

# **A Comparison of the Effectiveness of Marketing Communication Channels: Perspectives from Both Receivers and Senders**

Peter J Danaher\*

and

John R Rossiter\*\*

\*Corresponding Author  
Department of Marketing  
University of Auckland  
Private Bag 92019  
Auckland  
New Zealand

Ph: +64 9 373 7999  
Fax: +64 9 373 7444  
Email: [p.danaher@auckland.ac.nz](mailto:p.danaher@auckland.ac.nz)

\*\*Department of Marketing  
University of Wollongong  
Australia

*Please do not quote without permission*

21 July 2006

The authors thank Australia Post for funding the study and Roberts Research Group for key input to the design and fieldwork stages of this research. They also thank Paddy Barwise of London Business School for comments on an earlier draft of this paper.

# **A Comparison of the Effectiveness of Marketing Communication Channels: Perspectives from Both Receivers and Senders**

## **Abstract**

Understanding the relative effectiveness of different media for marketing communications has always been challenging. However, the recent emergence of the internet and mobile phone channels has further complicated decisions about how to allocate resources across media. In this study we examine 11 media, including traditional mass media like television, mail and radio, as well as new digital media such as the internet and cellular phones. Initial comparisons across media are made based on 14 attributes, such as reliability, trustworthiness and convenience. A novel feature of this study is that we evaluate media from the perspective of both receivers and senders of marketing communications. We additionally examine consumer and business markets. Lastly, using a designed experiment, we judge the relative effectiveness of the 11 media in eliciting a response to two typical promotional offers. Our results show that receivers of direct-response marketing communications continue to be most receptive to traditional media, such as mail and television. The internet and mobile phones are much less effective as channels for generating a response to a marketing communication.

## **Introduction**

Marketing managers in the new millennium face a wide and diverse choice of media through which to send marketing communications to customers. These include most recently and significantly the internet, and also mobile phone communications, such as text-messaging (SMS) and cell phone TV. The internet has spawned its own mega-firms (Amazon, Ebay, Google), its own language (URL, website, link, home page), and its own advertisements (pop-ups, banners and skyscrapers). The internet is becoming an everyday part of the workplace and home lives of millions of people around the globe. Text-messaging via mobile phones is also increasing (Barwise and Strong 2002). In the U.S., where 80% of people aged 18 and over own cell phones and about 70% of teenagers aged 13 to 17 have one, 34% of the older group and 54% of teenagers sent a text message to another phone in the past month (Johnson 2006).

With the rapid and widespread uptake of new electronic media, traditional communications media like television, mail and newspapers are expected to decline. Evidence of this is already apparent for network television in the U.S., where average ratings are declining (Johnson 2003) and this had resulted in erosion in their share of advertising revenue (La Monica 2006). Postal mail as a communications channel is also under threat from e-mail, the fastest expanding new channel. The most recent available statistics (2000) issued by the U.S. Department of Commerce show that almost half the U.S. population uses e-mail regularly and that the number of e-mail messages now exceeds the number of letters sent through the U.S. postal service (Thompson 2001). It is not only direct mail that is facing severe competition as a marketing communication channel. In the Western world there are fewer telephone marketing messages now that a majority of U.S. households have opted out of receiving telemarketing phone calls by listing themselves on the “Do Not Call” register and “outbound” (unsolicited) telemarketing has been banned in the European Union.

However, in the enormously populous remainder of the world, particularly in Asia, telemarketing grows unabated.

Door-to-door personal selling has also been in decline in the Western world for consumers, although face-to-face selling remains important for business customers, and for both business and residential customers in the Eastern world. On the increase is another form of less explicit face-to-face personal selling known as “buzz” marketing (marketer-initiated word-of-mouth). An estimated 92% of buzz is face-to-face or on the telephone and only 8% online (Creamer 2006). Brands that have invested in creating word-of-mouth advocacy include Converse, Nike, Boeing, Google, Napster and Microsoft, and the automobile makers Cadillac, Mercedes, BMW, and Audi (Kleinman 2006).

Despite the emerging challenge from new media, traditional channels of personal sales visits, voice-only telephone, mail, and mass media remain strongly in use (Barwise and Farley 2005). However, the internet is fast catching up to some media. For example, in the U.S. and U.K., the expenditure for online advertising, now exceeds that of radio, consumer magazines, and outdoor (Internet Advertising Bureau, 2006). Therefore, a “state of flux” is an apt description of the overall scene for marketing communication channels.

