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THE TECHNOLOGY IS READY, WHAT ABOUT THE PLAYERS? HUMAN FACTORS IN BUSINESS-TO-BUSINESS RESEARCH OVER THE INTERNET

Abstract

This paper will explore the problems and challenges surrounding the conduct of research via the internet amongst business audiences. The paper will highlight the great potential that exists for business-to-business research over the net. It will also identify some of the main obstacles to researching in this way, examine the factors which cause them, and share the authors' experience of using a number of methods they have successfully employed to overcome them.

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INTRODUCTION

The Internet promises to be a commonplace feature of conducting business in the near future. In a recent telephone study conducted by the authors amongst a representative sample of UK small and medium sized businesses, over 2/3 of all businesses had internet access. The US based Boston Consulting Group predicts that by 2004 U.S. B2B e-commerce will grow from $1.2 trillion this year to $4.8 trillion in transaction value (BCG, 2000). In addition, one quarter of the world's business-to-business purchases will be made on-line (an annual growth rate of 33% over the 5 years from 1998-2003).

The authors' have split this paper into three parts. First they will explore the problems and challenges surrounding the conduct of research via the internet amongst business audiences. Second, they will highlight the great potential that exists for business-to-business research over the net. Finally, we will identify some of the main obstacles to researching in this way, examine the factors which cause them, and share their experience of using a number of methods they have employed to overcome them.

1. The potential advantages

The internet offers a number of quite obvious potential advantages to the business-to-business researcher in terms of the interface with respondents (Taylor, 2000: P51). For example, the visual interface provides a medium which enables the presentation of complex ideas in graphical form (Ozer, 1999: P428). Thus it enables product, service or brand attribute arrays to be presented to business respondents in a way that has not, until now, been possible on a large scale. In addition, it offers the possibility of multimedia explanation of concepts and issues for respondents. It is also a highly cost-effective way of gathering nformation, cheaper even than postal self-completion surveys (Miller, 2000: P26).

In theory (and increasingly in practice) complex multivariate techniques such as conjoint, adaptive conjoint and SIMALTO can be conducted on the Internet for a fraction of the cost required to conduct them face-to-face or via the telephone. This is the ultimate 'prize' that has generated much of the recent interest in on-line research methodologies (Smith, 1997).

To the business researcher there are a number of technological issues which must be considered when designing an on-line programme of research. Rather than focus on the technological challenges (some of which were discussed in a paper by Taylor in the

International Journal of Market Research) we argue that these are in fact secondary to the obstacles which exist concerning the human element of conducting business research via the internet. Interestingly, there is very little work published in this area and that which is relates to more to psychological issues and the Internet than research (Griffiths, 1997; Young 1997: P196)

2. What we need to explore: The hurdles and limitations

There are three major of obstacles and largely unexplored issues surrounding the human element of business-to-business research on-line. First, the difficult issue of achieving first contact with businesses. The various barriers which have to be overcome in making telephone contact with business research recruits are well known. Business telephone procedures and 'etiquette' are by now familiar to the business researcher (Clarke, 2000: P325). But what is business respondents' 'approach–and–avoidance' behaviour with regard to the Internet. It is essential to know this before we can begin to develop "first contact strategies" with potential business respondents.

Secondly, there is the traditional emphasis in business on dialogue and personal interaction. The incentivisation of face-to-face and telephone methodologies is well understood, being driven by a combination of financial and less tangible, emotional exchange motives. 'The power of the telephone' - the direct and opportunistic nature of the telephone as a medium of communication - has been fully exploited by business-to-business researchers (Noble, Moon and McVey, 1998: P94). Target business respondents have occasional 'windows' in their busy schedules during which they are able to take calls from telephone interviewers. Business people in positions of responsibility in small or large businesses can feel isolated and often find sharing their experience with an interested party (such as a supplier) a valuable exercise both emotionally and intellectually. A telephone interview, provided it does justice to the respondent's 'world' - the structure and language in which they think about an issue - is an opportunity for the respondent to pause to clarify their thoughts and feelings on an issue, in a consequence-free situation. But how does motivation to participate work on the internet? What other motivational levers will we have available to us to exploit when using the internet as a medium for research?

Finally, there is the issue of reliability and validity vis-avis business respondents' answers to on-line questioning (Pincott & Branthwaite, 2000: P360). In the absence of a full comparative

evaluation of Internet vs. telephone or face-to-face methodologies (along the lines of the MRDF's (1986) comparative study of telephone and face-to-face methodologies), what *can* we say about the nature of responses to on-line business-to-business studies? What we require in order to start answering these questions are:

- An insight into business respondents' contexts and situations and how these affect their motivational states and create emotional and cognitive needs. This helps us to identify businesses' potential motivations for participating in Internet research (Adriaenssens and Cadman, 1999: P419).

- An idea of the types of occasions businesses and key individuals within businesses go on-line. From the would-be initiator's perspective the Internet is a relatively passive communication medium compared to the telephone. We need to know when and where businesses go on-line in order to know where we can intercept them (Dexter *et al*, 2000).

- A concept of the type of communication medium the Internet/ E-mail is. This will be important for refining our understanding of how businesses are likely to be induced to participate in on-line studies and for assessing the likely quality of data gathered via on-line surveys (Bechar-Israeli, 1998).

