Measuring E-Business Performance

Track: Electronic Commerce Applications

By

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Abstract:
There are numerous challenges facing managers of e businesses but key among them is what they should monitor to track whether their organisations are delivering value to their customers. What should managers of eBusinesses measure? And are these measures any different to those that should be adopted by traditional business? This paper reports the results of an empirical study into eBusiness performance measurement, which sought to establish what eBusinesses are measuring and contrast this with what traditional brick and mortar companies are measuring. The findings of the paper have implications for both eBusinesses and the brick and mortar organisations. Most significantly, it is clear from the data gathered that performance measurement is still an issue which challenges managers across the spectrum.

The authors would like to thank Chris Adams and Neha Kapashi for their research assistance. Furthermore, the authors are grateful to Accenture for their financial support of the research.

Proceedings of the Twelfth Annual Conference of the Production and Operations Management Society, POM-2001, march 30-April 2,2001, Orlando Fl.

Introduction

E-Commerce changes everything! At least this is what is commonly reported in academic as well as practitioners writing. The study reported in this paper was designed to understand the impact of the New Economy with it's novel business models and compressed business cycles on Performance Measurement and Management. The research sought to understand what aspects of business performance eBusinesses do track today and what they would like to measure tomorrow. Furthermore, the study wanted to reveal whether there are any significant differences when compared to traditional organisations.

Today's economy is characterised by information technology and the recognition of intangible value drivers. The revolution in information and communications technologies makes knowledge the new competitive resource (Webber, 1993). According to Atkinson and Court (1998) the development of a ubiquitous digital economy, the increased research and innovation and the improved skills and knowledge of the workforce are the three main foundations that underpin the strong and widely shared economic growth in the New Economy. Companies will have to base their competitive advantage more heavily on their intangible assets (Leadbeater, 2000). The Value Creation Index, the result of a yearlong joint research by Ernst & Young, Forbes ASAP and the Wharton School's Research Program, identifies the five drivers for corporate value in eCommerce firms as follows (in rank order): 1) Alliances 2) Innovation 3) Eyeballs (usage traffic) 4) Brand Investment and 5) Stickiness (Minutes spent on the website) (Malone, 2000).

The evolution of organisational performance measurement has shown some recognition of the changes that are occurring in the business environment. It was recognised that financial based performance was not enough (Johnson and Kaplan, 1987) and issues like the improvement of managing operations (Schonberger, 1986) and quality (Deming, 1986; Crosby, 1972) manifested themselves in measures driven approaches like ISO 9000 certifications, Malcolm Baldridge Quality award or the EFQM Excellence Model (EFQM, 1993). All of these approaches include a much broader range of performance measures. The increasing interest in measurement and the widespread adoption resulted in a measurement revolution which Eccles (1991) predicted in the beginning of the 1990s. Broader and better balanced performance measurement approaches like the Performance Measurement Matrix (Keegan et al, 1989), the SMART pyramid (Lynch and Cross, 1991), the Macro Process Model (Brown, 1996) and the Balanced Scorecard (Kaplan and Norton, 1992; 1996) were introduced.

Today, performance measurement is recognised as a vital management tool and is a subject on the agenda of most organisations (Neely, 1998). The increasing importance of non-financial measures is to some extend reflected in the evolution of performance measurement frameworks. Knowledge as a competitive advantage has two-fold implications for organisational performance measurement. Firstly, the performance measurement system used in organisations has to deliver data on all critical aspects of the business in order to provide valuable management information. Secondly, the performance measurement system must be able to measure organisational knowledge assets and capabilities since they represent a critical success factor (see also Marr and Schiuma, 2001).

The survey for this study was designed around the five facets of the Performance Prism (Neely and Adams, 2001) a three-dimensional performance measurement framework which adopts a stakeholder view of performance. Besides taking into account stakeholders such as customers, investors, employees, partners and suppliers the Performance Prism also considers measures of strategy, processes and capabilities. The Performance Prism represents a very comprehensive approach toward organisational performance measurement which was the reason to base the study on the facets of this framework.

Methodology and Research Sample

An electronic e-mail survey was utilised to conduct the data collection. The e-mail included a cover letter as well as the attached email survey. The electronic survey was sent to executive managers and was designed to enable participants to fill in the survey easily by mouse clicks and keyboard (the option to print the survey and send it back by post was given as well). The sample selection consisted of cross-sectional multinational companies and was taken from contact databases of Accenture as well as of Cranfield School of Management.