How do marketing managers choose from the many traditional and new channel options for marketing communications messages? Which ways of receiving these messages do customers prefer? And, bottom line, which channels, or media, are most effective in eliciting a response? We lack answers to these important questions, which are becoming more pressing as the media channel scene changes. In particular, will the scenario eventuate that e-mail will become the dominant marketing communication channel? What about mobile communications? Hence, it is timely to examine the attitudes that communication receivers have to the array of channels in use today and assess the relative effectiveness of old and new channels. Therefore the purpose of this study is threefold

- 1) To compare many old and new media channels in terms of a range of attributes such as perceived reliability, trustworthiness and convenience.
- 2) To compare the relative effectiveness of alternative communication channels in terms of how a marketing proposition is evaluated by a recipient. That is, are some channels better than others at getting communication recipients to consider, investigate or act upon a promotional offer? Are some channels more appropriate depending on the type of promotion?
- 3) Previous studies are limited in that they look at just communication recipients in consumer markets. By contrast we also survey the senders of marketing communications, with a view to examining any differences between how senders think recipients perceive each channel and what recipients actually perceive. We study senders and receivers in both consumer and business markets. To the best of our knowledge this is the only study of marketing communications that has looked at both senders and receivers.

In overview, our study has two main parts. The first is a survey of managers and customers to document and compare the advantages and disadvantages of 11 traditional and new media for marketing communications: personally addressed mail, generally addressed mail, e-mail, telephone, SMS to a cell phone, door-to-door sales visits, direct-mail catalog or brochure, newspapers, magazines, radio and television. The survey covers the use of these 11 media for both B-to-B and B-to-C messages. The second part of our study is a scenario-based experiment that tests the effectiveness of two typical marketing offers as delivered via these 11 media, to business customers and consumers.

The paper proceeds as follows. In the next section we anchor our study in existing communication theories. We then detail the methodology used to answer our research

questions. Subsequent to this, results are presented and discussed. Lastly, we make several conclusions, discuss limitations of our study and provide directions for future research.

### **Theoretical Models of Communication**

In the communications literature there have been several studies of the attributes of alternative media best suited for particular communication purposes, with the attributes selected in accordance with “uses and gratifications” theory (Katz, Gurevitch and Haas 1973; Katz, Blumler and Gurevitch 1974). This theory posits that communication receivers have needs, such as requirements for information, knowledge and understanding. These needs can be met by different media to a varying extent. For instance, the print medium is often seen to be more informative than television, while television is more entertaining. Katz et al (1973) decompose several key media into a list of attributes and rank media on their attainment of these attributes. The attributes then become the link between receivers’ needs and how these needs can be gratified by senders of communications. These previous studies were designed for communications in general, rather than marketing communications *per se*. That is, there has been no comprehensive theoretical study of media for marketing communications, and no study of media attributes important to senders and receivers of marketing messages specifically. Therefore, the first part of our study is about the relative advantages and disadvantages of all the major marketing communication channels – 11 in total – as perceived by senders (e.g., marketing managers) and receivers (e.g., prospective customers). In keeping with the uses and gratifications theory, we compare the media in terms of a list of relevant attributes (14 in our case).

Whereas it is important to document the perceived advantages and disadvantages of traditional and new channels, managers are also interested in “bottom-line” effectiveness. Lasswell’s (1948) definition of communication is who (source or sender), says what (message), in which channel (medium), to whom (audience or receiver), with what effect.

The classic model of effective communication postulates that the sender's message will be most effective when the sender has correctly anticipated the needs and preferences of the receiver, that is, when the sender's encoding of the message corresponds with the receiver's decoding of it (Shannon and Weaver 1949). Whereas the Shannon-Weaver model of effective communication is about the message, McLuhan's (1964) insightful though extreme dictum that "the medium is the message" suggests that the correspondence recommendation should also apply to the medium or channel. Hence, for effective communication, the sender should also match the channel that the receiver prefers.