Answering these questions will help us to overcome the potential barriers to on-line research and realise the full potential benefits of the medium for business-to-business researchers. Before turning to these in detail it will be useful to get an overview of the likely evolution of Internet research. In a market changing at the rate of the Internet conclusions which are not future-proofed are worthless.

Meta-model for the evolution of on-line business-to-business research

We present two possible scenarios for on-line research in future: the first a longer term forecast the reverse of which, in effect, defines the short-medium term possibilities for the channel as a business research medium; the second a short-medium term scenario suggesting the way in which the medium might be exploited and advanced in the more immediate future - within the context of the current constraints of the Internet as a communications channel.

Meta-model 1: Long-term - the Internet as a 'stand alone' channel

At present the Internet is not a stand alone channel. All the applications which we have researched for the Internet which have proved

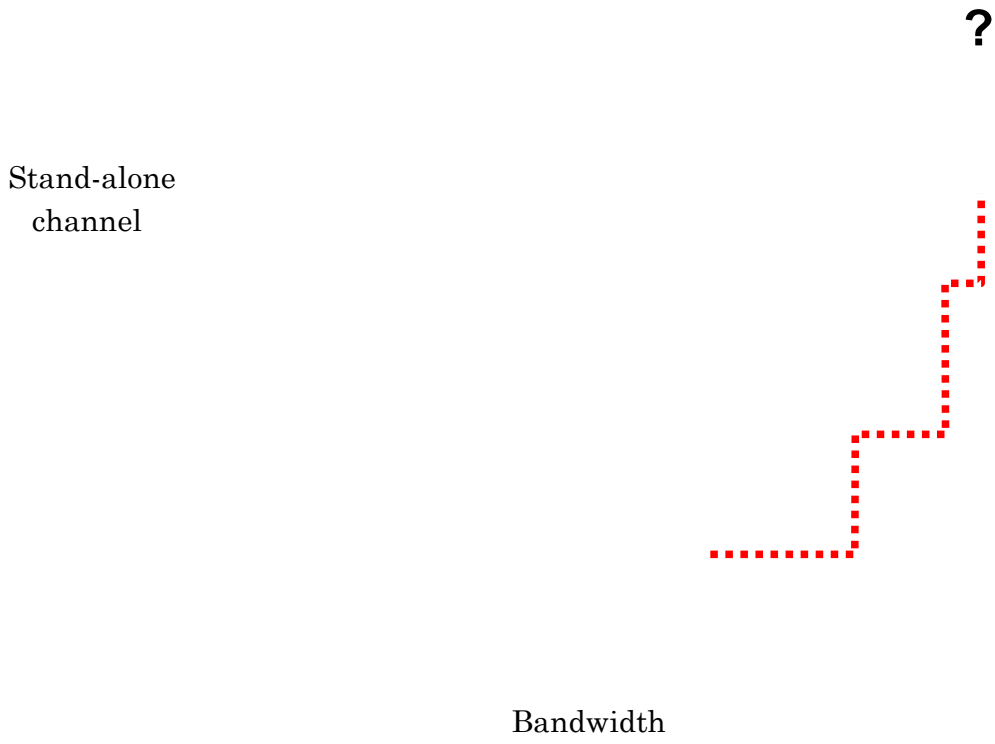
successful - either in research or on the market - have been based on the premise either that the Internet is a support channel for other channels or that, if it is to be the main channel, it requires support from other channels. Whenever the Internet is being applied in situations which are normally characterised by 'rich', shared contexts with immediate, iterative responses (such as face-to-face communications settings) it is likely to have to play either a supporting role or to require more or less extensive support from other channels.

For example, in education the Internet has proved valuable as a communication support between students and their tutors and has also proved valuable for student centred learning applications where progress through a course is fairly standard and predictable. However, direct on-line replacements for rich, shared educational contexts such as lectures or practical instruction sessions have not proved practical. The on-line lecture, which many colleges would dearly love to introduce to save money on costly lecture theatre premises, is still not possible. And no successful Internet application has yet been launched without a supporting telephone helpline.

As **Figure 1** below illustrates, what remains to be seen is whether (or perhaps 'when') broader bandwidths and further improvements in compression technology enable the Internet to become a stand alone medium? This will almost certainly require Internet telephony to be fairly widely available in businesses and improvements in PC screen resolution may also be required. The increase in bandwidth due to be introduced this summer will not on their own be sufficient for the Internet to graduate to a stand alone medium. When this does occur and truly broadband Internet infrastructure is in place, though it is currently difficult to see precisely what form research might take on such a medium, it is equally difficult to see why research should be conducted any other way. Possible factors which might preserve face-to-face and telephone methodologies in the face of the challenge from such broadband Internet technology could include:

- The problem of 'intercepting' respondents - i.e. actually making first contact with them;
- The need to interview technology laggards or rejecters;
- The need to accommodate communication channel preferences amongst potential audiences.