Initially 700 companies that fulfilled the criteria where contacted of which 66 companies responded with a completed survey. Follow-up emails were sent to those that did not respond to increase the sample size to 75 (25 companies in each category). Due to scalability issues the collection stopped with the reach of a sample size of 75 which was realised after the follow-up email. This resulted in a final response rate of 10.7%. 15 Follow-up in-depth interviews were conducted with selected respondents (5 in each category) in the UK and the USA to further explore the issues examined in the survey.

The various types of companies were identified by the extend of revenue generated through the Internet. Bricks-and-mortar companies are traditional ‘blue-chip’ companies that generate no revenue through the Internet. Companies were classified as clicks-and-mortar companies when they generated more than 10% but less than 80% of their revenue through the Internet. Companies categorised as dot.coms generated 80% or more of their revenues through the Internet. The targeted dot.coms were well-established Internet companies; the survey did deliberately not include recent start-up companies.

Research findings and Insights

The research revealed some fascinating patterns about what was and what was not measured by each of these three types of business. The first and foremost thing to note is that virtually everyone who replied to the survey said they were actively seeking improvements to their measurement systems. Despite the immense time and effort that has been devoted to improving measurement systems in organisations in recent years, management teams still feel they need further help. 96% of bricks-and-mortar, 96% of clicks-and-mortar, and 100% of the dot-coms said they wanted to improve their measurement systems. In another question the survey respondents were asked *how* they wanted to improve their measurement systems and what stopped them from making these improvements.

In terms of improvement priorities the contrast between traditional businesses (bricks-and-mortar) and dot-coms is stark. Traditional businesses are much more concerned about developing balanced measurement systems and moving into more sophisticated analysis. Dot-coms, on the other hand, are still striving to establish specific technology-related measures associated with issues such as “web-page stickiness” and “click-stream patterns”. While all of the respondents appear to have concerns about the process of capturing data, it is also interesting to note that the dot-coms are much more concerned about how to use technology to access data, than either the bricks-and-mortar or the clicks-and-mortar businesses.

Concerning barriers to improvement there was considerable agreement, with time being identified as the number one barrier across-the-board. Other frequently cited barriers include availability of data, availability of technology, the cost of developing and implementing measurement systems and the frequency of organisational change. The following sections cover a summery of the responses by each facet of the Performance Prism:

Stakeholder Satisfaction

The first question asked of the survey respondents was: “Do you measure customer, employee, investor, supplier, alliance partner and regulator satisfaction?”

Customer Satisfaction: Well over 70% of respondents from the three categories of companies – traditional, clicks-and-mortar and dot-coms – claimed to measure Customer Satisfaction.
Interestingly, despite their relative youth, a higher percentage of dot-coms claimed to measure Customer Satisfaction (83%), than bricks-and-mortar (74%). This relates back to the idea that one of the most important things that dot-com businesses are concerned about is ‘the customer experience’ and customer satisfaction.

Employee Satisfaction: The percentage of companies measuring employee satisfaction is high across all three categories, although it seems that dot-coms are less concerned with their Employee Satisfaction compared to traditional and clicks-and-mortar companies. Additional proof that Customer and Employee Satisfaction are important in all kinds of businesses can be illustrated by the fact that 100% of those who do not currently measure Customer or Employee Satisfaction felt that they should.

Investor Satisfaction: At first sight the results for Investor Satisfaction are even more startling, with 56% of dot-coms claiming to track this, as opposed to 39% of traditional companies. On reflection, however, it is probably extremely important for the dot-coms to track investor satisfaction in the short term, as they have to maintain investor confidence and goodwill if they are to continue to attract the funds necessary to finance their aggressive ‘land grab’ strategies. A hundred percent of dot-coms who do not currently measure investor satisfaction felt that they should. This compares with 50% bricks-and-mortar and 80% of clicks-and-mortar companies. This clearly shows that investors’ satisfaction is valued as much more important among dot-coms and clicks-and-mortar companies, perhaps because they rely so much more on the accessibility of venture capital and corporate finance.

Alliance Partner Satisfaction: Another surprising observation is the relatively low level of measurement of Alliance Partner Satisfaction, especially amongst the dot-coms (28%). Given that many of the dot-coms are now finding that they either have to enter into joint ventures or establish their own physical infrastructures, it is surprising to see them paying so little attention to the satisfaction of the alliance partners upon whom they are often incredibly dependent for revenue or for services. While less than 30% of traditional, clicks-and-mortar or dot-com companies measure whether their alliance partners are satisfied, there are significantly more dot-coms (85%) that feel that they should measure Alliance Partner satisfaction, compared to 63% of clicks-and-mortar and 67% of bricks-and-mortar. This indicates that the dot-coms do recognise the importance of their joint ventures and alliances, but have not yet incorporated this into their management systems.

