributors from tools through emphasising the formal research protocols and ‘qualitative rules’ that mediate between individuals and final assessments. MQs resulted not from individual but global expertise; assessments were not simply ‘discretionary’ but analysts are strongly committed to certain ‘academic’ principles; notions like ‘peer review’, ‘research methodologies’, ‘data collection’ *etc.*, were an increasingly common aspect of Gartner’s vocabulary. They have also published the specific criteria by which they measure vendors; the two components of the MQ (‘ability to execute’ and ‘completeness of vision’) broke down to reveal a detailed list by which a vendor was measured (and they can score between 1 and 3 points on each of the particular sub-measures). This was an effort to convince that calculation was less about ‘personal discretion’ and more about the following of qualitative rules (Porter 1995).

#### **4.5 Extending the World of the Magic Quadrant into the Market**

We have focused on the process by which Gartner gathers information for its MQs. In this section, we consider how the tool is extending into the market and with how it begins to ‘interact’ with the very thing it is attempting to describe. We do so through discussing how Gartner’s assessments were taken-up by one particular vendor customer and then with how they become a ‘resource’ that he sought to deploy in a complex set of strategic manoeuvres.

##### **4.5.1 The Magic Quadrant at UserOrg**

‘Sergio’ was an IT Manager at a user organisation we have described as ‘UserOrg’. Sent the latest version of the MQ by a SoftCo executive keen to report the ‘good news’ that

their rating was finally improving, Sergio, in turn, circulated it among his colleagues, careful to add his own interpretation of what *he* thought the MQ was saying:

See attached an e-mail from [SoftCo] with some positive news that Gartner have improved their rating of [SoftCo's] products within the [specific] sector. The diagrams are worth looking at because they show that [SoftCo] have improved since 2004 but also that they have a long way to go before they overtake their competitors (email from Sergio to colleagues).

Although the vendor was keen to highlight a change in position, Sergio qualified the improvement through highlighting the ordinal nature of the tool and the fact that even though SoftCo had moved position, so too had all the others, and thus SoftCo still lagged behind its rivals.<sup>19</sup> In a further series of emails, Sergio discussed with a Senior Executive at the vendor what *he* thought were the specific problems that Gartner found with SoftCo. He received a reply to his email in which the vendor appeared to accept the assessment:

Yes, we need to move 'North' in the execution axis and 'East' in the vision section. We really need to push across the line into the 'Leadership' Quadrant. Implementation (speed, cost - same thing, to some extent) remains a challenge (email from SoftCo to Sergio).

Here, we simply note how the properties of this vendor appeared to be settled and adjusted to those of the MQ. The various actors present seemed to accept the alternative comparative machinery set out and agree that Gartner had 'correctly' identified that SoftCo had a poor 'ability to execute'. However, this was not the end of the matter. What then developed was a fascinating and quite unexpected series of events. Rather than

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<sup>19</sup> It is an interesting feature of MQs (much discussed in the practitioner press) that *most* vendors seem to make progress each year. These movements are often very small - more 'creeping' than 'leaping' - but the fact they do move is perhaps not wholly surprising (a creeping as opposed to static vendor suggests a constant process of re-calculation!). It is rumoured that some vendor executives will often use a ruler to check for the existence of such changes. In addition, even though vendors will advertise these as improvements, they are often of little significance (because what counts are movements in relation to others). One side effect of this constant improvement is that in some markets all vendors end up in the same square! Gartner, however, have established a process for this. They 'retire' a MQ when this happens, suggesting that the market has become sufficiently 'mature' such that their tool is no longer needed.

simply accepting the assessment, Sergio discussed with the vendor how he might be able to *improve* SoftCo's position:

...I think that the [CRM] final result will help move things much further. If we can then exploit BW [Business Warehouse] to include financial and other information then we should help to move the [SoftCo] position further in the right direction. I think that it is important for Gartner to realise that [SoftCo] are building up momentum as they move across the MQ (email from Sergio to SoftCo).