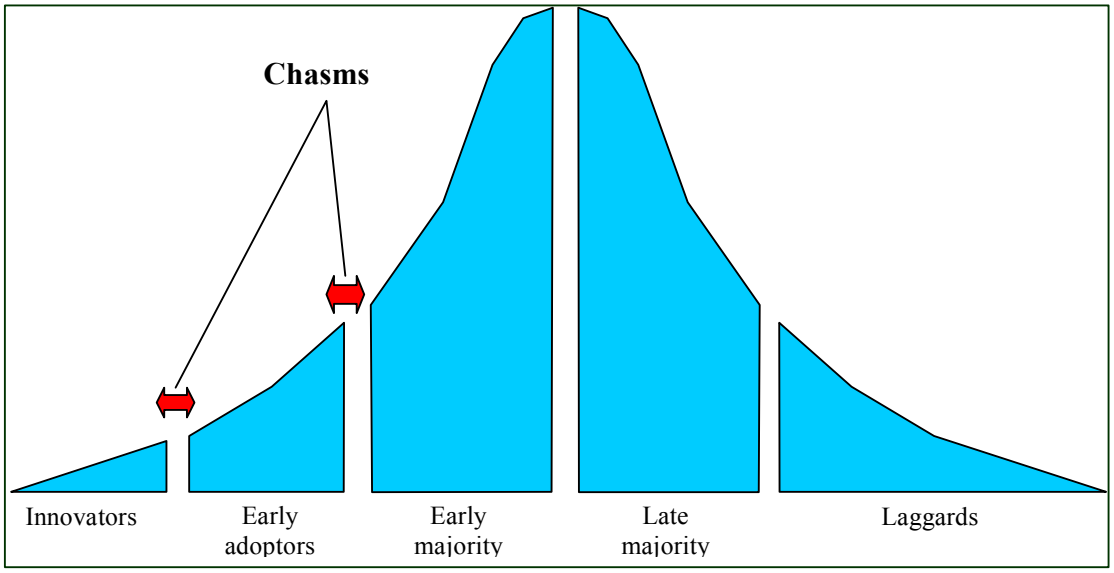
Figure 1. The future of on-line communication



Meta-model 2: short-medium term

The situation in which we *currently* find ourselves with respect to on-line business-to-business research, however, is analogous to that in Moore claimed that hi-tech marketers at this time were confronted with a discontinuous product adoption life cycle - one in which the smooth progression from 'innovators' to 'early' and 'main stage' adopters characteristic of traditional markets was replaced by an adoption cycle in which fissures of varying depth (termed 'chasms', or 'gaps' by Moore) existed between the different categories of adopter. (See Figure 2, below). To cross these gaps required more than simply 'more of the same' in terms of marketing - the whole product offering might have to be reconfigured in order to cross a chasm. which many marketers of high-tech products found themselves in the early 1990's (Moore, 1991).

Figure 2. Crossing the chasm - the technology adoption life-cycle



Crossing the gap between innovators and early adopters requires an interesting new technology to be translated into a significant new benefit. Innovators will buy anything that is new in a particular field: early adopters require there to be an identifiable benefit from a product - they do not adopt technology for the sake of it but as a means to an end (often the end of obtaining a competitive advantage). In the early 90s home-banking in the US was at this stage. At present, Internet enabled mobile phone technology is about to attempt to bridge this gap. Early adopters do not look for a mere improvement in current practices via the technology, rather they are looking for a significant new benefit, a fundamental breakthrough and change in the way they do things (Flood, 2000: P439).

The second major gap in the adoption cycle is between the early adopters and the early majority. The shift here is between adopters who are seeking a fundamental, 'breakthrough' benefit from the technology and those who are seeking an *improvement in* productivity in *existing operations* or an *easier* way of doing things they *already do*. The point here is that for early majority adopters the technology has to fit into or around the way things are currently done rather than requiring them to be totally abandoned and replaced or fundamentally changed. Local Area Networks, for example, did not take off for many years after their introduction in the mid 1980's. It was not until the advent of Novell LAN software which could run on IBM PCs with an interface card that could be slotted into IBM PC slots, that the

early majority took to the product - i.e. not until LANs could be integrated easily with existing hardware.

Crossing the gap between the early majority and the late majority requires reducing the demands on late majority users in terms of technological competence. Whilst the early majority is willing to adapt (e.g. learn a new set of skills) to use the technology, the late majority is not. Thus, to cross this gap requires significant improvements in ease of adoption and use. IBM PCs were at this stage at the start of the 1990's. The Microsoft DOS operating system, though highly successful amongst medium-large businesses (the early majority in terms of potential market value) was not sufficiently user friendly for home and small business customers (the potential late majority of the market). The launch of Microsoft's Windows 3.0 was the first (and highly successful) step in crossing this gap.

Moore's model captures certain general laws about technology adoption and use which we can apply to the case of on-line research, laws reflecting different fundamental attitudes to technology. Moore's model (1991) has been borne out by subsequent events. For example, the prediction that Windows 3.0 would be the critical step in IBM PC's movement into the mainstream small business and consumer markets. The key lessons from Moore's model for on-line business-to-business researchers at the present point in the evolution of the Internet are as fourfold. First, only a fraction of potential respondents (corresponding to the 'innovators' category) will log onto an on-line survey out of curiosity or a general interest in what is new or what is going on on the net. Second, a small proportion of potential respondents (corresponding to the 'early adopter' category) will be prepared to go out of their way to respond to an on-line survey if the subject is intrinsically interesting and/or if they are otherwise motivated to participate. Third, a large proportion of potential respondents (corresponding to the 'early majority' category) will need not only to be incentivised (by interest in the subject or the promise of other gains) to participate in an on-line survey but will also have to find participation very straightforward and a part of procedures or practices which they currently already engage in. That is, the survey will have to blend as seamlessly as possible with operations or tasks which they currently undertake on the net. And finally, another significant proportion of potential respondents (corresponding to the 'late majority') will only be accessible by an Internet survey when the Internet has become more of a 'stand alone' medium - at least to the point where respondents can be actively

'intercepted' via the Internet in the same way as is possible by telephone (Mehta and Sivada, 1995: P232; Schillewaert *et al,* 1998: P308).