Previous research demonstrates that receivers have distinct preferences for the *ways* in which certain types of messages, differing in their uses, are received, and also for the ways in which they can reply to these messages (Westmyer, DiCioccio and Rubin 1998; Flanagin and Metzger 2001). Senders of messages have their own preferences for the mode of communication (Rice, D'Ambra and More 1998). Hence, if senders go with their personal preference, they may choose a medium that diverges from the medium preferred by receivers. If message effectiveness is the ultimate criterion, therefore, it is important to find out whether media divergence is less effective than the theoretically recommended practice of media matching. This is part of the purpose of the second part of our study, which tests the effectiveness of typical marketing communication offers as delivered via 11 media, and answers the question of whether the sender's preferred medium is also the one that is most sales-effective.

## **Methodology**

### ***Design Overview***

As a precursor to the first part of our study we undertook an extensive exploratory qualitative phase that includes focus groups and depth interviews. This is followed by a large-scale survey involving an evaluation of 11 marketing communication channels in terms of 14

attributes that were identified as relevant from the qualitative work. The second part of our study is a designed experiment where respondents evaluate some hypothetical communication scenarios and rate their attitudes and purchase intentions for the message conveyed in the communication. The communications are for everyday products or services, as well as for transactional mail.

### ***Qualitative Design***

Due to the paucity of previous research on the topic, we undertook an initial qualitative research study, with the intention of exploring the pros and cons of a range of alternative media as potential communication channels. We also endeavored to gauge the reaction of communication receivers to new channels like email and mobile phones and contrast this with older media like television, mail and radio. As the study was conducted in Australia, focus groups were assembled in the two largest cities of Sydney and Melbourne, and the provincial city of Bendigo. Participants were grouped according to their propensity to adopt new technologies. There was also a focus group comprised of just business people. Eight focus groups were conducted in total, six moderated by two experienced commercial qualitative researchers and two by one of the authors.

To explore pertinent issues for senders of marketing and customer communications<sup>1</sup>, we also conducted 16 depth interviews among business people who were responsible for sending marketing communications (marketing/product/communication managers in utilities, banks, telecommunications and direct marketing firms). A further 16 depth interviews were undertaken among influential senior advertising agency executives who were responsible for giving advice to their clients about media channel selection. Four interviews were moderated by one of the authors and the other 28 were conducted by two experienced commercial qualitative researchers.

---

<sup>1</sup> Customer communications include monthly bank statements and bills. They are the majority of volume for postal services in Australia. Marketing communications are a specific form of communication that offers a business proposal to prospective or current customers, which have now eclipsed transactional mail in the U.S.

The focus groups were recorded on DVD then transcribed, while the depth interviews were recorded in note form at the time of interview and later summarized. Due to space constraints, we do not report the qualitative findings in detail, but can attest that they were used extensively to develop the questionnaires. We do, however, report some pertinent verbatim comments arising from the qualitative study.

### ***Survey Design***

#### *Customer Segments*

Marketing communications are delivered both to consumers in their homes and business people in their workplace. The media choice for the consumer and business segments is often very different, with broadcast media being more commonly used for consumers and print media more relatively popular for business people, for example. Evidence of the differing issues for these two segments is also apparent from the qualitative work. Due to the distinctiveness of these two segments and their differing preferences, we survey members of the consumer and business segments separately.

#### *Media Channels Studied*

The choice of media channels has long been an issue in media planning (Rust 1986; Rossiter and Danaher 1998). Renewed interest in media selection has been precipitated by the internet and mobile phones (Pilotta and Schultz 2005; Tauder 2005). There are numerous ways for marketing communications to be delivered, ranging from word-of-mouth, to television to postal mail. In this study we restrict ourselves to 11 main media channels, discussed below, that comprise the bulk of marketing communication activity and expenditure.

Querying respondents about each of 11 channels would have been impossible, due to the length of the interview and the repetitive nature of the questioning, resulting in possible respondent fatigue and irritation. Hence, initially we limited the number of channels to a

random selection of six from the possible 11, but after two stages of piloting the questionnaire, we found the phone interview took up to 40 minutes, which was too long. We therefore reduced the number of channels to a random selection of just three. The random selection was stratified so that all respondents answered questions for the mail channel. Following this, a random selection was made from one of three key communication channels: telephone, email and television. Lastly, one channel was randomly selected from the remaining seven channels, which were an unaddressed letter – to the Householder – in the mail, an unaddressed catalog or brochure in the mail, a SMS text message, a radio, newspaper or magazine advertisement and a door-to-door solicitation. Business receivers required slight changes to the wording of some channels to reflect the different environment (the exact wording of the communication channels for both the personal and business segments is given in Appendix A).

