

eB2B

*An analysis of the effect of e-commerce and new technology
on Business-to-Business (B2B) markets and firms
and research methods that will create competitive advantage for them*

By Darren Noyce
November 2001

Preface:

“The preface is the most important parteven reviewers read a preface”

Philip Ovedalla

This paper will examine the current possibilities and probabilities for **Business-to-Business (B2B) e-commerce** – or eB2B.

I will also link to this the best and most appropriate **market research** methods that will create the necessary competitive advantage for those signing the purchase orders. In addition, we will take a peek at how research could potentially adapt, via technology like Artificial Intelligence (AI), to overcome some of the challenges that currently exist for business research, e.g. speed of information flow and detachment from the target audiences (respondents).

The hypothesis I will refer back to and finally test is:

<p><i>H₁ : Technology-based research methods offer the best solutions for B2B e-commerce information needs</i></p>
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Entrance: the beginning

“People who confuse science with technology tend to become confused about limits... they imagine that new knowledge always means new know-how; some even imagine that knowing everything would let us do anything”

Eric Drexler
‘Engines of Creation’ (1990)

I have attempted in this paper to examine both the scientific and technological angles, whilst of course, hoping not to confuse them! But first, as in all research, we should question what we do.

Ask yourself why we would or should undertake research about B2B e-commerce at all - and then ask yourself why we would use impersonal, technology-based methods when face-to-face and telephone business research have been the norm for more years than we'd like to remember?

Why conduct business research at all? Well, common-sense and instinct tell us that knowing more enables us to make better decisions in business (knowledge is not only power, but a leveraging force for reassurance, confidence and ability) – and it has also been shown time and time again that undertaking research itself (per se) with customers can increase satisfaction, strengthen loyalty and hence create competitive advantage.

And, why use technology? Well, **technology-based** research methods can be more **convenient, relevant, appropriate, quicker** and **cost effective**. On top of this, when we link directly with client databases and the information held there, a unique ability to combine aggregated research information with identified or **attributable customer data** through one project and supplier could be said to provide the “*missing link*”. What is the missing link? It is work that links directional research-based insight - and the more tangible and visible individual (identified) customer data.

In terms of the variety of methods available to us under the ‘electronic’ business-to-business research heading (assuming electronic data entry by the respondent), we can intercept visitors to business web sites; invite customers and clients to take part by email; invite qualifying respondents by phone or in person to take part online when sample and especially email details are not known in advance; as well as being able to undertake both quant and qual online.

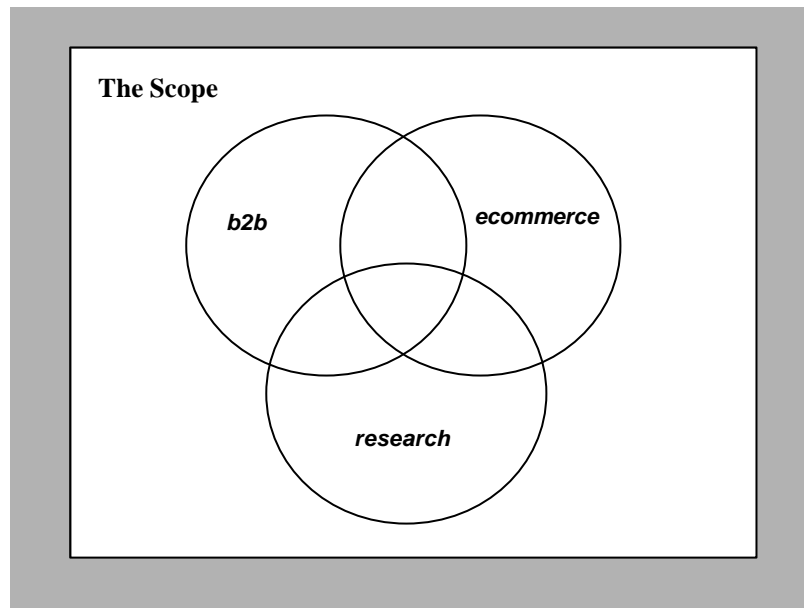
Hybrid methods can include WATI (web aided telephone interviewing), whereby customers can be interviewed with the web as the data entry medium. It has even been known for Business Account Managers to take customers through a survey (although the benefits for customer relations have to be weighed up against potential bias in the data).

The future will no doubt see ever-growing use of business ‘community’ panels for net-based research, especially in niche and over-researched markets like IT. And the ever-increasing net penetration amongst SME's will also aid use of this technique amongst the low profile 80% - where we may also see burgeoning use of mobile-based research solutions!

This paper will provide readers with essential information on the B2B e-commerce market, and also provide insights on which to base decisions on methods for researching businesses electronically, and of researching electronic business per se; this all in order that today's marketing research agency/consultancy can deliver **competitive advantage** based upon its core product of directional research-based insight.

First of all let us define the parameters or scope of this paper by in turn looking briefly at each of:

- *Business to Business (B2B) channels/markets*
- *Business to Business (B2B) Research*
- *e-commerce/eBusiness*
- *B2B e-commerce (eB2B) and*
- *eB2B (or B2B e-commerce) research*



We will start with the wider environmental context and then increasingly focus, each time more closely on our particular area of interest.

Environment: the context and issues

“There is a theory which states that if anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states that this has already happened”

Douglas Adams (1995)
The Restaurant at the End of the Universe

Now, it is considered possible (at least by the author) to equate the last sentiment to what has happened in business and commerce in the last 10-20 years. In particular, the amazing introduction of computing and other electronic technology has completely transformed the Business Universe [It is arguable, though, whether research about such Business to Business matters has kept pace].

Evidence of this shift to technology follows, with facts, stats, historical frameworks, case studies and an examination of the major issues that have and will affect B2B e-commerce.

As an introduction to this, linking the world of B2B e-commerce and research together, Rajesh Nakhwa of US B2B e-commerce firm Ariba, did say in Quirks Marketing Review (October 2000):

*“In today’s competitive climate of global e-commerce, **customer loyalty** is a key factor to success. Increasingly, **companies are demanding immediate access to customer feedback** in all aspects of their business experience. From initial purchase to product delivery and technical support, e-businesses realise that sustaining a **healthy customer-orientated relationship** is a full-time endeavour that requires **constant feedback**.”*

Let’s start our evaluation of this area by looking at some of the amazing facts and stats.

Facts & Stats

“It is a capital mistake to theorise before one has data”
Sir Arthur Conan Doyle

We agree, and here is just a selection of facts and figures from various sources:

- *AMR Research reports that by 2004, e-commerce transactions will grow to \$5.7 trillion. AMR also reports that companies that do not aggressively pursue an e-commerce initiative will lose customers and ultimately fail.*
- *Demand for B2B e-commerce is rising quickly. AMR Research in Boston predicts that B2B e-commerce will reach \$2.7 trillion by 2004 and that two years from now major companies will be conducting 60 to 100 percent of their transactions over the Internet. The Gartner Group Inc., a market research firm based in Stamford, Conn., is even more optimistic. According to Gartner, B2B e-commerce reached \$145 billion worldwide in 1999 and is projected to surpass \$7.29 trillion by 2004.*
- *In the USA, Forrester Research, based in Cambridge, Mass., surveyed corporate executives and found that 71 percent plan to extend their business processes to online trading exchanges by end 2001.*
- *In the midst of a down economy, European e-business activity is on the rise reports AMR Research Inc., Boston. In a May 2001 survey of 203 businesses in the United Kingdom, France and Germany AMR found that 72% are planning to, or already are deploying applications supporting intra-and inter- enterprise collaboration activities.*
- *San Francisco/Chicago –September 6, 2000: Business-to-business (B2B) ecommerce continues to grow rapidly, even though price negotiations and online collaboration have still to migrate online in a significant way, according to a new study of the business-to-business ecommerce market by The Boston Consulting Group (BCG). In research released today, BCG estimates that U.S. B2B e-commerce will grow from \$1.2 trillion this year to \$4.8 trillion in transaction value in 2004.*
- *Business-to-business Internet market infrastructure spending in the USA to grow to \$80.9 billion by 2005 from \$2.1 billion in 2000, according to Jupiter Research.*
- *The Asia/Pacific business-to-business e-commerce market will boom in several years, reports IDC, a Framingham, Mass. –based research firm. Companies, excluding Japanese firms, will initiate an estimated \$516 billion Internet purchases in the region by 2005, IDC projects. Only \$12.8 billion in the sector in 2000, the research firm notes.*
- *Research and statistics provider eMarketer has raised its estimates and believes global business-to-business e-commerce will increase during the next several years. The New York based firm is now predicting that B2B will reach \$2.7 trillion in 2004, up from the previously estimated \$226 billion, which eMarketer reported last year. “Though our estimates remain conservative compared to other Internet firms, we find the growing leadership of old economy companies has given momentum, and will continue to propel businesses online,” says eMarketer.*

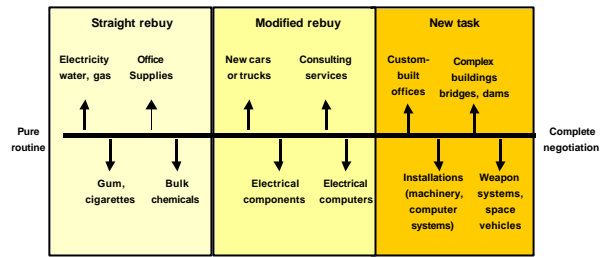
B2B channels/markets

In many ways B2B markets are similar to consumer markets (and we discuss here that this is increasingly so). Both involve humans that assume buying roles and make purchase decisions to satisfy needs.