The models of on-line business-to-business research we have developed reflect these learnings from Moore's work - in particular, the fact that on-line research, for the foreseeable future, will need to fit closely into or around existing on-line operations (or be recruited via a more proactive medium for the initiator, such as the telephone) if it is to capture the views of any more than a (highly skewed) fraction of most potential audiences.

The motivations of business respondents

Above we noted that one of the reasons for the success of telephone methodologies amongst business-to-business audiences was a combination of the fact that the telephone could be used to identify those with a window of opportunity to talk on the phone as well as a cognitive and emotional interest (resulting from their isolation) in sharing their views on an issue. What else do we know about businesses that we could exploit in incentivising their participation in on-line surveys? Our experience of businesses highlights three areas of need which can be exploited by researchers. First, the need for information - businesses and individuals within businesses have a strong appetite for up-to-date and directly relevant information.

Second, the need to share common experience - this need is both emotional and rational and has long been evident in the civil institutions and communities of practice which cut across organisational boundaries, such as Chambers of Commerce and trade and professional bodies. And finally the need to benchmark themselves against other businesses - the speed of change and the increasing specialisation of businesses has put businesses under greater pressure to compare and contrast themselves with other businesses to identify operational models, performance parameters and best practice for themselves in new or changing circumstances. Where these incentives are not available on-line research will have to find

some other exchange to offer respondents and /or keep interview lengths down to a handful of key easily answered questions.

What businesses use the Internet for

Our research into this area has revealed that the following are the main uses for the Internet amongst businesses:

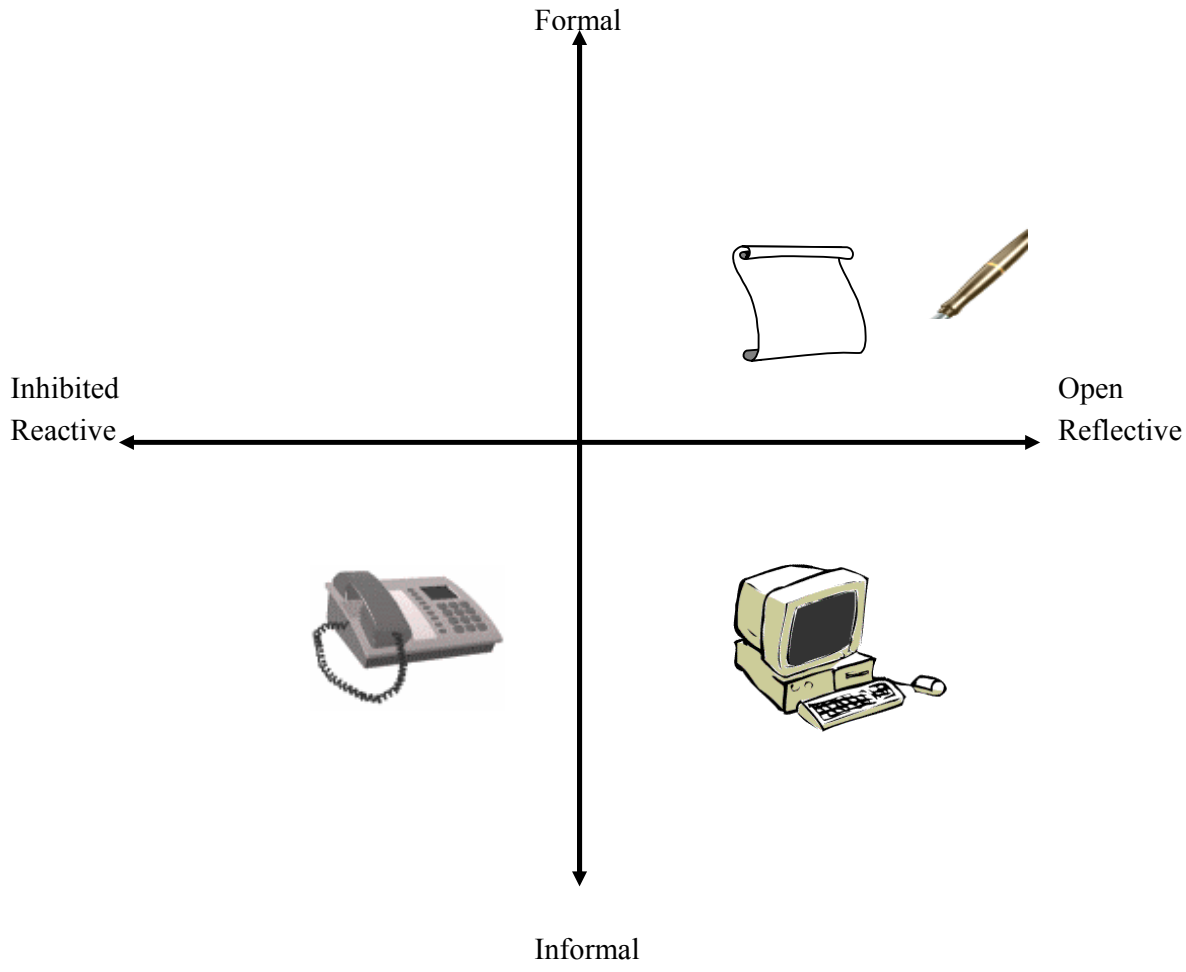
- Communicating with suppliers/customers - via e-mail or hot-mail: the dominant on-line use at present;
- Finding new suppliers/customers;
- Comparing prices and products;
- Finding competitor information;
- Banking and other financial data transfer, interrogation and transaction activities;
- Conducting other transactions - i.e. e-commerce - the figures cited in the opening paragraph of this paper indicate that this will probably be the key growth area in business Internet use in the next few years.