#### *Target Population*

Given that we expect respondents to be reasonably knowledgeable and experienced with both old and media channels, we restrict the survey coverage to a population that is familiar with the internet and mobile phones. Hence, respondents recruited by telephone were initially screened to ensure they were at least 18 years of age, had daily access to the internet and had a mobile phone. The survey work was conducted throughout Australia, where the proportion of the population fulfilling these criteria is 48%. Not surprisingly, this target population is younger than the general population of Australia aged 18 or more. Indeed, the average age of respondents in our survey is 43 compared with 47 from the census.

#### *Channel Attributes*

In our everyday lives we are exposed to many advertising messages, most of which are not relevant to us. However, some messages are easier to dismiss because of their delivery channel. For example, deleting an email message is much easier than turning away a

door-to-door salesperson. Media channels also differ in their trustworthiness or authenticity. For instance, due to the large volume of unsolicited pharmaceutical spam, email is not as credible a channel as a catalog from the local drugstore for OTC medicine. Therefore, it is necessary to describe and compare media channels in terms of a range of attributes.

The qualitative phase of our study revealed many channel attributes, which we capture with a final list of 14 attributes. These attributes include trustworthiness, convenience, informativeness and reliability. Appendix B provides the exact wording of the 14 questions used to gauge channel attributes for communication receivers in the consumer segment and also gives the scale anchor points for each attribute. The lowest scale point is always coded as 0, while the upper-most point is always coded as 10.

#### *Senders versus Receivers*

Within the consumer and business segments, both receivers and senders of communications are interviewed. Looking at marketing communication from the perspective of the sender is rarely attempted, yet it offers some potentially rich information. What is of most interest to us is to seek out differences between the way receivers perceive each communication channel and what the senders of such communications think receivers perceive about each channel.

The broad structure of the senders questionnaire is the same as for receivers, but the orientation of the questions is different. For example, for the receivers questionnaire, respondents are asked “How reliable do you consider information you receive from companies via...[communication channel]”. The equivalent question for senders is “How reliable do you think recipients consider information to be that they receive from companies via...[communication channel]”. That is, for the senders questionnaire, the respondent is asked to rate the channel attributes by placing themselves in the role of being a recipient. It would be reasonable to assume that senders consider the standpoint of the recipient when

assessing the likely relative impact of marketing channels. Senders also use their experience from previous campaigns when making assessments about channel attributes, as was apparent in the qualitative research.

### *Demographic variables*

Since there is differing familiarity of the communication channels among people, it is possible that the outcome evaluations depend on the demographic status of the respondent. For the consumer segment, the demographic variables are age, gender, employment status, personal income, education, household structure, length of time at current address and internet usage.

For the business segment the demographic variables relate to both the respondent and the firm where they work. The personal demographic questions are the same as for the consumer segment, along with two additional variables, length of time in current job and number of employees in the firm.

### ***Experimental Design***

This section of the research is intended to judge the relative effectiveness of the 11 possible channels of marketing communication. Effectiveness can be judged in several ways. A well-known model particularly suited to direct-response communications (see East 2003, p. 49) is the AIDA model (Attention→ Interest→ Desire→ Action). We operationalize the response steps in this model by asking recipients how welcome and pleasant the communication is (attention), how likely they would be to investigate further (interest), to consider for purchase (desire), and to actually purchase (action).

In the experiment we created two credible hypothetical sales propositions, both of which might reasonably be promoted through any or all 11 media under consideration. The

first is a superannuation fund<sup>2</sup> (membership in a superannuation fund is very common in Australia) and the second is a wide-screen plasma, high definition, television. The exact wording of these two sales scenarios is given below.

**Scenario 1a: Superannuation Promotion**

Imagine that a superannuation provider wants to communicate to you a promotion where new members of a particular fund are charged no fees for the first 12 months. Over the last ten years, the fund has returned an average of 7.5% per annum.

**Scenario 2a: TV Product Information**

Imagine that a department store wants to communicate to you information about a new wide-screen plasma TV. The TV is not expensive, 42 inches (105cm) wide and capable of displaying high-definition images.

Survey respondents are randomly assigned to one of the two scenarios.