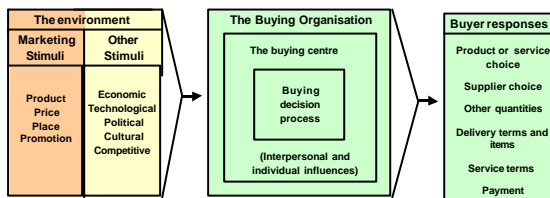
Diagrams describing typical business buying behaviour, are shown below:

However, business markets differ in many ways from consumer markets. The main differences are in (a) **market structure and demand**, (b) the **nature of the buying unit** and (c) the **types of decisions** and the decision process involved (Kotler, Armstrong, Saunders, Wong, 1996).

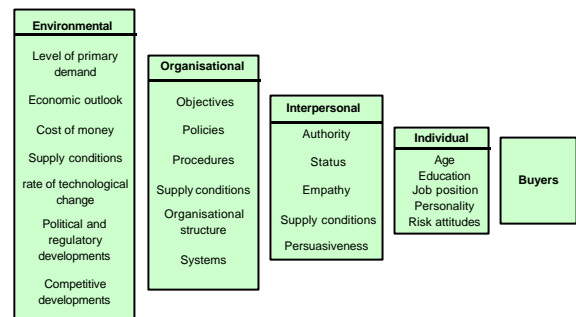
Business Buying Situations



BUSINESS BUYER BEHAVIOUR



MAIN INFLUENCES ON BUSINESS BUYING BEHAVIOUR



Differences to consumer markets are listed here:

(a) Market Structure and Demand:

- far fewer but larger buyers
- geographically concentrated
- more fluctuating demand

(b) Buying Unit:

- involves more 'buyers' (people)
- more professional purchasing effort

(c) Decision Types/Process:

- more complex
- more formalised
- long term relationships

Note: the increasing development of online B2B transactions could arguably be simplifying business buyer behaviour, and potentially ever more increasing the similarity with consumer markets.

Business to Business Research

The UK Market Research Society (MRS) states the following in its draft guidelines on this area:

Business to Business Research – *this can be defined as research that seeks to examine the behaviour of companies, business or corporate structures through interviewing one or more individuals within organisations. It can involve the use of all established research technologies and methodologies but amongst respondents recruited by virtue of their role in an organisation rather than their status or category as an actual or potential consumer.*

It is clear that examination of the B2B electronic supply chain, communications and transactions fits neatly within this. To this we can also add a list of the critical business research topic areas. Kadence Business Research has put forward six fundamental questions that should be asked of a business market. They phrased them in the future tense to imply that research should come before marketing activity and used the term “product” to describe that which is marketed rather than the more cumbersome “product or service.” They also assumed that the client feels personal ownership of the product.

The six questions are:

1. *Who will buy my product?*
2. *Why will they buy my product?*
3. *Where will they buy my product?*
4. *When will they buy my product?*
5. *How satisfied are they after buying my product?*
6. *What will they buy next year?*

One background trend noted by Tom Greenbaum, of Groups Plus in Wilton, Conn., is the growing *sophistication* in utilising research techniques by business-to business companies. In the past, consumer companies were more sophisticated in their use of research because their people had been trained the use of research technologies. In the business-to-business environment most marketing people were sales people who had been given the added responsibility of using research without knowing how to use it. Today more business-to-business companies are staffed by consumer goods-trained marketing people who understand the research function and what is needed to carry out good research. So again we can plot a move towards increased ‘*consumerisation*’ of business markets.

B2B Research and Competitive Advantage

John Barrett, of Priority Metrics Group, feels that the objective of building and sustaining **competitive advantage** is central to the long-term success and even survival of a business. While definitions vary, most agree that competitive advantage is the *unique value a firm is able to create and deliver to its customers*. Barrett adds:

1. If the business is to survive, that value must exceed the total cost of production.
2. The difficult part, of course, is not in defining what competitive advantage is, but in actually creating it.

But how does a business create competitive advantage?

Many articles and papers have espoused a wide variety of programmes for creating business competitive advantage. Some broad examples of business activities that are supposed to create competitive advantage are: *creative pricing, output flexibility, technology, expense controls, customer service, reengineering, 360° feedback, people, information systems, information services, employment testing, compensation, packaging, innovation, quality, value-added services*, and so on.

From a research agency perspective, it is only by delivering the aforementioned **research-based insights** and **directional advice**, all with **consistent quality and service**, that we will create competitive advantage for our clients. Likewise, e-commerce will create competitive advantage via enhancing information flows and easing the transaction process.

e-commerce/ebusiness

In short, e-commerce is simply another word for doing business on the Web. This includes

- *putting a 'shopfront' on the web, i.e. a transactional website.*
- *taking sales over the Internet*
- *marketing and promotion on the Internet*
- *providing aftersales service on the Internet*
- *maintaining other customer contact through the Internet (i.e. satisfaction surveys, further promotion, vertical sales, etc.)*

More importantly, e-commerce is **leveraging the power of the Internet to conduct business**. This includes the buying and selling of products and services by businesses and consumers over the Internet. e-commerce also encompasses other aspects of running a business such as *customer support, billing, tracking, marketing* and any other business function over electronic means.

e-commerce is changing the way businesses interact with each other, and it is also **changing the relationship between businesses and their customers**. Manufacturers can use e-commerce to cut out the middle man and sell directly to the end users. Retailers can operate with little or no inventory, and only carry items when they are ordered. Indeed, with a worldwide audience of millions, the Internet can give small businesses the power to compete on the same level as larger ones. Mention electronic commerce (e-commerce), and such high-profile Internet retailers as Amazon, Priceline and eBay come to mind. However, electronic commerce existed well before consumers' widespread adoption of the Internet. There are two very different segments of the e-commerce market:

business-to-consumer (B2C):

the sale of goods, services and content to individuals;

business-to business (B2B):

the buying and selling of goods, services and content among enterprises.

Regardless of segment, the **core benefits** are the same for the seller: *less paperwork, fewer manual processes and less human interaction* than in traditional commerce.

e-Commerce also facilitates on-demand availability of purchasing information to buyers and sellers. Electronic transactions also *reduce processing costs, improve accuracy and shorten the transaction cycle* when compared to the traditional purchasing model.

But **warnings** do also exist for those entering this field: *"Success could be the death of e-commerce,"* has said Dean Whitlock, vice president, ebusiness at ICL.

So, how can research help?

Though Whitlock's observation above sounds rather ominous, it is becoming increasingly obvious that a **lack of foresight, insufficient testing**, coupled with **short-term planning and sparse information**, may result in an e-commerce site crippling a company's business.

CASE STUDY: The Struggle for B2B Standards: A Tale of e-Commerce Standardisation in the US Energy Industry by Dick Brooks, consultant and founder, Tech-Comm

Imagine it's November 1996, and your boss comes into your office to tell you about this challenging new project you'll be working on. Because you did such a great job managing the last project, you've been selected to lead the next "hot project". You're going to replace the value-added network (VAN) that the company has been using to exchange mission-critical electronic data interchange (EDI) transactions, with a low-cost Internet solution.

He attempts to comfort you by saying you're not alone – every other company in your industry is required by *law* to use the Internet to exchange EDI transactions. Oh, yes, and don't forget that the project must be completed by April 1997, or the government will impose fines for each day you're not in compliance with the new law.

The scenario described above is a fictional but representative depiction of what happened to IT managers in the US natural gas industry in 1996 and the electric industry in 1997. At that time, the Federal Energy Regulatory Commission (FERC) within the Department of Energy (DOE) decided to open up the natural gas marketplace to competition.

These are, amongst other areas that follow, the opportunities for research and planning consultancies.

In the race to get online, many organisations have not considered how they will cope with the millions of visitors a popular site might attract. Some organisations that have already transferred their core businesses to online have become victims of their own – unforeseen – success. The main threat to these businesses lies in the supporting infrastructure underpinning their e-commerce sites. A recently launched financial services company experienced just such a problem. A visionary in its field, it nevertheless underestimated the interest that its offering would generate over the Web. As a result, the company was forced to take immediate and expensive corrective action to support the traffic its site received. While that example is B2C rather than B2B, the warning is still valid. Rushing into e-commerce, putting your core functions online *without a lot of thought ahead of time*, is a serious mistake – even a career-threatening one.