All the uses except e-mail represent potential opportunities for on-line surveys to intercept business respondents. However, at present e-mail is, by some distance, the largest single on-line use amongst businesses (Sheehan and Hoy, 1997). This suggests that the Internet is some way from maturity as a channel for business-to-business research. The key to the maturation of the Internet as a research channel amongst businesses probably lies in the growth of e-commerce: once business-to-business transactions become a commonplace of business life (i.e. once most businesses make at least some of their b-to-b purchases on-line) other on-line uses such as supplier search and price checking will also become more common and the range of opportunities for researchers to intercept respondents will broaden significantly.

The nature of on-line channels

Figure 3 below illustrates position of on-line channels compared to telephone and letter formats as a business communication medium.

Figure 3. Business communication channels compared



The chart shows that e-mail occupies a hybrid position between the extreme formality, reflectiveness and openness of the letter format and the informality, reflectiveness and resulting inhibitedness and defensiveness of the telephone. There is an apparent paradox in the fact that the letter format is at once 'formal' and 'open' as a medium. Yet this almost

always proves to be the case. Letters in most business situations commit the writer to honesty. Moreover, the fact that they are a communication method in which the response is not immediate (i.e. made in the next breath) means that on the side of both the writer and the receiver there is less pressure to react to comments with a view to a subsequent counter-reaction and so on.

This immediacy of reaction and counter-reaction in telephone communications often serves to inhibit communication in these channels. Interlocutors will be more likely to constrain or mute messages in this medium out of concern for setting off these chain reactions, which are difficult to bring under control in a verbal medium stripped of the vital body language cues which are so valuable in the management of conversation. This inhibition is further compounded by the reactive nature of the telephone medium which makes participants wary of the danger of expressing themselves inappropriately or imprecisely.

On-line communication combines the informality of the telephone with the 'distance' from immediate reaction of letter writing (and the openness and reflectiveness which this 'distance' allows). This combination would appear highly conducive to its use as a research medium. And indeed research studies have shown that research artefacts found in, for example, face-to-face settings are to a greater or lesser degree absent from on-line settings. One such study showed that the group conformity effect discovered in face-to-face settings by the psychologist Solomon Asch in the 1950's was significantly less marked in on-line groups (Smilowitz, Compton and Flint, 1988). This result points again to the distance from immediate reactions and the greater reflectiveness engendered in on-line settings.

However, at present, though analyses and evidence such as those we have considered here are very encouraging for the validity of on-line research results, we lack the authoritative and robust evidence of a comparative study that we would require to be certain of this. And, given the comparative immaturity of the Internet medium, it is doubtful whether we could be confident of the reliability of the findings of such a study if it were conducted at present.

Until the time is right for such a study we may, where issues of validity are a particular concern, need to calibrate or verify responses from on-line surveys with data collected via a more proven medium such as the telephone.

Two models of B-to-B internet research

We have now explored in outline some of the current technological and psychological potential and limitations of business to business internet research. Our main conclusions are that:

- On-line research, for the foreseeable future, will need to fit as seamlessly as possible into a target audience's existing on-line operations if it is to capture the views of any more than a (highly skewed) fraction of most potential audiences.

- Where incentives such as information sharing and benchmarking are not available, interview lengths will probably need to be confined to a handful of key questions.

- The key to the maturation of the Internet as a research channel amongst businesses probably lies in the growth of e-commerce.

- Where issues of validity are a particular concern, responses from on-line surveys should be cross-checked with data collected via a more proven medium such as the telephone.

We now move on to explore two of the ways in which DVL Smith Ltd has conducted research over the Internet which highlight different aspects of these conclusions. The two models of Internet data collection we wish to consider here are:

- The research '*top-up*' model
- Virtual communities

Below we discuss the format and learning points of each.

The research 'top-up' model

The research top-up model feeds back future development in respondent behaviour and profile to existing findings such that the research can evolve as market dynamics change or expand.