The 'CRM' project was a customer relationship management system being built by SoftCo and implemented within Sergio's organisation. It was seen as a significant flagship venture since it brought together and integrated several previously unrelated enterprise resource planning (ERP) modules. What Sergio was suggesting was that, once the CRM project was successfully implemented, news of this could be fed back to Gartner to provide evidence to improve SoftCo's standing.

#### **4.5.2 UserOrg Becomes a 'Test Case'**

At this stage of the fieldwork we were intrigued with how this might happen; how could the CRM project be linked to the MQ in this way? We watched with interest as the IT manager attempted to gain Gartner's attention. Having recently become a Gartner client, Sergio had access to their analysts and his main point of contact was someone whom we describe as 'Bob'. We observed as Sergio deepened this relationship with Bob: they began to conduct regular telephone conversations; to participate in lengthy email exchanges (which we had access to); and Sergio would engineer meetings with Bob in various places around the world (some of which we were able to observe). Sergio discussed this blossoming relationship with one of his colleagues:

He [Bob] is coming to [UserOrg] in early November to a...conference. I tend to speak to him approximately every two weeks. He is really interested in seeing what we have done in UserOrg. He is also watching [KentOrg] and [PurseOrg] at the moment. I think that he will also watch [WestOrg] in the UK as well to see

whether [SoftCo] can hit implementation dates. I am sure that we can generate some really good publicity from our CRM project (email from Sergio to colleague).

According to the email, Gartner were watching a number of sites around the world from which it would gather evidence about SoftCo's ability to execute. Moreover, UserOrg had become part of this calculative network. This raised a number of issues, not least, as to why Sergio might go to such effort to improve SoftCo's rating.

### 4.5.3 Calculating Actors

During the same period, Sergio was also in regular contact with a number of SoftCo executives, continuously reminding them of the influence Gartner was developing among decision makers. The following message was typical of these kinds of interactions:

I would suggest that [SoftCo] need to be aware of quite how much influence Gartner are developing amongst the [specific sector] community in the UK. This could actually be good news, given Gartner's comments about [SoftCo] and [BigVendor]... But I suggest that your [sector specific] team should become well aware of Gartner's comments because they will certainly be known to [specific sector] IT Directors (though whether we would agree with them is something else!) (email from Sergio to SoftCo Executive).<sup>20</sup>

The vendor executive replied to the manager and appeared to be grateful for the work that Sergio was doing with Gartner:

I appreciate your ongoing dialogue with [Bob] of Gartner. As you know, we also have a parallel dialogue with [Bob]. I agree that he is looking for [SoftCo] to 'execute' on the 'vision' (in Magic Quadrant terms) in terms of key projects such as yours and [PurseOrg's] (email from SoftCo Executive to Sergio).

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<sup>20</sup> There is a sentence here that is important for our argument: 'though whether we would agree with them is something else!' Through this comment, Sergio called into question the accuracy of Gartner's assessment of Softco. However, even though he appeared to be sceptical of the assessment, this was not necessarily important, because he still used it.

Sergio was more explicit still in later messages, outlining the specific interest Gartner had taken in his project, as well as the work he was doing to encourage this attention:

Gartner ([Bob] especially) are following every twist with great interest. He wants to spend much time with me in [the US] before and during [a forth-coming conference] (he's invited me on to a User Panel on the Sunday [sector specific] Symposium to discuss the question 'What message would I like to give to my ERP vendor?'!!). He also intends to visit [UserOrg] during his trip to [UK conference] (being held in the [UserOrg] area at the beginning of November). I am giving him very positive messages - he is very interested in the timescales of the project – possibly, because he is looking for evidence that [SoftCo] can implement good/solid implementations in a short time-scale. He is looking for similar evidence from [KentOrg] and some other critical US implementations (email from Sergio to SoftCo).