“A commitment to e-commerce means you’re opening your systems to the world, and in the process potentially importing the world’s problems, or exporting your own” **Whitlock, ICL**

Add to this a knowledge and skills deficiency, joined with a ‘need yesterday’ mentality.

“Perhaps the biggest source of frustration among companies trying to enter into (electronic) B2B relationships is that their trading partners aren’t on the same page in terms of technological skills, budget or staff availability. Sometimes they are not even reading the same book.” **Alexandra Barrett, ebizQ**

She also points out in her piece that this can be a problem no matter how big the company you’re dealing with. She quotes Mike Donaldson, senior vice president of worldwide marketing for New Era of Networks (NEON), based in Englewood, Colo., as saying

“Even if you have the resources, no one has the time. Everyone is in a desperate hurry. For this type of work, you need a series of skills, for example, you need IT staff who are familiar with BroadVision Inc.’s One-to-One suite of ebusiness products or with SAP AG’s ERP software. And not everyone has had the chance to go out and learn them yet!”

On top of these challenges, the world of e-commerce is also changing rapidly. Ten years ago e-commerce was defined as participating in an **EDI initiative**. Today e-commerce means much more than just EDI: it means supporting **interactive Websites**; it means using **XML** and the Internet to conduct interactive **business-to-business (B2B) communications**; and it means enabling the communications with **multiple exchanges**.

One interesting summary comes from Roy Schulte (Gartner Group). He has said:

*“....basically, **e-Business really just means taking A2A, B2B and B2C and sticking them together.**”*

Corporate E-Business Portals

A corporate ebusiness portal is one that represents a single entry point into a corporate Website that consolidates protected Web content and Web-based applications. E-business portals offer users a window to enterprise information, applications, and processes, and provide a way for prospects, customers, partners, and employees to access information and conduct business easily and securely. Corporate portals can be designed for the use primarily of employees and contractors (typically called **Intranets**), or can include corporate partners and suppliers, as well as consumers (typically called **Extranets**). Although the user population is somewhat different for these different types of corporate portals, many of the features that each environment requires are the same (Blunt, Netegrity).

It has been stated that users of portal sites often progress through a series of steps that define the type of relationship that they have with the portal itself. These are:

- *anonymous*
- *self-registered*
- *authenticated*
- *strongly authenticated (privileged)*

As users (which can include employees, partners and customers) move through these stages, the portal management infrastructure needs to **identify**, **collect** information about, **track**, and **personalise** content for users, regardless of where they reside on this continuum.

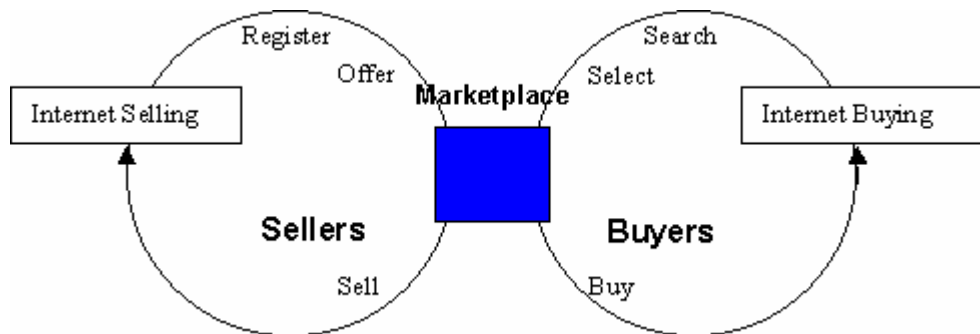
“The use of portals might hold the key to fulfilling the Internet’s promise as an interactive, value-added medium. The marketers’ Holy Grail is building close customer relationships. Personalised, interactive portals can equip firms with the tools to do just that”.

Steve J Boom, Yahoo! Enterprise services

The definition or purpose of a B2B portal can actually be quite varied, however. B2B portals can include procurement **exchanges**, **catalogues**, online **B2B commerce sites** or **supply chain hubs**. Procurement portals include public and private exchanges (exchanges are discussed in more detail in the next section). The Company builds the B2B portal, and its suppliers and partners interface the portal either through browsers or by sending electronic documents in approved formats that might include EDI and XML. Any company, large or small, can build a portal that includes its product catalogue and accept online transactions. Lastly, there are the **industry consortiums** building B2B portals.

B2B e-commerce (eB2B)

On the Internet, B2B refers to the **electronic exchange of information and transactions between companies in a supply chain**. B2B differs from EAI (Electronic Application Integration), which usually refers to the Integration of Applications within the firewall. B2B integration is by definition across the firewall (usually hence between firms).



<http://www.mysupplychain.co.uk>

There are a number of different types of B2B solutions. One is simply **sending electronic documents between partners** to reduce the time and cost of exchanging information often used in the past for these types of solutions. More recently, **XML documents** are sent over the Internet to enable **B2B document exchange**.

Exchanges

Another B2B solution involves **public exchanges**. These are **online trading exchanges** that enable companies to purchase supplies (usually indirect goods) from a variety of suppliers based on availability, price, etc.

Private exchanges are a variation on the supply chain and public exchange themes. In private exchange, the dominant vendor sets up its own Web site, and its suppliers and partners interact through the online exchange.

Looking at the figures, Fred Meyer (in ebizQ) notes that in terms of revenue generation, we are still at the dawn of the Internet era.

“B2B will launch Global companies' Web expenditures like a rocket, and the rocket is taking off.”

One analyst told Meyer *“Every venture capital proposal in the valley now has ‘B2B’ on the cover, and half of them actually talk about B2B inside.”*

The screenshot shows the Mondus UK website interface. At the top, there's a navigation bar with 'mondus uk' and a search bar. Below that, there are tabs for 'PRODUCTS' and 'SERVICES'. The main content area is titled 'Search. Compare. Buy.' and lists various product categories like IT Hardware, Office Furniture, and Employee Benefits. A large banner at the bottom of the page reads 'A UK exchange: www.mondus.co.uk'. On the right side, there are sections for 'Register' (Become a Buyer, Become a Supplier) and 'Log In'.

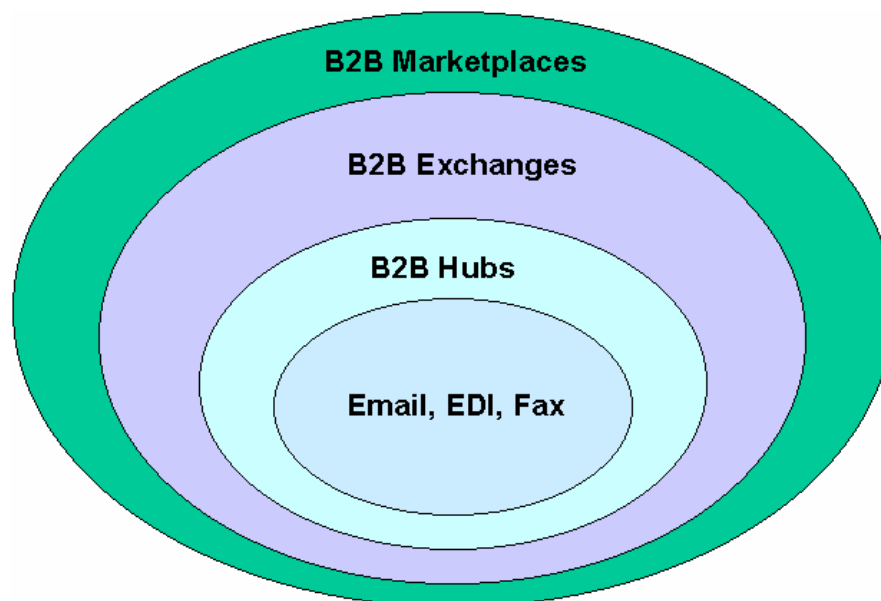
Initiatives like **RosettaNet** and **Ariba** in the USA have received massive press coverage. Hundreds of millions of dollars are being spent by U.S. automotive companies to build XML-based solutions that run over the Internet. These are some of the first rumblings of a new wave of online businesses that will become the hot topic. Meyer believes it is realistic to assume **B2B-related revenues will eventually (read: soon) eclipse B2C revenues by one to two orders of magnitude**.

Although slower to take off in the UK for instance, than the States, it is absolutely clear that online B2B marketplaces or exchanges will become increasingly important all over the world (see Facts and Stats earlier).

In the USA, Kolita of Agribuys has observed that:

*“Over the past few months, the number of B2B marketplaces available to retailers, distributors and producers in the food industry has sky rocketed. Clearly, companies that move to adopt the right technology first can score significant **competitive advantages**.”*

Another example of an e-marketplace, a consortium of computer and electronics companies that has joined forces to form a global B2B exchange, is called **e2open.com**. The e2open.com exchange is built on technology from Ariba Inc.'s B2B Commerce Platform, i2 Technologies Inc.'s TradeMatrix marketplace application and IBM Corp.'s WebSphere



<http://www.mysupplychain.co.uk>

Commerce Suite software. Participants – of which there will eventually be thousands, according to e2open.com's founders – will be able to plan, manage and execute transactions over the Internet. The exchange will offer a range of functions, including a reference database of parts, digital certificates, transactions such as requests for quotations and logistics planning, and insurance services.