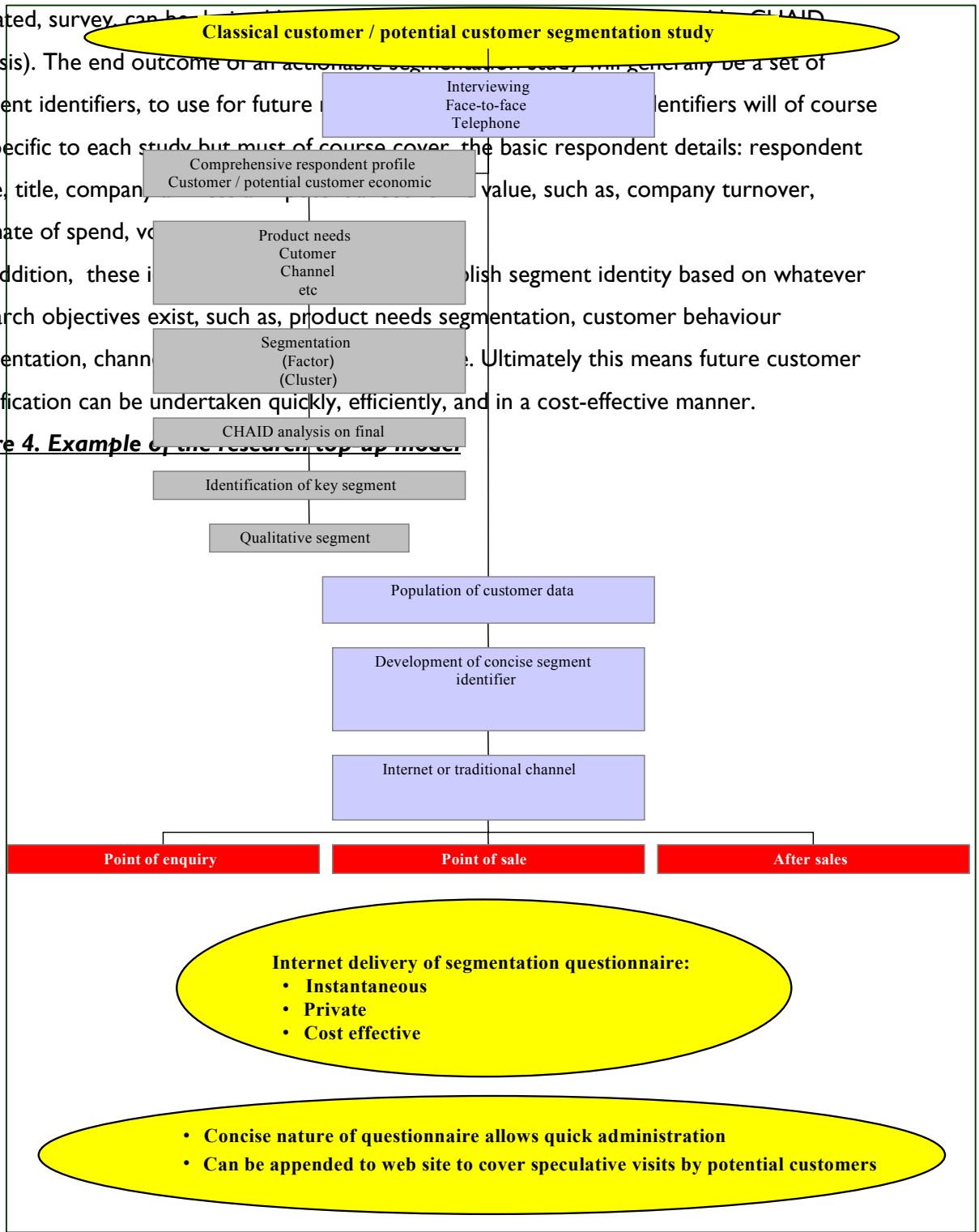
One of the most practical and effective uses for Internet based business-to-business research at present is in the post classification of customers and potential customers. This classification would stem from an initial robust and classical segmentation, which would then allow a series of derived segment identifiers to be developed and administered via the internet: either at point of enquiry, point of sale or thereafter.

Figure 4 below shows the process in outline.

The top up model is optimally employed where output from a conventional survey can be reduced (by means of factor analysis for example) such that the main findings of a larger, validated, survey can be [illegible] CHAID analysis). The end outcome of an actionable segmentation study will generally be a set of segment identifiers, to use for future [illegible]dentifiers will of course be specific to each study but must of course cover the basic respondent details: respondent name, title, compan[illegible] value, such as, company turnover, estimate of spend, vo[illegible]

In addition, these i[illegible]olish segment identity based on whatever research objectives exist, such as, product needs segmentation, customer behaviour segmentation, chann[illegible]. Ultimately this means future customer classification can be undertaken quickly, efficiently, and in a cost-effective manner.

Figure 4. Example o[illegible]



From the respondent perspective, the benefits of doing this survey via the Internet are:

- Privacy: especially important if the segmentation covers personal attitudes or motivations;
- Convenience: if the survey is kept brief and clearly sign-posted it will be convenient for the respondent to complete the survey on-line.

In some cases this model will not apply. Either because the client is looking for a single point in time snap shot of market behaviour, or because regular research is carried out via traditional data collection methods. However, the model is useful where the respondent base is constantly growing. Where identifying future respondents' is time and cost inefficient but respondent profile, classification and segmentation is necessary to ensure an optimum and focussed service is delivered. Thus the model has been successfully applied in the area of customer and potential customer segmentation, where detailed research has been carried out among a representative sample of each, and a robust segmentation of customer and potential customer needs, attitudes, profile and service requirements has been identified.