Advertisers of such products sometimes want to target existing customers, but more frequently they target noncustomers or customers of other providers. Therefore, we further refine the scenarios so that respondents imagine themselves as either existing customers or non-customers. The wording for the two scenarios for the mail channel for receivers in the consumer segment is as follows.

**Customer/Noncustomer status for Scenario 1a – consumer segment**

[CUSTOMER] = [Now imagine that you received this information from a superannuation provider as a letter personally addressed to you at home. While you are an existing member of the superannuation provider's fund, you did not request this information about the different fund and your address was obtained from the company's customer database.]

[NON-CUSTOMER] = [Now imagine that you received this information from a superannuation provider as a letter personally addressed to you at home. You did not request this information, you're not a member of this superannuation provider's fund and don't know how they got your address.]

**Customer/Noncustomer status for Scenario 2a – consumer segment**

[CUSTOMER] = [Now imagine that you received this information about the new TV in a letter personally addressed to you at home. While you are an existing customer of the department store, you did not request this information and your address was obtained from the company's customer database.]

[NON-CUSTOMER] = [Now imagine that you received this information about the new TV in a letter personally addressed to you at home. You did not request this information, you're not an existing customer of this department store and don't know how they got your address.]

As noncustomers are most frequently sought out by advertisers of such services and products, we arranged the random assignment of customer/non-customer status so that three-

---

<sup>2</sup> Superannuation is similar to an individual retirement account (IRA) or personal pension elsewhere, toward which the individual and the employer contribute payment of premiums which are invested, usually in mutual funds and stocks, and returned as a lump sum or periodic-payment pension when the individual retires.

quarters of respondents are allocated to be non-customers. The wording of these scenarios is altered appropriately for each of the 11 channels.

For the business segment, the products and services are changed to be more appropriate for the business audience. The first is a temporary employee service (called a temp agency in Australia) and the second is a portable projector for use with laptop computers. The wording of scenarios for the business segment surveys is given below.

**Scenario 1b: Temp Agency Promotion**

Imagine that a temp agency wants to communicate to you a promotion where new clients are given a 10% discount on all rates for 6 months. The temp agency supplies administrative personnel only.

**Scenario 2b: Portable Projector Information**

Imagine that an electronics store wants to communicate to you information about a new portable projector. The projector is not expensive, only two kilos (5 lbs) heavy and will work automatically with any laptop.

**Customer/Noncustomer status for Scenario 1b – business segment**

[CUSTOMER] = [Now imagine that you received this information from a temp agency as a letter personally addressed to you at work. While you are an existing customer of the temp agency, you did not request this information and your contact details were obtained from the company's customer database.]

[NON-CUSTOMER] = [Now imagine that you received this information from a temp agency as a letter personally addressed to you at work. You did not request this information, you're not an existing customer of the temp agency and don't know how it got your contact details.]

**Customer/Noncustomer status for Scenario 2b – business segment**

[CUSTOMER] = [Now imagine that you received this information about the new portable projector in a letter personally addressed to you at work. While you are an existing customer of the electronics store, you did not request this information and your contact details were obtained from the company's customer database.]

[NON-CUSTOMER] = [Now imagine that you received this information about the new portable projector in a letter personally addressed to you at work. You did not request this information, you're not an existing customer of this electronics store and don't know how it got your contact details.]

*Information Importance and Product Involvement*

For the two propositions presented to respondents (superannuation and plasma TV for the consumer segment and temp agency and projector for the business segment), it is expected that respondents' ultimate purchase intentions depend on how interested they are in the product or service and how relevant it is to them. For instance, an older person with two televisions in their home already may not be very interested in a new plasma TV. Hence, *before* respondents were allocated to a customer or non-customer scenario, we asked them

several questions about their level of interest in the product or service information. Specifically, respondents were asked about their level of interest in the information, its relevance, how likely they would be to retain the information for future reference, the importance of the information and how concerned they would be if they did not receive the information. All of these questions were answered on a scale of 0 to 10 (see Appendix C). The intention of asking these questions is to gauge how important the information is to a respondent.

As many studies in consumer behavior have demonstrated the importance of product involvement as a moderator of purchase likelihood (Zaichowsky 1985), we also include three questions from the involvement scale developed by Zaichowsky (1985). For the superannuation fund, respondents were asked “Choosing a superannuation fund is: (i) important to you; (ii) a decision you are really interested in; (iii) something that matters a lot to you. Again, responses were given on a scale of 0 (not at all) through 10 (extremely). Owing to the high correlation among these three questions, we create a single involvement rating, being the average of the three responses.