Sergio outlined to the vendor how their position on the MQ was now becoming directly linked to their performance at UserOrg. What Sergio hoped to achieve was to exert pressure on SoftCo to continue to devote further resources to his CRM project (the development had started well but had been floundering in recent months). In turn, SoftCo needed to improve (not worsen) their ranking. Sergio thus anticipated that Gartner's interest would have a positive effect on the vendor. In another email to a colleague, Sergio described the success this strategy appeared to be having:

Things are getting ever more interesting for me and the [SoftCo] relationship. They are really moving in to a 'partnership' role - throwing in highly competent resources to ensure that we go live on 10th October. Though I guess it helps that they realise that [a senior Gartner analyst] has told them that Gartner are watching [SoftCo's] ability to implement at each of 3 [organisations] in the world ([UserOrg], [KentOrg] and [PurseOrg]) and that their results will materially affect whether [SoftCo] move from the lower left quadrant to the top-right! (email from Sergio to colleague).

To summarise this section, the MQ had two principal effects. Firstly, it framed the setting so that the means by which vendor rankings can be improved has been defined. No longer an abstract or difficult to measure notion, vendor performance was translated into the most tangible of things: to repeat Sergio's words, the implementation of its systems in the three

organisations ‘will materially affect whether SoftCo move from the lower left quadrant to the top-right’. Secondly, the fact it tied in vendor rankings with the success of these projects opened up the possibility of new kinds of action. In particular, the MQ became a ‘resource’ for actors to calculate and *act* in different ways (Miller 2001). Let us now turn to the CRM project, for if SoftCo was to improve its position, it was essential the implementation continued smoothly.

#### **4.6 We Can’t Delay the Go-live**

Indeed as the go-live date approached, everything appeared to be going well. Despite initial problems, SoftCo had now ‘pulled out all the stops’ to ensure the implementation was a success. Overnight, however, serious problems emerged and some amongst the internal IT team at UserOrg were asking Sergio to postpone the go-live till later in the month. Yet Sergio was reluctant to move the date, seeing any delay as damaging; it was the kind of evidence that would underwrite Gartner’s (poor) assessment of SoftCo. This presented Sergio with something of a dilemma: to follow the advice of his team and postpone the go-live date; or to soldier on as planned and hope things would work out. Sergio spelt out the nature of the problem in a message to his internal IT team, suggesting they should carry on:

I'm trying everything to ensure that we do not delay the go-live. It critically depends upon [SoftCo] resource availability. Gartner are watching closely because they have severe questions about [SoftCo's] ‘ability to execute’ within the [sector specific] environment. They have no problem with [SoftCo's] ‘Vision’. Their views of these two parameters result in [SoftCo's] position in the Magic Quadrant. They are currently NOT in the ‘top right’ quadrant (email from Sergio to his IT team).

Sergio knew a delay would be potentially ruinous for SoftCo; not only would their position on the MQ be affected but he suspected that further Gartner criticism would

negatively influence SoftCo's decision whether to continue investing in this particular industry sector.<sup>21</sup> Thus, he decided to push ahead with the go-live, fully aware the software was not properly tested (and that it would introduce risks to his own organisation).<sup>22</sup> Nevertheless, and despite his efforts, further problems mounted up and, several days later, the realisation dawns that they were not going to meet the go-live date. The project therefore *was postponed*. However, a second go live target was quickly set and when the new date arrives, and despite the fact many problems had still not being resolved, the system was implemented. A few days passed and it became apparent that in the rush to implement everything was not as it should be; there were numerous difficulties and it was thus decided to *shut down the live system* whilst problems were rectified. In the meantime, this provided Sergio with a difficult issue: how should he break the news to Bob? The implementation has not gone as planned, there were major 'issues' with the vendor, and UserOrg was left without an external facing system for several days. In an email to Bob, about a different issue, he added the following postscript:

The [CRM] project at [UserOrg] is continuing to go really well. I have decided NOT to risk going live on 10th October but to delay until later in the month. We will still have succeeded in going from project mobilisation to go live on a raft of [SoftCo] modules in 8 months - I just don't want to risk things by implementing without exhaustive user testing. However, I will be able to demonstrate to you what we have done in a 'QA' environment, if you wish to see it (Sergio's email to Gartner).