Regulator Satisfaction: The lowest level of measurement under the stakeholder satisfaction facet for dot-coms is Regulator Satisfaction (22%), which might be explained by the lack of regulators in the global web environment. In theory at least, companies can move their server – and, by so doing, the legal entity – around the globe in order to avoid regulators which are based within a legal system of a certain country or region.

Strategies

In the section of the survey concerned with strategies the respondents were asked whether the measures they currently used helped them to establish:

- Whether they had the right targets?
- Whether they had the right strategies for achieving these targets?
- Whether their strategies are understood throughout the organisation?
- Whether their strategies are being implemented?
- Whether their targets are being achieved?
- Whether their strategies need changing?

Traditional companies appear to be less convinced than clicks-and-mortar companies and dot-coms that their strategy measures help them confirm that they have the right targets – 43% of traditional companies, compared to 61% of dot-coms.
However, this contrasts with the fact that traditional companies appear to be the most confident in the measures they have, which allow them to measure whether their targets are being achieved – 87% of traditional companies, compared to 78% clicks-and-mortar and 83% of dot-coms.
On the whole, dot-coms and the clicks-and-mortar companies appear to be far more certain than traditional companies that their measures help them to decide whether the strategies they are pursuing are the right ones: 61% for dot-coms and 67% for clicks-and-mortar, compared with 30% of bricks-and-mortar companies.
Traditional companies are also less sure than the others that their measures help them to establish whether their strategies are being implemented. In fact, only 48% of traditional companies are sure compared to 56% of clicks-and-mortar and 72% of dot-coms.
Perhaps, the most striking pattern is the percentage of the different companies that claim that their measures enable them to tell whether their strategy needs changing. Only 22% of traditional companies claim that their measures tell them whether their

strategies need changing, whereas this compares with 41% of clicks-and-mortar and 78% of dot-coms.

Processes

In the processes section of the survey, the respondents were asked to indicate whether they felt their existing measures helped them to establish the efficiency and effectiveness of their four key processes. The respondents answered whether they had measures in place to track:

- Whether the processes for developing new products and services are efficient?
- Whether the processes for developing new products and services are effective?
- Whether the processes for generating demand are efficient?
- Whether the processes for generating demand are effective?
- Whether the processes for fulfilling demand are efficient?
- Whether the processes for fulfilling demand are effective?
- Whether the processes for planning and managing the enterprise are efficient?
- Whether the processes for planning and managing the enterprise are effective?

Generally, the dot-coms are more confident than any other group that the measures they use to track their processes help them answer the questions that need to be answered. The dot-coms are particularly more confident in the measures they use to assess whether their generate demand processes are effective, and their fulfil demand processes are efficient and effective. 67% of dot-coms actually measure whether their processes for generating demand are effective which compares to 44% of clicks-and-mortar companies and only 26% of traditional companies.

Across-the-board, the measures that people are most confident in are those used to assess their fulfil demand processes. Although the use of these measures is relatively high (versus most other business processes) across all company types, it is somewhat surprising that it is not even higher. Indeed, it is somewhat concerning too, given the generally adverse demand fulfilment publicity that eBusinesses have generated, that they are currently more concerned with measuring their efficiency than their effectiveness in this area.

Interestingly, despite their apparent high regard for their existing measurement systems (relative to the other two groups), the dot-coms are also generally the ones who most want process measures. Of those companies that do not currently have measures in place to allow them to assess the efficiency and effectiveness of their processes, it is the dot-coms who are the most convinced that they should have such measures in place.

Capabilities

Under the capabilities section, the questions asked were do the measures you currently have in place allow you to establish whether:

- The technologies the organisation requires are in place?
- The people skills the organisation requires are in place?
- The infrastructure the organisation requires is in place?
- The best practices the organisation requires are in place?

Once again, it is the dot-coms who are most confident that they have the necessary measures in place, with 83% of them reporting that they have measures which allow them to establish whether they have the right technologies in place. This compares with only 48% of click and mortar companies and 43% of traditional companies. This is somewhat obvious, considering that a very large part of a pure-play's business relies on technology. If dot-coms do not have the correct and efficient technology in place, then they cannot do business. The most interesting finding regarding capabilities measures was that 92% of dot-coms and 83% of clicks-and-mortar companies either agreed or strongly agreed that their current technology measures were useful whereas only 50% of traditional companies did so, 40% where not sure and 10% even disagreed.