### *Outcome Measures*

The outcomes of the advertising communications presented in the hypothetical scenarios are measured along the lines of the AIDA direct-response model. The message may be seen as welcome or unwelcome, an indication of attention. If welcomed and read, it may prompt the recipient to investigate the offer further (by requesting more information in the case of the superannuation fund or visiting the department store in the case of the plasma TV), and to consider the product or service as a potential purchase option. The ultimate outcome measure is how likely recipients say they would be to act on the promotion, such as taking up the superannuation offer or purchasing the new TV. Appendix D gives the exact wording of the outcome measures for the consumer and business segments.

### *Transactional Communications*

The hypothetical scenarios presented above are examples of promotional communications. However, about 80% of postal mail communications in Australia are transactional, such as bills, statements and invoices. The qualitative work, especially in the consumer market, revealed that not all people pay their bills on time, in which case they'll receive a reminder letter. Recognizing this, the survey asks respondents how likely they are to pay a mobile phone bill (for the consumer segment) or a catering invoice (for the business segment) by the due date if it is sent by mail, email or SMS. The exact wording is as follows, illustrated in both cases for the mail (letter) condition. Likelihood in all cases is measured on an 11-point scale where 0=not at all likely and 10=extremely likely.

**Scenario 3a: Mobile Phone Bill (Consumer segment)**

Imagine that you are on a mobile phone contract and are billed monthly. A month has just ended and your phone company wants to let you know how much you owe for your latest bill. After receiving the billing information via a letter addressed to you at home, how likely would you be to pay the mobile bill by the due date?

**Scenario 3b: Catering Invoice (Business segment)**

Imagine that a catering company you use regularly wants to provide you with an invoice for services rendered in the previous month. After receiving the catering invoice via a letter addressed to you at work, how likely would you be to pay the invoice by the due date?

### *Current Channel Usage and Activity*

The receiver of a marketing communication may be more or less inclined to act on a sales offer depending on the volume of activity they already receive through each of the media channels. For instance, a person who already receives 100 emails a day, many of which have sales offers, may be less inclined to pay attention or consider an offer compared with someone who receives just five emails a day. The same is true of all the channels. Therefore, we asked respondents about the levels of activity, for just the three channels allocated to them. Appendix E gives the details.

### *Senders versus Receivers*

Senders are also asked about the same hypothetical product or service offering scenarios as for receivers, but, as for channel attributes, this time the answering perspective is

the anticipated recipient reaction as perceived by the firm that is sending out a marketing communication. As for receivers, senders are assigned to the mail channel, a random choice of one of telephone, email and a TV ad, plus a random allocation of one of the remaining seven channels listed in Appendix A. Hence, each sender is also questioned on just three total channels.

The outcome questions parallel those of receivers, but, again, senders are asked how likely the recipient of the product or service will be to welcome the communication then investigate, consider then act on the offer.

### *Regression Model*

The main purpose of the designed experiment is to find the relative impact of the channel attributes, information importance, product/service involvement, type of offer, customer status, channel type, personal and firm demographics and channel activity on marketing communication outcomes, as given above. Multiple regression is an appropriate method for achieving this objective<sup>3</sup>.

Since there are 11 total communication channels, but respondents are queried on just three of them, it is inefficient to regress the outcome variables on each channel separately, due to the low sample size for some of the channels (especially channels E through K in Appendix A). A more efficient regression model would somehow use all the information from each respondent, effectively tripling the sample size, but take into account the fact that there are repeated observations on the same respondents, which may give rise to correlated observations. An additional concern is the random allocation of the media channels, which, apart from the mail channel, are different for each person. Therefore, there are two possible sources of heterogeneity, one being the heterogeneity across individuals and the other being

---

<sup>3</sup> Since we have a designed experiment with two factors and many covariates, we could have used an ANCOVA analysis. However, an ANCOVA model is conceptually and mathematically very similar to our proposed regression model. The advantage of our regression approach is that it allows for individual-level heterogeneity and the fact that respondents do not evaluate all 11 channels.