The problem traditionally faced in such cases is how do we accurately, efficiently and with minimal inconvenience to the customer, post classify their customer / potential customer segment identity? Of course when new customers come on board many aspects of their behaviour and profile are collected at the 'point of sale' or sometime thereafter, but what does this traditionally involve?

- Over-engineered application forms?
- Self-completion questionnaires?
- Follow up customer service calls?

The gathering of such research data outside of the sales context is one of the advantages of piggy-backing on-line surveys on e-commerce applications. In many cases new customers may have both the time and inclination to play his or her role as a research respondent. In other cases the application form may not be filled in correctly, the questionnaire never returned or the follow up customer service call never coming at a convenient time. Thus the Internet presents an optimum research solution for many groups of new customers or enquirers.

Learning

Our belief in this model stems from the position that data collected can be cross validated against a larger 'pure' data set such that 'incorrect' or invalid responses can be spotted. This will reduce the degree of mis-classification of respondent segment allowing for the optimum product set, service delivery and communication channel to be quickly calculated. Internet administration of this survey also means there will minimal time delay in feeding back respondent details to the appropriate part of the organisation such that a customer support framework can be quickly applied. Embedding the questionnaire into the corporate web site, either as an exit survey or as a pop up survey, is the optimum opportunity to classify potential customers and compare and contrast their needs with existing customers, and existing organisation resources.

Virtual communities

A further opportunity for a company to gain business insight on-line is via 'virtual communities' - the establishment of discussion / knowledge sharing forums from which the host themselves can draw qualitative understanding. In effect these communities constitute user groups and are established on the basis that both the user and the host receive something in return for their time, knowledge and understanding. In their simplest form these communities exist within the context of on-line bulletin boards - a business enabled service which allows users to post queries, questions, observations and insights that other users can then access and comment upon based on their own unique perspectives. For the user this enables access to a wider, knowledgeable audience with similar professional interests and a vested interest in the subject matter and outcome. Consequentially these communities should exist within a context of mutual trust and advantage which, from a researchers perspective, poses a number of challenges:

Measuring altruism: - As with most professional forums, the concept of knowledge sharing may run contrary to commercial practice and the competitive environment. Whilst misleading information is extremely uncommon in a controlled environment, generally speaking anonymity is a considerable incentive when generating participation and sounding out ideas. Anonymity does however allow a certain freedom to test other users willingness to act on information. At present the best example of this can be seen everyday in on-line

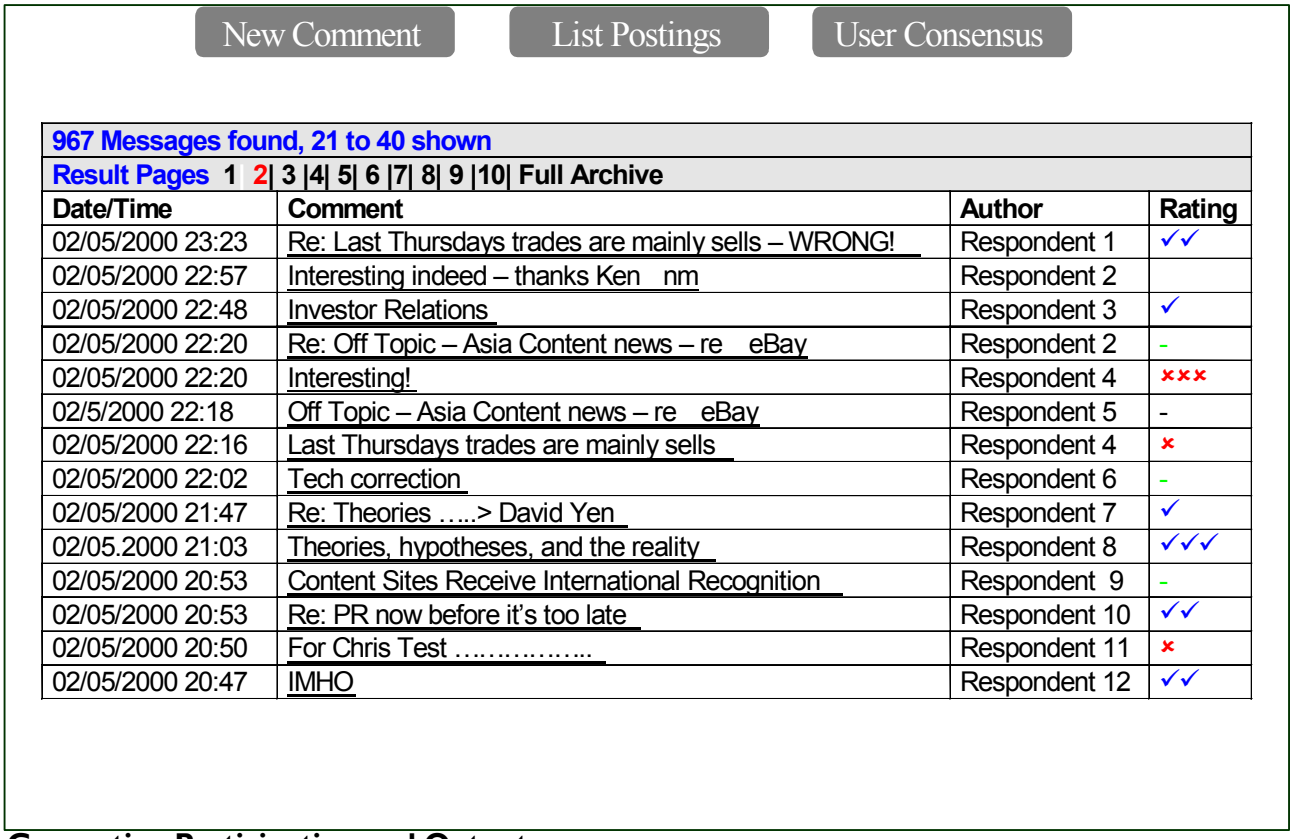
Investment sites which create virtual communities surrounding all aspects of investment activity, from markets, funds, stocks, sectors, themes and general trends. These communities are aimed at providing a platform for users to express views on market issues including past and expected performance.