Surprisingly, only 61% of dot-coms, 53% of clicks-and-mortar and only 41% of traditional companies felt that they had measures in place that allowed them to track whether they had the right people skills available. This is in contrast to the stakeholder satisfaction measures which show that companies are concerned about employee satisfaction, however, they do not appear to be concerned about whether they are satisfied with their employees' capabilities. Furthermore, less dot-com companies (71%) that currently do not have measures to track whether they have the right people skills in place think they should, compared to 88% of clicks-and-mortar and 100% of bricks-and-mortar.

Stakeholder Contribution

The notion of stakeholder contribution requires managers to recognise that they have wants and needs from their stakeholders that may be fundamentally different to the wants and needs of their stakeholders. In this section of the survey, the respondents were asked whether they thought their existing measures allowed them to assess whether they were getting what they wanted and needed from their stakeholders.

The most striking feature about this section is the fact that 89% of dot-coms claim to measure whether they are getting what they want from their customers, while only 26% of bricks-and-mortar companies and 41% of clicks-and-mortars do. In fact, more dot-coms measure whether they are receiving what they want from their customers (89%) than whether their customers are receiving what they want from them (83%).

High across all segments are the percentage of companies that have measures in place that allow them to track whether they get what they need from their employees. However, very few of all companies have measures in place that helps them to assess whether they are getting what they need from their investors. Even dot-coms, which heavily rely on their investors, do not measure whether their investors fulfil their wants and needs in the expected way.

The data about companies that say they are not currently measuring whether they receive what they want from their stakeholders, shows that dot-com companies are more concerned about measuring whether they receive what they want from their customers (100%), than are the clicks-and-mortar (75%) and the traditional companies (88%). For Investor contribution it is even more significant. 100% of dot.coms feel they should measure whether they are getting what they want or need from their investors, while only 50% of either traditional or clicks-and-mortar companies feel the same way. More dot-coms put effort into measuring investor satisfaction than they do into checking whether they are getting what they want from their investors, compared to a much more balanced approach for the traditional companies. Again, this could be because it is proving to be increasingly difficult for dot-coms to get investment. For all other stakeholders, more dot-coms are prone to check whether they are getting what they want from their stakeholders than check whether they are delivering stakeholder satisfaction.

Research Implications of the Survey Findings

The first major conclusion of this study is that eBusinesses seemed to be highly attuned to the more comprehensive enterprise measurement agenda set by the Performance Prism. In each facet of the Performance Prism the dot.coms and the clicks-and-mortar companies were the ones that more often already had measures for measuring the sub-facets in place or were more eager to do so in comparison to traditional bricks-and-mortar companies. This might be because the Performance Prism seeks some alternative criteria not specifically addressed by other commonly applied frameworks which many traditional companies might be more accustomed to using.

The data also suggests that the dot-com group of companies believes that they are better equipped to manage their business with the measures they are using than either of the other two groups – although they admit that they could and should do an even better job. There are two possible explanations why this might be the case:

One reason for this might be that many dot-coms are very young businesses that essentially do not have a very complicated business model that has evolved over a long period of time. They often pursue simpler strategies and have less complex product and service offerings. By creating organisations that are more virtual with fewer people and management layers, complexity is reduced but inter-relationships become more important. Furthermore, many of the dot.com companies had to introduce a broader range of measures in order to obtain the vital funding or to accompany their IPO.

Another reason might be that dot-coms do not have to handle huge legacy systems and imposed performance measurement practices dictated by their parent companies in the name of standardisation. This can be a serious problem for traditional and clicks-and-mortar companies. But, since they seem to be very keen on measurement, dot-coms will in future have to be careful not to build up a plethora of measures with lots of obsolete metrics. They will have to align their measurement system to the evolving strategy – which, in turn, will be dependent on competitive pressures and movements in stakeholder wants and needs – and change the measures accordingly, while simultaneously eliminating the measures they no longer need.

Although dot.coms and clicks-and-mortar companies feel they do a better job than traditional companies, the vast majority of respondents - dot-coms (100%), clicks-and-mortar (96%) or bricks-and-mortar (96%) companies - indicated that they would like to do a better job of managing with measures than they do today but lack the time to identify a suitable framework of measures. Hence, this study reveals scope for developing more comprehensive and better integrated performance measurement systems as well as new metrics in the areas where very few people measure today but many expressed a need to measure tomorrow.

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