What Sergio did was to put to one side the various problems in favour of the more positive message. Gartner would *not* be told of the 'chaos' that ensued at UserOrg. How are we to

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21 With a negative Gartner assessment hanging over them, he fears the team within SoftCo specializing in this sector will have difficulties in mobilizing resources to continue to develop the suite of systems for this particular market.

22 He describes this risk in the following message: "Apart from the immediate [CRM] project team, I am now also passing the message around the rest of the ISS that we will *have to go live* on 10th October – 'cold turkey' techniques may well be required. This will introduce risks to several other areas (e.g. inadequate testing of the 'common desktop' image across all 10,000...PCs *etc.*)... However, we will need to prepare detail cover/support plans for the days/weeks after 10th October because we know that we will be going live without adequate testing/training..." (message from Sergio to internal project team, *our emphasis*).

understand this? This was also a kind of calculation that made vendors comparable, though it may not typically be phrased in that way (since it could just as easily be described as a ploy). However, there was more to this than the notion of a ‘ploy’ suggests (Callon & Law 2005). The MQ was supposed to describe vendors but, as we saw, it interacted with these entities, ‘encouraging’ Sergio to stick to the original implementation strategy, inviting him to conform to an ideal (a demonstrated ability to execute). Thus, Sergio drew a boundary around the things that would go forward to Gartner; SoftCo’s failings would not be taken into account.

#### **4.7 How Gartner Defends its Assessments**

We have argued that, in compiling these tools, Gartner hand the discretion over to others (i.e., this ability to comment on the capacities of vendors): as they were keen to publically emphasise, it was not Gartner but the wider ‘user community’ that was providing judgements. In effect, these others had the power to say whether a vendor could execute or had vision. We describe this process through analysing how one satellite reported back to Gartner (and in so doing how he forced Gartner to defend its position). The particular episode took place in the US where Gartner was organising a Symposium to coincide with a major IT conference. The IT manager from UserOrg, Sergio, travels to the conference, one of his aims being to update Gartner on progress of his CRM project.

At the conference, one of the authors of this paper (NP) was sitting conducting an informal interview with Sergio when Bob from Gartner approached. Bob straightaway began to tell Sergio how he has just heard that SoftCo were already having difficulties with one of the user organisations Gartner was watching (WestOrg):

*Bob:* Chris [from WestOrg] and I were just talking, she's, she has put some ultimatums out with them [SoftCo].

*Sergio:* Yeah, the real problem with them, [WestOrg], is that they have always written their own systems and they have gone for BoB [best of breed] but when they start hitting sort of a [GenteSys] or a [SoftCo] they think that it is going to be straightforward....So, so she has got problems?

*Bob:* She said that they are 2 million pounds over budget and they haven't *even* started implementation.

*Sergio:* Oh, I think that a lot of that is going to be, the guys from [SoftCo], the ones that I have been talking to. It is just that the account manager of the [nationality] is bloody useless.

*Bob:* But that is a key...

*Sergio:* ...what's absolutely critical, what [SoftCo] have been doing, is that in the UK, they have been recruiting, and they have been recruiting some really good people. But *those* guys, I don't see them at [WestOrg] yet...

This interchange was interesting because Bob began the conversation by highlighting SoftCo's failings through invoking the 'community' view (it was not him but Chris from WestOrg criticising SoftCo). In contrast, Sergio attempted to defend SoftCo through shifting the focus back onto WestOrg's lack of experience with these kinds of large generic software packages. He also suggested that things were improving since SoftCo has just recruited 'some really good people'. This exchange went on for some in this manner with both providing contrasting evidence. Sergio was forcing Bob to both explain and defend his assessment of SoftCo, which Bob appeared able to do – *in a robust manner*. This confrontation continued and eventually Bob has to be less guarded telling Sergio what he thought were the real problems with SoftCo:

I told them [SoftCo] seven or eight years ago that they needed to start investing in the [specific] sector. We have a saying: 'do something or get off the pot'. Have you ever heard that? (Sergio: yeah). In essence what I told them, it's like 'You put your toe in [specific sector] but you really haven't committed'. They said 'We just hired! We got 10 people writing the [sector] system' [Sergio: Gosh]. I said 'Are you kidding me?' I said 'how *can* you? I mean, that's embarrassing!' I said 'The

smallest software companies in the US... would have 50 or 60'. I mean, [DataSys] have got 50, 60 people. [GenteSys] have 100, 150. [BigVendor] have 150. You know 10 people is just nothing! They are up to, I don't know, 20, 25 now but still it is not what I would call for the size of the company, I mean they have the resources to be a global leader in [specific sector] if they want to be. It is just that they have just never made the commitment. And that is what you are saying?

What we had here were two actors opposing each other through offering contrasting accounts of the qualities of a vendor. Sergio openly challenged Gartner's assessment of SoftCo and Bob was forced to defend their position. Whilst Sergio stated that SoftCo *was* improving, it was clear to Bob that they were not sufficiently committed to the particular sector. As he saw it, they were being opportunistic in this market ('they could be the global leader in [specific sector] if only they wanted to be'). This particular thread of conversation ended when Sergio was forced to fall into line with Gartner's assessment. Despite all his previous efforts, Sergio has to concede the territory to Gartner and accept their assessment.<sup>23</sup>

## 5 Conclusions

Specialist industry analysts and IT research firms have been highly active in exploiting the uncertainties that exist in technology procurement through generating and selling assessments of the relative location and standing of vendors as well as the efficacies of their solutions. Owing to the increasing range, escalating complexity and rapid evolution

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<sup>23</sup> In the final stages of writing this article, the latest version of the MQ was posted to us by a vendor (SoleSys, once again the leading vendor!). We excitedly opened the envelope to see whether SoftCo's position had changed. Had Sergio's activities had any effect on the position of the vendors? We found SoftCo was placed more or less as in the previous year (though our ruler tells us there was indeed some 'creep'). It had moved slightly 'northwards' on the ability to execute axis but there was no change in its ordinal position. However, the text accompanying the tool did make interesting reading. There was mention, for instance, of how "[SoftCo] is gaining valuable experience from ongoing implementations at [KentOrg] and [PurseOrg]" and how these would be used to judge the position of SoftCo in the near future: "[w]hile there are ongoing projects at other institutions, [SoftCo's] future success in [particular industry sector] will rest on its ability to implement the [name of system] at these two [organisations]....". There was an also indirect mention of Sergio at UserOrg and the success he had in persuading SoftCo to take his project more seriously: "The [industry sector] product development team works closely with its current customers, and the user group is active and influential, including areas such as [industry specific] CRM and business intelligence".

of IT products, the knowledge produced by these organisations is gaining in relevance. They are ‘organising’ the marketplace through mobilising promise and shaping expectations amongst vendor and user communities alike. However, the critical social sciences have been slow to explain the influence of this kind of knowledge. One reason for this is that the social study of IT is narrowly focused on interactions around their implementation and use (Kallinikos 2004), and heavily influenced by ‘situated’ and ‘localist’ conceptions of technology. One result of this localist turn, we suggest, is that there has been a failure to develop sophisticated analytical schema that can address broader contexts and capture how wider arrays of actors and intermediaries like industry analysts shape markets and influence local action; this partially explains why the important role of industry analysts in shaping technological fields does not appear on the social science radar (Pollock & Williams 2009).

Our broad purpose has been to encourage greater interest in the kinds of market shaping phenomena described here by sketching out the sociology of a market analysis tool. More specifically, we have shown how an IT research organisation produced and calculated the standing of vendors through the production of its MQs but whilst doing so we have paid attention to the contested nature of these assessments. A further interest has been in the attempts by its authors to establish the tool as an ‘impartial’ and ‘legitimate’ arbiter of vendor performance.