While to most users - especially those less experienced in understanding the background issues - these forums present an 'inside track' on what bigger players are thinking (and therefore represent a valuable resource), bigger players can in turn use the forums to influence future movement rather than simply comment upon it.

This has, however, led to discussion groups being exploited for the purposes of ramping, bashing, pumping, dumping, trashing and cashing – in effect the misleading of smaller investors to manipulate share prices. Such has been the effect of this activity that the Financial Services Authority (FSA) has been compelled to issue warnings about the consequences of following the advice of on-line investor related discussion forums (FSA, 2000). Clearly parallels can be drawn between the conduct of these user groups and the emergence of on-line virtual communities and discussion groups within a research context. Consequentially establishing trust within a virtual community is a complex issue. On a basic level one could prohibit the use of pseudonyms such that all can be directly challenged on their thoughts, comments and reasoning - we argue however that the veil of anonymity within these sites is a major participatory requirement and in most cases it's removal will ensure a very sparse, prosaic and guarded conversation.

As an alternative therefore a number of safeguards can be established to protect the community (and of course the sponsor) with the most typical being the ability for others in the community to formally rate the comments of other users. These ratings exist within the context of another user indicating whether he or she ***strongly agrees, slightly agrees, slightly disagrees or disagrees strongly*** with the posted comment such that a balance of opinion can be indicated, which can then act as a guide to others seeking information on a particular issue (see **Figure 5** below).

Figure 5: Discussion groups



Generating Participation and Outputs

In addition to ensuring everyone plays by the rules, we are of course first presented with the issue of ensuring there are players to begin with. As discussed earlier, to this end we forward the argument that Internet based surveys, and in turn business discussion forums, must *first* avoid prosaic introductions, positioning and imagery which are often the bye-products of complex business and industrial research programmes. *Secondly,* respondents must be interested by the discussion parameters - too specific and no one will participate, too general and the respondent will not feel he or she has received anything in return for sharing their experiences and thoughts.

Thirdly, where possible, respondents should see some results from their participation. To this end a short survey can be included where one or two issues only are covered in a short structured on-line questionnaire, but where respondents' answers are shown alongside the overall top line results such that quantifiable knowledge is shared and the '*respondent digest*' for participation is instantaneous.

Output from virtual communities is therefore dictated to a large degree by respondent willingness to participate, play by the rules, and provision of correct classification details (even at the initial registration stage). Consequentially we are faced with a highly qualitative analysis task which starts from the convenient basis of being ready transcribed, but is devoid of an interviewers' or moderators' judgement on whether the respondent was being tongue in cheek, ironic, sarcastic or sincere.

To this end there is no real solution. Rigorous recruitment/registration, participation by invitation only are possible approaches but at the end of the day there must be an appreciation that we are, in essence, virtually eves dropping on respondents despite having set the agenda. The onus is therefore on the researcher to ensure he/she is aware of the market environment respondents' operate in (for instance degree of competitiveness, degree of technological sophistication, etc), is aware of who is passing comment (as far as possible), and can to a large degree judge the quality of comment and the perceived implications of it when reporting back the data.

Consequentially while we advocate virtual communities as a valuable platform from which an organisation can draw a number of unique insights, the degree of self regulation implicit in the execution of these communities and the subsequent ability of researchers to interpret what these comments truly indicate, underpins the need for data to be treated in a truly qualitative sense and validated, if required, by more traditional methods.

Conclusions

At present on-line business-to-business surveys are in their infancy and a range of practical and more or less experimental solutions will need to be tried to explore the potential of the on-line medium for research. Our experience in this area so far has led us to the following conclusions about the current parameters and possible future evolution of the medium for business-to-business research:

- On-line research, for the foreseeable future, will need to fit as seamlessly as possible into a target audience's existing on-line operations and activities if it is to capture the views of any more than a (highly skewed) fraction of most potential audiences.

- Where incentives such as information sharing and benchmarking are not available, interview lengths will probably need to be confined to a handful of key questions.

- The key to the maturation of the Internet as a research channel amongst businesses probably lies in the growth of e-commerce.

- Where issues of validity are a particular concern, responses from on-line surveys should be cross-checked with data collected via a more proven medium such as the telephone.

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