*“We believe that the **electronic marketplace** using the Internet offers advantages in terms of lower procurement costs, better quality, shorter delivery times and overall improved operational performance,”* explains Kazuhiko Sugiyama, executive vice president of Matsushita Electronic Industrial Co., one of the founding members.

Another example is an online exchange for trading partners in the electronics components and IT industries. They can use **RosettaNet**, a collection of exchange protocols that define products, partners and business transactions within those industries.

Gordon Hilton, vice president of Toshiba Information Systems, a **RosettaNet** member, says:

“Until now, true electronic commerce was a Holy Grail. It was something that the PC industry wanted but could not fully implement without the common standards necessary to make electronic commerce truly functional and reliable throughout a single supply chain. More significant is that it was impossible to implement e-commerce across an industry.”

Other examples include General Motors, Ford and DaimlerChrysler **Covisint** automobile exchange. Also Oracle, Carrefour and Sears Roebuck **GlobalNetExchange**, which is aimed at connecting an estimated 50,000 retail buyers and suppliers.

Will online exchanges eventually become the dominant method for B2B trading?

That remains to be seen. But regardless of the approach an organisation takes, it is important for companies entering the world of online B2B to remember the good old principle of give-and-take.

“Any B2B integration situation requires partners on both sides to be flexible in dealing with one another’s limitations,” has said e-commerce firm Mercator’s Leary. *“It’s still not a perfect world, but when it comes to streamlining B2B commerce, it’s certainly getting better.”*

Evaluation & Future Look

But, given the high level of interest this topic is generating, why hasn’t B2B already appeared as a stronger driving commercial force (especially outside of the USA)? Two reasons:

First, some of the standards and quasi-standards – like XML – have only recently appeared. Although these standards are neither perfect nor complete, they do constrain the B2B problem sufficiently to reduce the number of variables to a manageable number.

Second, robust, scaleable B2B is very, very hard – ask the companies that have implemented EDI systems if you don’t believe it. We are just now reaching a point where software and network tools are sufficiently good to make the general problem tractable.

Meyer of ebizQ has also argued that in fact, that without the evolution of EAI and portal technologies witnessed over the past few years, development of standardised B2B methodologies would be a practical impossibility. Unlike B2C, where quite a lot can be accomplished with a good Web front end and a relatively unsophisticated server side infrastructure, B2B involves the exposure and extension of existing processes to the networked business community. This must be done while at the same time imposing uniformity over all the quirky complexity that has given EAI vendors fits for the past few years. A solid EAI backbone is therefore a prerequisite for enterprise scale B2B.

Indeed, one of the most profound benefits of the Web is that it allows an enterprise to move its business processes and sensitive information out to its partners and suppliers (Bount, Netegrity). Partners and suppliers can gain access to personalised sales and marketing information, production schedules, and can run selected applications directly from the portal site. This improves time-to-market, access to critical business planning information, and overall competitiveness. But, this benefit is only achieved through a **unified integration of partnerships with the portal site**, including seamless single sign-on, self-registration, and policy-based control of user access. The more integrated and seamless this infrastructure is, the more business will be driven from the main site to the affiliate site, thereby increasing revenue for both sites.

Integration with affiliate sites also provides the foundation for customer affinity programs, in which valued customers can get preferential treatment and services, based on the brand of the hosting portal site. Customers who get preferred treatment tend to return to the site, and generate more business.

But, what does “integration with affiliate sites” really mean?

First, it means that users should be able to authenticate themselves (login) to either the affiliate or the portal site, and have their identity passed to the other site automatically and invisibly. This provides single Web sign-on between portal and affiliate sites, so that customers view them as a single, unified experience.

Second, it means that user privilege information should be passed transparently from the portal site to the affiliate site, so that the user's experience can be personalised on the affiliate site. This information includes not only entitlements (such as which applications they can access) but also general user attributes (such as address, buying preferences, credit rating, etc). Only when the portal and affiliate site can operate as a unified whole, will the overall experience of the user be sufficiently positive to bring them back repeatedly to the portal site.

A look at US statistics again: On 6 November 2000, Gartner issued projections about enterprises' participation in B2B e-markets. Gartner believed that by 2005, more than 500,000 enterprises in the USA would participate in e-markets as buyers or sellers.

The developers and managers of B2B markets, or e-market makers, have begun to attract large numbers of buyers and have begun to use the buyers' market power to attract sellers. The long-term effects of these new entrants in markets remain unclear but benefits from their presence will likely far outweigh the costs. Independent e-market makers will help sellers increase the size of their markets by investing heavily in branding. In addition, by attracting large numbers of sellers, e-market makers will help buyers meet their needs. Most importantly, independent e-market makers will manage massive quantities of supply and demand data and will help in the distribution of near-perfect information to buyers and sellers.

Today, e-markets are generally limited to spot buys, excess product sales and indirect procurement. As e-markets mature, they will begin to mediate larger sets of buyer/supplier relationships. They will also have to focus more narrowly so that three unique varieties of e-markets will likely populate the landscape:

Commodity e-markets will support high-volume trade of products and services with commodity or near commodity status as well as financial instruments (e.g. future contracts).

Business service e-markets will focus on supporting specific interenterprise processes, such as those related to logistics, financial services, and maintenance, repair and operations procurement.

Integration service e-markets will emerge with a focus on linkages and process definitions between trading partners to facilitate process-to-process integration.

Individual e-markets will find it increasingly difficult to support broad sets of commerce capabilities required to sustain relationships of differing intensity and duration. E-markets will have to align themselves strategically with business services partners as well as technology partners.

Oracle's B2B Smarter Road Show November 8, 2001

markets and exchanges

where b2b clicks into place

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Indeed, e-markets will find themselves taking on the role of the traditional distributor as well as application service provider. With business process efficiency comes added value and the traditional responsibility for customers. Therefore, **e-markets must take on the customer relationship management initiatives** that traditional brick-and-mortar enterprises struggle with today – and they must also use channels outside their Internet initiatives.

But, the systems infrastructure necessary to enable this market growth is not yet in place in many locations (Verbeck and Madda). The market needs new solutions in order to capture the buyers' demand for all types of goods and services and route these orders to suppliers or Internet marketplaces efficiently. The adoption of these solutions reduces costs, controls spending and gives both buyer and supplier better market visibility, which improves the efficiency of the market. The market for **Internet commerce procurement applications**, a subset of the overall market, is expected to reach \$9 billion in 2004, up from \$770 million in 1999, according to IDC. This represents a staggering 5-year compound annual growth rate of 63%. Verbeck and Madda believe this market indicates the potential of B2B e-commerce solution providers, the arms merchants in the campaign to connect organisations. E-Commerce solutions providers are positioning themselves to be compensated both on the adoption of their technology and on a recurring basis as transactions occur so that they can participate in the efficiencies they are creating.

The Bad News

However, all is not well in B2B e-commerce, as elsewhere with the Internet. The following news was posted on the 2nd November 2001.

Online Asset Exchange, a business-to-business Internet-based exchange that grabbed attention by landing Lee Iacocca, formerly of Chrysler Corp., as spokesman and director early last year, has ended operations after failing the viability goals of its venture capital backers. The exchange had claimed to list more than 200,000 corporate assets valued at more than \$7 billion shortly after launching.

*“We couldn't get transactions to a level that would bring the company profitability”
“The volume was never there.”*