Though we could have studied the tool from a variety of academic perspectives (i.e., in terms of debunking or convention) we chose a form of analysis whereby we could study the production as well as ‘success’ and ‘failure’ of these tools. In doing so we deployed recent ideas from Economic Sociology (Callon 1998, 1999, 2007) and the Sociology of

Finance (MacKenzie 2003, 2006a,b) where it has been suggested that economic theories and financial models play a crucial role in the *doing* of the economy. Adapting this argument to the case of industry analysts, we asked: to what extent is the advice of industry analysts ‘performative’? By this, we refer to the ways in which their research actively pushes or ‘nudges’ innovation or procurement choices in certain directions.

Callon (2007) has described economic and financial theories as putting in motion a *socio-technical agencement*. Theories are successful (i.e., performative), he argues, when they create their corresponding socio-technical agencement (the ‘context’ or ‘world’ they point to). We have analysed the MQ describing four particular moments. Firstly, in enacting this world, the industry analysts potentially reshaped how people made decisions whilst choosing between vendors. The device (which we characterise as a ‘technology of comparison’) offered an alternative *comparative machinery* through bringing vendors together in the same space and putting previously incommensurable technologies on a scale. It has defined the two dimensions of this scale and created the possibility of ordinal assessment and ranking of vendors. Secondly, we have described the actualisation of this world through the construction of a *research process* whereby industry analysts could speak ‘authoritatively’ about the competence and performance of software vendors. The analysts have established an extensive ‘calculative network’ through which they could draw on the views and opinions of those implementing and using the technologies of the vendors under scrutiny. This knowledge has an unusual quality (being informal, highly contingent and potentially subjective). Through the activities of the analysts this ‘community knowledge’ is no longer the highly situated form of knowledge it once was but can be turned into a form of more robust - *commodified* - knowledge that could ‘travel the world’ (we return to this point below).

Thirdly, this particular socio-technical agencement has begun to constitute the marketplace in various ways. It has established a number of new realities – or, to use the language from the start of the paper, it has become ‘successful’. Actors increasingly act according to the tool. Vendors, for instance, increasingly describe themselves according to this new comparative machinery, as well as being characterised in these terms by many of their customers. ‘Ability to execute’ and ‘completeness of vision’ have come to be treated as unproblematic (as well as ‘researchable’ and ‘assessable’) measures of vendor performance. Moreover, the device conditions the activities of not only of vendors but increasingly of users. We saw one IT manager attempt to provide evidence of a vendor’s improving performance (to ensure continued vendor investment in the technology he had adopted). Even though his intervention did not yield the outcome he intended, the episode demonstrates how the IT market is increasingly ‘framed’ and this actor ‘equipped’. This suggests people are increasingly able to see the effects of their actions in relation to these kinds of tools – and to act accordingly.<sup>24</sup>

Fourthly, and to return to the place where we began this paper, all of this builds towards our thesis which is the argument that these tools are *not* arbitrary but contain *defensible* forms of knowledge (as could be seen by Bob’s strong rebuttal of Sergio’s attempt to influence them). This is not to say that the tools are viewed uncritically. As we have shown, the tool inhabits an interesting ‘grey space’. They are critiqued (mostly in the practitioner press) because amongst other things analysts are not always independent of those they assess. In Callon’s terms, we might see these criticisms as ‘competing’ socio-

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<sup>24</sup> These kinds of outcomes have been noted with similar types of ranking devices – such as those that attempt to sort University Business Schools (see Free *et al.* in press).

technical agencements attempting to problematise the world set out by the MQ. Imposing new worlds, argues Callon, always causes alternative ones to 'strike back'. Industry analysts have themselves not stood still, but have actively defended their tools in interesting ways. Recently, for instance, we found these organisations to be more forthcoming about (and in some cases making public) methodologies and research processes, and pointing to the collective and 'collegiate' nature of their research process. Thus, arguably, their assessments may be seen as constituting a new kind of privately provided public good, which may not be subject to the strict controls of independent 'scientific' knowledge (Shapin 1994), for example, but which has its own particular forms of accountability. The nature of this legitimation and accountability, the process by which industry analysts attempt to establish their tools as 'impartial' and 'legitimate' arbiters of vendor performance, is an area that demands further research (Preda 2005).