heterogeneity across the channels. Ansari, Essegai and Kohli (2000) developed a model which can accommodate these two sources of heterogeneity. Furthermore, in their application respondents rated movies, but the subset of movies they rated was not the same for each person. This is analogous to our situation, where not all media channels are evaluated by each respondent. The Ansari et al (2000) model applied to our setting has the following functional form

$$y_{ij} = \alpha + \beta_1 Channel\_Attributes_{ij} + \beta_2 Information\_Importance_i + \beta_3 Involvement_i + \beta_4 Demographics_i + \beta_5 Non-customer_i + \beta_6 Offer\_Type_i + \beta_7 Channel\_Activity_{ij} + \beta_8 Channel\_Dummies_j + \delta_i + \eta_j + \varepsilon_{ij}, \quad (1)$$

where  $y_{ij}$  is the outcome evaluation for person  $i$  on channel  $j$ ,  $\varepsilon_i \sim N(0, \sigma_\delta^2)$ ,  $\varepsilon_j \sim N(0, \sigma_\eta^2)$  and  $\varepsilon_{ij} \sim N(0, \sigma^2)$ . The  $\delta_i$  and  $\eta_j$  terms are random effects that allow for possible heterogeneity across people ( $\delta_i$ ) and across channels ( $\eta_j$ ). Such individual-level heterogeneity induces a correlation in the evaluations across channels for the same person (Laird and Ware 1982), as would be expected. For instance,  $corr(y_{ij}, y_{ij'}) = \sigma_\delta^2 / (\sigma_\delta^2 + \sigma^2)$ , for  $j \neq j'$ . This says that for different media channels,  $j \neq j'$ , the evaluations made by person  $i$  are correlated, which is a relatively simple way of capturing individual-level heterogeneity.

The channel attribute, information importance and channel activity<sup>4</sup> covariates are as listed, respectively, in Appendices B, C and E. The noncustomer covariate is binary coded based on the random assignment, with 0 being a current customer and 1 a current noncustomer. The offer-type variable is coded as 0 for the superannuation fund and 1 for the plasma TV, in the consumer segment, and 0 for the temp agency and 1 for the projector in the

---

<sup>4</sup> Note that channel activity questions are asked only of the three channels presented to each respondent.

business segment<sup>5</sup>. Ten dummy variables are created for the 11 channels, with the baseline dummy being the mail channel, since all respondents evaluate this channel.

### *Sample Sizes for Survey and Experiment*

There are four sample groups in the study comprising receivers and senders in both the consumer and business segments. Each of these groups has a sample size of 400 respondents in the survey, except for senders in the consumer segment<sup>6</sup>, where the sample size is 350. Those contacted for the survey to assess channel attributes are also asked to evaluate the hypothetical communication scenarios, with the appropriate random assignment, as mentioned previously.

Random digit dialing was used to contact receivers in the consumer segment, while Dun and Bradstreet lists were used as the sampling frame for receivers in the business segment and both sender groups. A cash incentive of \$50 (about US\$40) was offered for business receivers, but not the other groups. Interviewing was conducted in August and September 2005 by a team of experienced commercial market research telephone interviewers. The average length of the interview was 20 minutes. The response rates for the four groups were generally good, ranging from 38 to 46 percent. As mentioned previously, only people aged over 18 with daily internet access and a mobile phone were eligible for the surveys.

## **Results**

### *Comparison of Media Channel Attributes*

When advertisers decide on the media mix it is inevitable that the pros and cons of each possible channel are assessed and evaluated (Rossiter and Danaher 1998). Of course, the cost of each channel will be paramount and often dominates the decision about media channel

---

<sup>5</sup> We initially included the interaction between the noncustomer and offer-type experimental factors, but it was rarely significant, so we omit it from the reported model.

<sup>6</sup> The sample size of senders in the consumer segment was smaller than the other three samples due to the smaller population size of this segment.

selection. A close second selection criterion to cost is the match between what is intended to be communicated and the appropriateness of each media channel. For example, television clearly dominates over print for transformational (positive emotional) advertising, but the reverse is often true for informational advertising (Rossiter and Bellman 2005). Senders of marketing communications often make subjective judgments about various channel attributes, such as how easy it is for the recipient to reject or ignore an advertising message. Other attributes include how informative, trustworthy or entertaining a media channel is perceived to be. For instance, an advertising message about personal financial investments may be better sent via a channel that is rated high on being trustworthy.