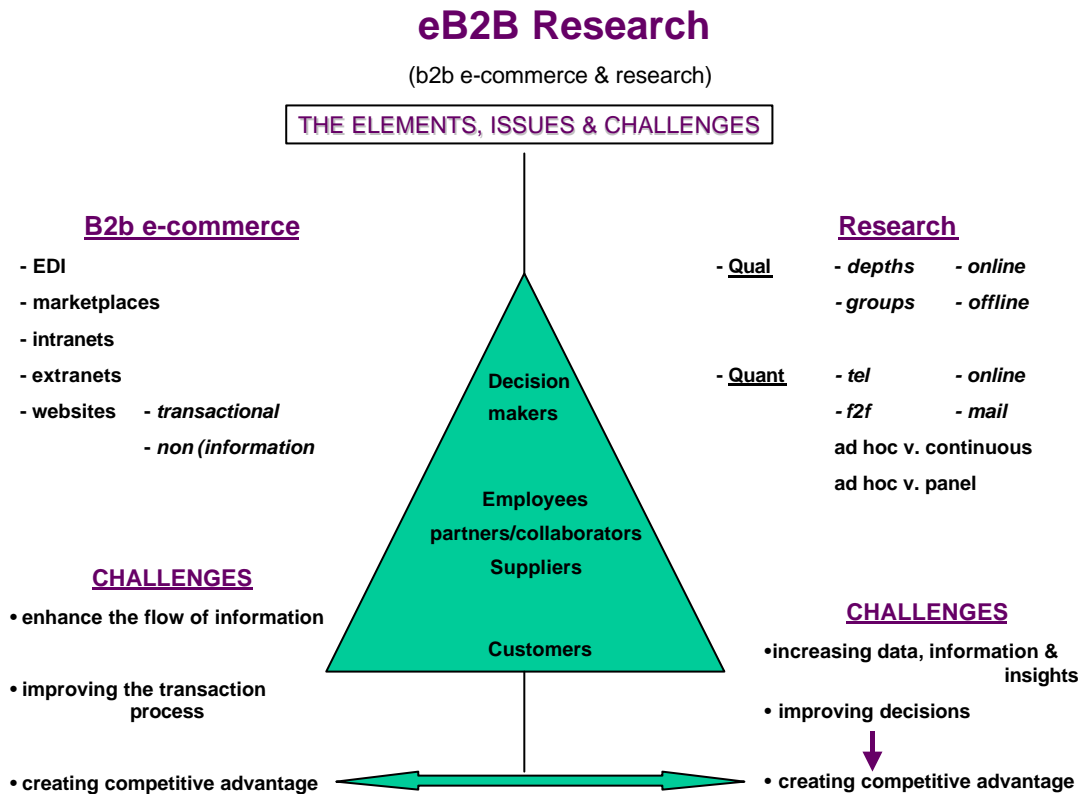
In addition, in the year April 2000 – April 2001, AMR Research tracked 400 online marketplace failures.

Note on the Collaboration Principle

According to many, the underlying principle in B2B e-commerce markets is **collaboration**. Collaboration is defined by the *American Heritage College Dictionary* as “to work together.” According to the same source, it also means “to co-operate treasonably” (Aerowe, Yankee Group). Collaboration, until recently, had a fairly negative connotation. The term conjured up images of agricultural co-operatives, socialist planning, and activities sympathetic with the enemy. Despite the negative inference, collaboration and the concept of collaborative commerce have gained tremendous popularity in the technology world over the past several months.

Online corporate co-operation can generate tremendous e-business value. Companies have long shared data and information, jointly developed products, negotiated prices and terms, queried potential partners on product specifications, discussed demand expectations, and shared promotional plans. These co-operative activities are essential elements of any successful business. These activities are also information-intensive and, as with most information-intensive activities, **the Internet is changing the rules of the game.**

The main tools of online B2B and collaboration are hence: **E-mail**, electronic data interchange (**EDI**) and eXtensible Markup Language (**XML**).



The above schematic shows how we can describe both **e-commerce** and **research** as business services/applications designed to tackle several challenges and hence ultimately create competitive advantage for a client firm.

The diagram also points out that, of course, research with regard to B2B e-commerce can be conducted on or offline – and later we discuss the merits of each.

The Audiences

The central pyramid contains various ‘audiences’ or groups of people that must be consulted when planning and implementing e-commerce, and who will also be required to interface with the company when actually conducting e-commerce (or communicating) with the company. As with any research, we have to be certain to be talking to the right people. As shown above, this ranges from decision-makers to staff, and will also include site visitors and those that buy online, etc.

Special Note on Employee Consultation:

According to Porchey (1998), amid the downsizing, reorganisation and merger frenzy in today’s business world, staying in close touch with **employees’ opinions** and ideas is an essential component of bottom-line success (just think to yourself of the enormous change brought about by the introduction of e-commerce within a business). Whether or not they are directly affected by those changes, employees are increasingly sensitive about company direction and what role they will play in achieving corporate goals. Knowing what employees think about their company, its products and services, and the key issues it faces are fundamental needs in a changing and highly competitive marketplace. Also,

CASE STUDY:

Vodafone Retail (UK) Store Manager Satisfaction

- Online research conducted for Vodafone Retail, by **magenta**
- Audience with 100% Internet access (b2b)
- Survey of all retail outlet managers, quarterly
- E-mail notification from Head Office
- ‘Save and Return’ facility
- Store code as Password
- 83%+ response (with follow-up)
- On-line progress reporting

understanding how best to educate and motivate employees to help reach corporate objectives is essential to overall success.

More and more, businesses are turning to **action-orientated employee research** (see Case Study on Vodafone Store Manager Research above) as a way of learning about workers' perceptions and suggestions and developing action plans to improve their effectiveness. While employee research requires an investment of time, money and energy, a well-executed survey, and the actions that result from it, can pay off in improved morale, better customer service and an enhanced company image.

In addition, **2 main themes or elements** of e-commerce and research need to be highlighted (and continually reiterated):

Personalisation (one-to-one communications)

Successful companies increasingly leverage the power of the desktop to improve their position in customers' minds and this will increasingly apply to B2B in addition to B2C firms. In the not so distant future, companies will provide **personalised interfaces** between their products, services and marketplace as a way to build and sustain lasting relationships with their marketplace. This customer-based reality is already defining loyalty and used as a way to better market a company's products (Gecco 2000).

For instance, although not B2B precisely, by continually gathering information about customers, Amazon has moved from a "one size fits all" store for the mythical average customer, to making the perfect store for everybody.

Speed

It is also clear that in our new web-world, **speed** is of the essence. In today's marketplace, you can be out-positioned in a few months if you are not checking and responding to your marketplace. Because information is now quickly disseminated, there are more variables that must be responded to quickly. Companies can't wait months to learn what people think about their products, brands and Web sites when competitive pressures are at an all-time high. The explosion of new products and services, many of them Web-driven, has created a world where brands can now achieve a market presence, and sometimes dominance, in as little as a few months.

Today, with the help of the Internet, a couple of MBAs can launch a frontal assault on major, established brands from their living rooms (Gecco 2000).

This drives B2B firms ever increasing desire for **real-time information (and instant answers)**. We will return to the 2 themes of speed and personalisation later.

From here on I will only be examining the world of B2B ecommerce and the research techniques that help businesses to develop in this new **information-thirsty, time poor electronic business world**.

Execution & Engines: research methods & techniques

“Human beings (researchers?) know a lot of things, some of which are true, and apply them. When we like the results, we call it wisdom” Herbert Simon

So far, I have described the background, hypothesis and market environment for B2B e-commerce. Now it is time we examined the many **research methods** at our disposal that aim to not only provide directional research-based insight, but also to deliver competitive advantage for the client/sponsor/host organisation. In order for a comprehensive yet concise review we describe here 3 main types:

- *human*
- *self-completion*
- *hybrid/combinations*

In addition, we also assess qualitative and quantitative information gathering techniques, alongside the provision of anonymous/aggregated and identified data.

To start, for all research it is worth considering that there are 3 main stages, subsequent of course to acquiring a quality sampling frame (see next section):

- 1/. – *the research or initial contact (recruitment)*
- 2/. – *the interview/questionnaire/questions*
- 3/. – *the feedback/follow-up (including thank you)*

The hardest part is always the first, i.e. contact/recruitment. This is especially true in the business world, where screening ‘cold’ mail and phone calls is more than ever part of the job. Methods to overcome this include the use of motivating scripts, the best recruiters/interviewers and valuable rewards including cash, prize draws - and for more senior participants, information. In the end it is all about understanding the ‘**buy-in**’ process, **gaining engagement through good messaging/communications, mutual benefits and ease of action.**



Sample Frames & Sampling

Within the B2B field, the easiest sampling tends to be associated with employees and where there are good databases of customers. Here, survey invites can be sent en masse, and response rates will (if the invite is well designed) be fair to good. With e-commerce, site visitors/users can be just as easily sampled via intercept pop up's on a '1 in n' basis.

However, when we need to sample non-customers/users, potential customers/users, etc., the sources are more limited. We generally have to 'free find', usually via phone-screening for qualification from general business directories or lists (e.g. Dun and Bradstreet, Yellow Pages, etc.). This is, needless to say, considerably more difficult.

As the Facts & Stats included in this paper have shown, use of online B2B portals/marketplaces is fairly well developed in the U.S.A., but less so elsewhere. It is likely that these online exchanges will increasingly be good places to intercept specific business sector populations.

Contact Strategies

Hence, one conclusion is to be eclectic – With executives, it is frequently necessary to be eclectic, says Alan Bell, president of Bell Associates in Cambridge, Mass. One project may require many different information-gathering techniques. One such project undertaken by Bell Associates involved evaluating the opinions of executives on moving their businesses into or out of the downtown Boston area during the replacement of the Central Artery, an interstate highway that crosses central Boston. Bell found that a singular approach was not expedient. For some respondents, a conference call was more convenient; for others, an electronic forum or “side conference” room on the Internet or a specialised electronic bulletin board service was an attractive medium. Some wanted to respond via their company’s new “video link”; others preferred to communicated by fax. Still others opted for the in-person communication.