To conclude, we have shown how the limited amount of research conducted hitherto on industry analysts does not adequately reflect the complexity inherent in these kinds of tools. Nor does it capture the kinds of influence devices such as these bring to bear. We have attempted to demonstrate the potential for an empirically grounded characterisation of the process by which technology and vendor assessments are produced and communicated. Though the commonest viewpoint portrays assessments as constructed 'in the heads' of individual analysts the research reported here suggests they result from more observable 'social' and 'distributed' processes. An instance of this, which we draw attention to, is the commodified circulation of a novel kind of knowledge by industry analysts - what we have termed 'community knowledge'. In this respect, we have identified the important role played by these new kinds of intermediary in establishing the performance and standing of vendors; and how by enabling systematic, commodified

access to community knowledge, industry analysts and IT research firms have provided the grounds for more formalised and systematised assessments of vendors and their offerings.

Glückler and Armbrüster (2003) have noted the trade-offs between different kinds of reputational evidence guiding selection choice along a spectrum between direct *local experience based knowledge* and *public reputation*. Both have shortcomings in guiding procurement. Local experience is difficult to acquire and, though coming from trusted sources, is limited in its coverage (and uncompetitively limits the adopting organisation's ranges of partners to those it already knows). Public reputation in contrast is of mixed and indeterminate reliability. It has a broader knowledge base but, as it only emerges slowly may be of limited use in rapidly changing contexts of innovation. Glückler and Armbrüster thus highlight an intermediate form, *networked reputation*, and the importance of social networks in providing a modicum of timely information based on a broad base. Such inter-organisational networks have been seen as critical across many areas of innovation, including software procurement (Swan & Newell 1995). Networked reputation may be difficult to acquire however. Glückler and Armbrüster (2003: 291) call for more research into the operation of the mechanisms of networked reputation and the informal social institutions that support economic exchange.

Taking this argument further, our study draws attention to a phenomenon that has received little academic attention, but which is growing in importance, and that is the *commodification of networked reputation* through the efforts of industry analysts, which act as repositories for knowledge across the vendor and user communities and supply this *community knowledge* back to them on a commodified basis. The role of industry analysts

in IT procurement points to one mechanism for enhancing the efficiency of networked reputation formation through the commodification and canalisation of the circulation of community knowledge (and the way this is subject to particular forms of accountability). We see this as a response to the deep uncertainties surrounding the procurement of organisational technologies. Gartner and other analysts help shape community sentiment about the boundaries of technological fields and their future direction of innovation. Their work – *this commodification of networked reputation* – can no longer be simply ignored but deserves further attention.

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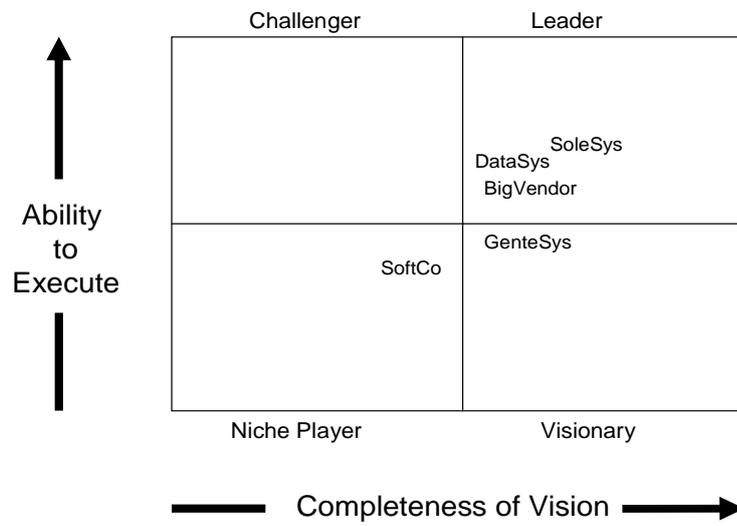


Figure 1: The Magic Quadrant