Human Techniques

These involve the personal interaction of an interviewer/researcher and a representative of the target audience/firm. This would at this time be mostly either **face-to-face**, or via the **telephone** (although video methods are increasing). Here, the interviewer would be responsible for not only questioning, but also data recording.

In the business-to-business world, these may include interviews with Decision-Makers; recommenders/influencers and/or users. These would be in-depth and more qualitative, or shorter and more quantitative (or a combination). Nevertheless, these methods usually involve **appointment making** and **keeping** based on a mutual commitment – and overall involves a fair amount of effort to complete.

Self-Completion Techniques

These currently come in 2 main forms, technological and non-technological (paper):

- Paper (by fax or post)
 - Email
 - Web
 - WAP
 - SMS
- } **technological**

Paper, ‘tick-box’ type surveys are the oldest methods of eliciting information without actually talking to somebody. However, they lack the benefit of the technological methods for **direct or instant data entry**.

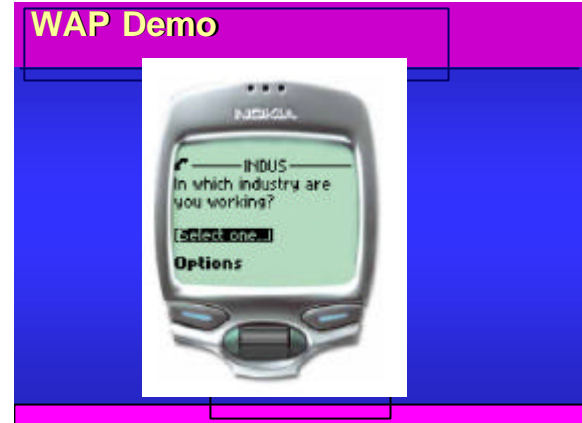
Email surveys, where the questionnaire is actually embedded in an email, has become a fairly common method in recent years – but perhaps more so for non-professional researchers where issues of sampling, data entry and analysis are less prominent.

Joanne Gucwa of Technology Management Associates has said: *“Everyone talks about e-mail as the “killer application” for business. Let me tell you why I call it the “guerrilla application” for primary business-to-business market research. Yes, it’s cool, easy, cheap, fast and effective. But it also comes with some pitfalls..... Web surveys are definitely way cool, but it’s not a consistently easy, fast, or cheap means of surveying. (Although it is the best way to go if you’re anticipating hundreds of respondents: replies can be programmed for easy export into a relational database). One of the reasons I prefer e-mail surveys is that they are a much **more personal** mechanism (important often for business research), i.e. coming from me, with my e-mail return address, to you, at your personal e-mail address. You don’t have to take the extra step to fire up your browser if you’re using Notes, Eudora or another non-Web mail program. As a bonus, you’ve got a copy of what you’ve sent, to compare with the summary of*

the survey results you'll receive after the study is completed (a frequently-used incentive, noted below)."

All in all, e-mail surveys are more of a **do-all-yourself, quick-and-dirty** means of conducting business-to-business market research [However, when your need to know is urgent and number you are surveying is small, give email a try as it can be cost effective].

Web-based (online) surveys offer us more opportunities for success. They involve invites to participate sent either as emails, or 'advertised' in pop up windows or banner ads when visiting websites. Online surveys benefit from **direct data entry**, allow **display of stimulus material**, and can be **convenient** and **easy to use** for respondents. **WAP** surveys are the mobile phone equivalent, but using the mobile as the Internet interface (see picture). **SMS** or text-message surveys also exist, and may become increasingly popular for short, instant feedback.



Indeed, the potential for conducting surveys online is enticing – it can be relatively **cheap** and **fast** and practically anyone with a modem and some Web development software can administer them.

But the temptation to jump in without fully exploring the methodological challenges presented by the new medium has resulted in countless bad surveys – conducted not just by teenagers working out of their parent's basement, but by otherwise reputable research organisations (Crabtree 2000).

"We should be concerned about this because badly done Internet surveys hurt us all," said Andy Anderson of the University of Massachusetts. *"They make market managers leery of commissioning the research and make the public cynical and uncooperative."*

Sandra Bauman and Jennifer Airey of Wirthlin Worldwide have described how to gain respondents' participation in Web surveys. There are three stages of co-operation: **invites** (hit rates), **introduction** (call to action), and **incentive** (co-operate). I add to this below.

It's all about channels..

❖ Online contact methods:

- ❖ Less effort required
- ❖ Can be cheaper (not banners though!)
- ❖ More Relevant
- ❖ Easier to action (but also to reject?)
- ❖ Need to have convincing messages/valuable incentives/be well targeted?

Engaging Response:

❖ Remember the following to maximise (ongoing) online survey engagement:

- ❖ easy access/completion
- ❖ motivating messages (words and pictures)
- ❖ recognisable rewards:
 - ❖ feedback (e.g. information, reports, etc)
 - ❖ incentives (email)
- ❖ sincere gratitude (online thank you leaflet?)

Indeed, Dillman (a Gallup senior scientist and author of the book *Mail and Internet Surveys: The Tailored Design Method*) has noted that **the Internet is capable of combining all the benefits of computerisation currently enjoyed by phone surveys with the cost and convenience of paper questionnaires**. But he also noted that, unless pollsters learn to craft

online questionnaires very carefully to account for browser effects and other vagaries of the online environment, those advantages would be moot.

Hybrid Methods

Above we have discussed the difficulty we can have when sourcing and motivating response from business representatives. In addition, the telephone does not allow for the display of visual material. This has led to the development of 'hybrid' or combined methods that attempt to overcome the weaknesses of single methods. These include:

- *Phone-Paper (phone call to recruit, then paper questionnaire mailed)*
- *Phone – Web*
- *Phone – Mail*
- *WATI (web-assisted telephone interviewing)*
- *TAWI (telephone assisted web interviewing)*
- *Phone – Fax-phone*
- *etc.*

Inherent in this list is the fact that the initial contact/recruitment is the dominant factor (with phone being most successful), as it is rare to see a web-telephone, fax-phone methods, etc. method.

Dillman (Gallup) believes that mixed-mode surveys will become dominant in the coming decades, and that successful survey organisations will learn how to integrate the most viable techniques of the past into the shifting social and technological climate of the present.

“Survey organisations,” Dillman has said, “whether they are in ...private-sector organisations or in government organisations, are going to have to change dramatically in some ways in order to do effective surveys as we bring these new technologies online and still use other technologies (methods) where they work.”

Qualitative Research

As I examine later, in relative terms (v consumers) qualitative is more difficult and more costly. However, it still has its uses, especially for understanding decision-processes (e.g. how does your company choose its software vendor), or for the evaluation of materials (e.g. what do you think of this brochure?). There are two main methods, the one-on-one or the group approach.

CASE STUDY: Vianet UK

Vianet have recently launched an innovative information service for the European vending industry. Via in-machine telemetry (mobile or fixed) information on sales and faults can be fed in real-time back to the service company and/or product manufacturer. Magenta has helped Vianet by testing propositions with key decision-makers in these service or product companies via in-depth interviews.

Increasingly we are able to undertake **qualitative research online**.

One of the benefits of using on-line focus groups for e-commerce research is that you can show respondents material in the same way that they would actually see it over the Internet.

Clark of the wholesale marketing department of Select Energy, USA feels that this represents a significant advantage. *“You could use traditional groups, where you can get everybody set up with a PC, but that will cost a lot of money, and it would be a lot easier through on-line groups,”* Clark has said.

Julie Beggs, director of marketing information services at Bloomingdale's, feels that on-line focus groups could be ideal for testing the functionality of a Web site. She has stated that *“We are moving to selecting merchandise for e-commerce. We want to ask people if they want to shop by trends versus just looking for shirts or skirts. We want to see their reactions to how easy or difficult this is. We also want to see reactions to pop-up messages or targeted*

responses, and I am trying to determine how we can target information to a person based on purchasing behaviour,” – all applications for which on-line focus groups could work well.

Special Note on Customer Satisfaction and e-commerce

Most companies seek to get the most from their customer satisfaction research and strengthen customer retention. For technology companies, the ability to think out of the box and USE the technology for customer satisfaction can spell the difference between thriving and surviving. As my own experience of working with Vodafone Corporate has demonstrated (see Case Study), with planning we can integrate an online customer satisfaction programme with the internal database, and forge automated technological CRM processes. In effect, this is instant, real-time CRM, with much of the human factor removed.

CASE STUDY: Vodafone Corporate (UK) – SME Customer Satisfaction & CRM

In the last 2 years Magenta (part of the MRSL Group, UK) has also conducted B2B customer satisfaction research for Vodafone's Corporate division. This work, conducted over the internet via an e-mail invite and web survey, has not only provided insights on areas for improvement, but also allowed for real-time checking of customer records/details through the pre-populating of the survey questions with Vodafone database information. Recent project action points are listed below:

- Give advance notice of survey through A/c managers/correspondence
- Shorten/adapt survey instrument... c15 mins max
- Make entry/access easier/clearer
- Re-consider question formats, e.g. grids
- Consider stronger incentivisation
- Ensure email addresses available for as many customers as possible for more representative sampling... and higher overall completion rate
- Consider capture of database information at end of survey
- Analyse by customer segment, to establish any differences
- Consider question set that provide level of importance of service factors/criticisms to allow for prioritisation on importance rather than level of mention
- Provide feedback to customers... to develop relationships (integration).

Van Rooj (1998) has stated that many technology companies use satisfaction research to obtain feedback on customer perceptions of product and service performance. But “...in an industry crowded with vendors whose fortunes can move with the predictability of the weather, the ability to develop a repeatable process that will yield actionable results often suffers under the **constraints of time and limited resources**”.

To keep ahead of the competition requires a commitment to anticipate customer needs, not just respond to problems. The customer satisfaction research process offers an excellent opportunity to demonstrate that commitment.

So, how can B2B e-commerce companies develop a more proactive research process and still remain within the boundaries of their financial and human resources?

There really is no substitute for **solid research** designed in partnership with a market research company and with internal and external constituents.

CASE STUDY: Advanced Micro Devices (AMD)

AMD is a global supplier of integrated circuits for the personal and networked computer and communications markets. AMD produces processors, flash memories, programmable logic devices, and products for communications and networking applications. Founded in 1969 and based in Sunnyvale, Calif., AMD had revenues of \$2 billion in 1996.

Prior to 1997, AMD had for many years conducted its annual customer satisfaction, loyalty, and value survey of over 200 of its largest customers through face-to-face and phone interviews and postal and fax questionnaires. In search of a more streamlined approach for its 1997 survey, and to make providing feedback more convenient for its customers, the company turned to CustomerSat.com, a Menlo park, Calif., firm specialising in measuring customer satisfaction and conducting market research using E-mail and the Web. The result was one of the first annual, worldwide customer satisfaction surveys by a Fortune 500 company, using the Internet as its primary medium.

“The Web survey process allows us to gather vital data from customers in much less time and at great savings to both AMD and our customers,” says Bruce Hicks, AMD director of customer quality systems. “Over time, more and more of our customer satisfaction measurement will shift to the Internet.”

Enhanced Feedback

As the '80s moved along, dozens of analytical techniques emerged: strategic improvement analysis, top box/bottom box analysis and reward penalty analysis, just to name a few. Many companies came to depend on customer satisfaction indexes as a measure of progress. Some even tied employee compensation to customer satisfaction index measurements.

All of these analytical techniques proved valuable, but market researchers went too far. Too many numbers and too much detailed input amounted to micro-management. Researchers went far beyond the detail needed to run even the largest industrial companies. It became difficult to tie customer satisfaction to actual sales results.

CASE STUDY: Ariba Inc., USA

Ariba Inc., a Mountain View, Calif., a business-to-business (B2B) e-commerce platform and network services provider, is using Web-based survey tools to improve customer retention. Ariba has integrated its Vantive Enterprise Customer Relationship Management (CRM) system with the Web Survey System (WSS) of CustomerSat.com, a Mountain View, Calif., research firm, to enable its global customer-support division to collect real-time feedback, track trends, get immediate notification of less-than-satisfied customer, implement department-wide best practices procedures, and use positive responses to build team morale and customer loyalty. (Quirks, October 2000)

Management was not getting, but now is insisting on, **results the company can immediately put to use**. Again, this is where technology can help us. **Web-based reporting**, in real time (for online surveys predominantly) provide for this need. In addition, '**red-flags**' can be used on say customer satisfaction surveys when an important customer gives a lower than usual rating (via an email sent straight to the Account Manager, of course with the respondent's permission).

The Importance of Information and 2-Way Information Flow

The web marketplace has introduced an entirely different economic model for many enterprises. Namely, the **value of information about a transaction** is often higher than the **value of the transaction itself**. In this regard, the ability to gather information about a user's preferences, buying habits, interests, and site visit history is often of very high value to a portal site. For example, a portal site that can collect data on what the customer was viewing right before they decided to make a purchase, could possibly generate more revenues simply by using that same image for other users. Therefore, the ability to track and collect this information is of paramount importance to the site (Blount, Netegrity).

The voice of the customer needs to become more important in the business-to-business decision process. In the atmosphere of downsizing and process reengineering, companies are being forced to get as much value as possible from every dollar spent on business-to-business research. At the same time, they are being called on to integrate customer requirements to a much greater extent (Moran 1994).

We should also feedback to our respondents.

Special Note on Customer Feedback

It is increasingly important that we **respect, reward and return the effort** provided by our respondents. This is especially true of Business Respondents, where time really is money. Means to do this include incentives, and increasingly the provision of (summary) information from the survey. Information really is a valuable commodity.

Evaluating the Different Methods & Media/Channels for Research

Here we compare the relative merits, costs and effectiveness of the both qualitative and quantitative methods for Business Research (special thanks to Jon Siegel at Harris Interactive).

I have provided two tables, one for a scenario where details on the target audience (customers) are not provided – and one for where this is available. As we can see, where lists are NOT available, one-on-ones are typically the ‘best’ qualitative method, and telephone surveys the most cost effective for quantitative surveys.

Business Research Methods/ 1 **NO Customer List Available**

	<i>Relative Cost</i>	<i>Relative Data Quality/ Effectiveness</i>
Qualitative		
Focus Groups	High	Adequate
One-on-ones	Low	High
Quantitative		
Mail/post	Would not use	Would not use
Telephone	Medium	High
In-Street/Mall	Would not use	Would not use
Internet	Would not use	Would not use

Note: there are some situations where Internet surveys may be appropriate (e.g. IT professionals) either alone or combined with telephone surveys. Entries here for base case

When we do have lists, when seeking quantitative information we can begin to realise the benefits of the self-completion mail and Internet methods. Indeed, the data quality available when we have accurate email lists is comparable in our experience to that from equivalent telephone studies.

Business Research Methods/ 2 **Customer List IS Available**

	<i>Relative Cost</i>	<i>Relative Data Quality/ Effectiveness</i>
Qualitative		
Focus Groups	High	Adequate
One-on-ones	Low	High
Quantitative		
Mail/post	Low	Medium
Telephone	Medium	High
In-Street/Mall	Would not use	Would not use
Internet	Low-medium	High

Note: assumes telephone numbers & email addresses are available

the firm; when the firm has a strong relationship with the respondent; and when there is no need for screening or qualifying the (email) list provided. On this last point, most of the time on the Internet if you do not send the email to the right person you usually don't have the opportunity to network to the right person (which you can over the telephone). However, if the the list is of sufficient quality/accuracy then the cost if usually much less than via the telephone.

Online Caveat: The Human Element

Though the possibilities offered by online technologies stretch the imagination, some have however cautioned against losing sight of other considerations for the future (Brown, Culkin, Fletcher, 2001, for instance). Ohio State University's Krosnick has also noted that it would be

However, compounding the problem of **incomplete coverage** for online surveys (i.e. not all business/business-people have net access) is that of **inconsistent technology**. Browser and bandwidth differences mean that, at least for now, we can't be 100% confident that all respondents will see the same thing the same way, and be able to complete the survey with comparable speed.

Response rates can also be a problem with online surveys. These can be (significantly) higher when you can identify

easy to let a preoccupation with technical issues distract researchers from such basics as the psychological needs of respondents.

Special Note on Telephone-Internet Method

This is an increasingly used method in the business research arena today. Here, respondents are 'recruited' over the telephone and asked/motivated to visit the survey website in hand (where the questionnaire is held). This is more similar to phone-mail (where respondents are similarly recruited over the telephone, but sent a paper questionnaire to complete) than most researchers would want to admit. It is used when respondents cannot be contacted via email, usually because a list does not exist and/or the target audience is a very low percentage of the population. Issues with this method include:

- *clients who want to use the telephone stage for more than screening/recruiting – this increases costs and decreases response rates*
- *clients with unreasonable (unmanaged) expectations for the response rate (or the proportion that go on to complete after saying yes on the telephone). Usually, this is only between 20% and 50%.*

Exit: End Thoughts

“Knowledge comes, but wisdom lingers”

Alfred, Lord Tennyson

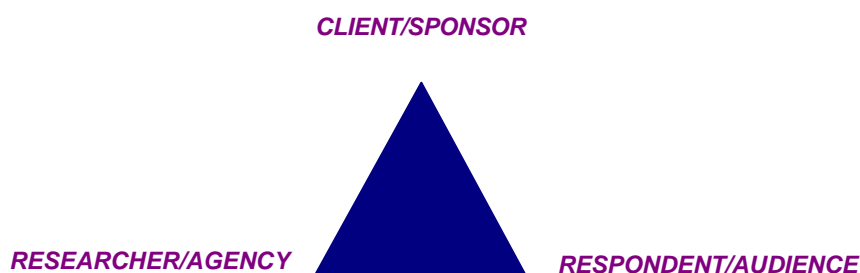
As is usual in these circumstances we need to examine our hypothesis. Can we except it, or do we need to reject it?

H₁ : Technology-based research methods offer the best solutions for B2B e-commerce information needs

Well, firstly, let us summarise the evidence presented here. We have seen how businesses are increasingly using technology for internal and external information flow and communication. We have also established that B2B supply chain transactions are increasingly efficient through semi-automation via the Internet (e-commerce).

In short, the use of technology to leverage business performance and profits is unlikely to diminish.

Alongside this, we have examined the various techniques and media/channels for conducting research in an electronic business to business market framework. From another perspective it is worth remembering that the basics of research training teach us to consider the needs of the research ‘triumvirate’



It is clear that the use of any method for data collection can on occasion offer distinct benefits to all 3 parties above – but these are of course relative.

3 main questions may underlie these relative benefits.

CLIENT :	<i>How can I maximise the value of my research project/budget and minimise the time taken?</i>
AGENCY:	<i>How can I maximise the data collected & resulting insights (within the budget)?</i>
RESPONDENT	<i>How can I (benefit yet) minimise the inconvenience and time spent to help with this study? (Including, can I reject it?)</i>

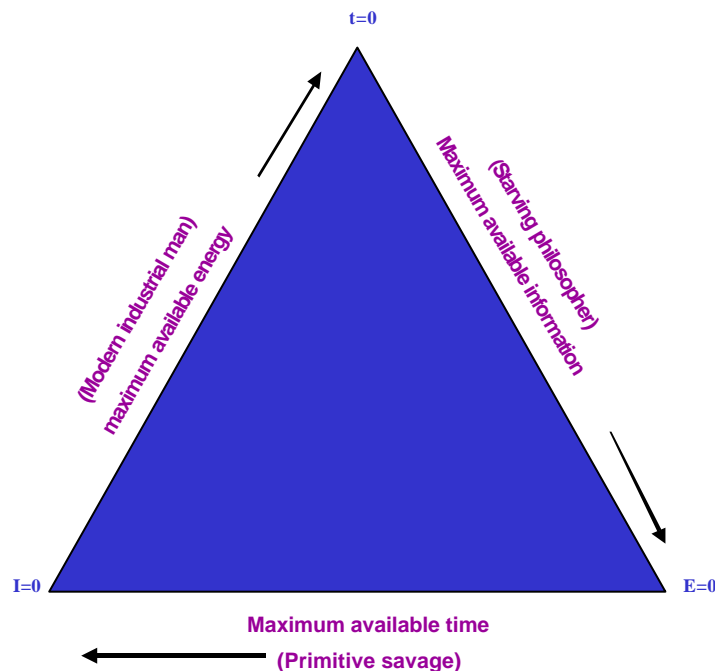
“Maybe we need to think less about what we do in surveys to design our procedures and think more about how we talk about survey research in the larger social dialogue. If Americans were more excited about and convinced of the value of survey data, that every time they answered a survey they were going to have a real effect on something that matters, would response rates and motivation and effort go up?” (Crabtree, 2000)

Of course it is crucial that the client and the agency (The Research Industry) consider all the short, medium and long-term benefits of any action. Face-to-face, very personal, very human, business research methods may for instance elicit the most detailed information per interview; they may also best maintain the research industry’s relationship with respondents (assuming

sufficient incentives and gratitude and minimised inconvenience). However, they are commonly the most expensive methods and we have to determine whether the marginal cost of this method (over others) is worth the marginal benefit (in information or insight terms)

Now it is commonly accepted that the most valuable assets of any firm are its people and its resources (energy). Of course we should add to this information and knowledge. However, many of us within business would instinctively add that time is the greatest asset (with a sufficient and viable business infrastructure). In the coming paragraphs I examine this belief in the context of this paper.

A Swiss physicist, Daniel Spreng, has schematised the interdependence of energy, time, and information as the triangle shown below. Any two of the three attributes (energy, (e), time (t) and information (I) can be traded in for the other two.



Any point in the triangle represents a particular mixture of the three ingredients needed to accomplish a given task. When lots of energy is available then you sit near the apex of the triangle, and as less and less energy is required you approach the bottom right-hand corner where the energy is zero.

Near the corners of the triangle we find three distinct situations: at $e=0$ there is the **thoughtful philosopher**, who takes very long periods of time and lots of information to accomplish his task; the **primitive human** ancestor, perhaps, lives near $I=0$, and uses lots of time and energy doing things, because he lacks information about labour-saving devices; thirdly, near $t=0$, there is the world of the modern (and future) **technological society** where lots of energy and information are employed to get things done very quickly – today's world of *Concord* and the *Internet*, and *ecommerce*.

In moving from one point in the triangle to another, the figure also shows what must be done to conserve energy. If we have lots of time we do not need much information because we can indulge in a haphazard trial-and-error-search. But **if time is expensive, then we need to know the fastest way to do things** and that requires lots of information. Alvin Weinberg has indeed argued that this means that time is likely to become, increasingly, our most important resource. The value of energy and information is, ultimately, that it gives us more freedom to allocate our time.

“In...the computer age, I would suggest that the re-organisation of our use of time may be the most profound and lasting social effect of the extraordinary advances in the handling of information that have largely resulted from the work of ever more efficient computing machinery”

A.M Weinberg 1980
National Conference of the Association of
Computing machinery

Now, with **TIME** accepted as a precious and perhaps the primary resource within businesses, which method best provides for this – with the caveat of meeting of clients/sponsors wish for value?

Clearly, it is ever more likely that we would answer along the lines of “technology” or “internet” or “online” because of its potential speed of data collection and real time reporting capabilities. On this basis, it would be very easy to accept our hypothesis.

It has been stated in many places that the “*true promise*” of online research lies not merely in gathering data and reporting on it in the traditional way, but in capturing real-time market realities that provide continuous market intelligence (Gecco, 2000) – let’s call this **SPEED** of information provision.

However, with the best will in the world, it would be foolish to conclude once accepting this hypothesis that online methods were the only future for research in a B2B (e-commerce) framework.

At the present time, the lack of accurate online business sampling frames (email lists particularly) for internet research negates the immediate use of online research. Indeed it may be best to be pragmatic and make use of eclectic contact strategies and hybrid methods (phone-web, or WATI) in the short-term, **UNLESS** the business population to be researched is ‘databased’ on all the required criteria (e.g. email); or there is an efficient means to intercepting the audience at a certain location (e.g. website).

Just to reinforce this, *Brown, Culkin & Fletcher* have recently stated the possible factors that might preserve face-to-face and telephone methodologies in the face of challenge from such broadband internet technology these might include:

- *the problem of ‘intercepting’ business respondents, i.e. actually making first contact with them*
- *the need to interview technology laggards or rejecters (include in sample)*
- *the need to accommodate communication channel preferences among potential audiences (keep the respondent happy)*

Alongside this, this team has been quite right to point out the Human Element and its challenges when researching businesses online. These challenges include:

- *initial contact with businesses*
- *dialogue and personal interaction*
- *reliability and validity*

They have also concluded that with the growth of B2B ecommerce, the opportunity to intercept business ‘users’ will only increase (e.g. whilst purchasing at an online marketplace, or using a Business search engine).

This author, however, would like to add to this by stating that the **GREATEST** opportunities for technology-based research amongst businesses lie in the application that increasingly underpins e-commerce, namely **PERSONALISATION**. Just imagine individually tailored questionnaires, welcoming by name the elusive CEO, FD, IT Director, or stationery-buyer. Also consider the possibilities for individually created questionnaires that tackle, in an adaptive

way, only the issues and responsibilities of these business respondents – in the order they prefer, in the manner/style they prefer – all at their convenience. Potentially, in tackling this ‘Human Element’ via technology we may be welcoming the coming of age of **Artificial Intelligence** (AI) into the research and information world.

Now surely a development like **personalised surveys** (only perhaps inhibited by the current technological and human psychological limits) would be an achievement the industry could be proud of – another powerful means to create and maintain loyalty and motivation to participate amongst business respondents*. In the long-term the industry must form mutually beneficial relationships with business respondents in order to survive/succeed (we must remember to satisfy them too!).

As Montague Burton (British Tailor) once said “*A business must have a conscience as well as a counting house*”. Technological innovation would hence seem to offer the best opportunities for developing these relationships and hence future business research success.

“Long term success requires a change to the fundamental nature of the business. After all, innovation is not only about creating new and better products and services. It also means identifying and forging links with other organisations, to secure funding or tap into special expertise or knowledge....sustainable innovation will be the key to future success for every business”

**George Cox, Director General
Institute of Directors**

* Of course, there is nothing that would prohibit the use of such techniques in the B2C arena, and firms like Harris Interactive are already beginning to use such techniques with their online consumer and B2B panellists

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"I love being a writer. What I can't stand is the paperwork."

Peter de Vries

"Knowledge is of two kinds. We know a subject ourselves, or we know where we can find information about it."

Dr Samuel Johnson

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