Table 1 gives the average ratings on the 0 to 10 scale for each attribute and channel for the consumer segment. Since only the mail channel is asked of everyone and the other channels are randomly assigned, the sample sizes vary by channel, as reported in the table. Ratings for both receivers and senders are juxtaposed to facilitate comparison. When determining whether a receiver/sender comparison is statistically significantly different, the varying sample sizes should be borne in mind. As an approximate guide, ratings that differ by at least one rating point are significantly different at the 5% level. For example, receivers of email communications sent to them at home rate the “easy to reject” attribute as 8.2, while the rating for senders is significantly lower, at 6.9. Since receivers think that email is easier to reject than senders, senders may be too optimistic about how much attention will be given to communications sent by email. Similarly, senders believe that email is more trustworthy than receivers. In contrast, looking at attributes across different media, among receivers, personal mail is rated significantly more trustworthy and reliable than phone calls and email.

Table 2 gives the corresponding information to Table 1 for the business segment. Here, one of the trends of note is that email compares very well with the other channels on the attributes convenient, acceptable and appropriate, as does a letter to a recipient at work. In

the case of personally addressed mail sent to work, senders are in close agreement with receivers, although for email senders generally rate email more negatively than do receivers. That is, business receivers often view email in a positive light, but senders are more cautious. This contrasts sharply with the consumer segment, which did not evaluate email marketing communications favorably. Hence, email for marketing communications to business people could potentially be used more by senders of such communications, but the same cannot be said of the consumer market. A likely explanation for this difference between segments is that in a workplace setting, email is quick and efficient and people are concentrating on their work and are more accommodating of many email messages, be they internal to their firm or external in the form of a marketing communication. Moreover, at work people usually have a computer conveniently located such as on their desk, enabling easy email access. However, in a residential setting, consumers in the qualitative work often said they wanted to relax in their home and not be bombarded with non-personal email. That is, email is usually associated with work pressure and so is not as welcome in a home setting, whereas some traditional media are associated with relaxation. This is manifested in the qualitative research by one focus group participant who said "...I don't think of going home and getting on the internet as being the same as going through my mail and switching on the TV...I just don't find the internet relaxing" (Anne, aged 28).

### ***Correspondence Analysis of Media Channels and Their Attributes***

The information in Tables 1 and 2 is rather overwhelming, so we now display it pictorially by using correspondence analysis (Greenacre 1984). Correspondence analysis uses a row and column table of information as input and places each level of the row and column variables on a two-dimensional graph (Hoffman and Franke 1986). Items that are close together on the graph are closely associated. Correspondence analysis is possible in our application because it uses aggregate rather than individual-level information. Since

respondents evaluate only three of the 11 possible channels, we can use only aggregate data, making other graphical association techniques, such as multidimensional scaling, impossible. In our case the two-way table used as input to correspondence analysis comprises the percentage of respondents who rate an attribute as 7 or higher, computed separately for each channel, thereby creating an  $11 \times 14$  crosstabulation.

Figures 1a and 1b show the correspondence analysis maps for receivers and senders in the consumer segment. Among receivers, there is a clear distinction made between channels that are disruptive, annoying and irritating, such as phone calls, door-to-door, SMS and email, and channels that are enjoyable, informative, trustworthy and entertaining, such as catalogs, radio, newspaper and television. Receivers find personally addressed mail to be informative, reliable and trustworthy. Interestingly, receivers rate email and generic letters addressed “To The Householder” very similarly, being close to the objectionable and easy-to-reject attributes. Hence, in contrast to generic mail and email, personally-addressed mail clearly has many more desirable properties in the mind of receivers. Overall, considering just paper-based marketing communication channels, personal mail and catalogs are more favorably rated by receivers than generic mail sent “To The Householder”.

Senders of marketing communications generally agree with receivers in terms of the strong association of negative attributes with phone calls, door-to-door solicitations and SMS text messages, but senders do not perceive email in such a negative light as do receivers. Senders also view traditional media in favorable terms, but they evaluate catalogs rather differently from receivers. Senders believe that catalogs are easy to reject and this might cause them to refrain from using catalogs when the option is available. On the other hand, receivers rate catalogs highly on such desirable attributes as being informative, trustworthy and reliable, and do not think they are easy to reject. Later, we examine the effect on purchase intentions resulting from such mismatches between senders and receivers.

The correspondence analysis maps for the business segment are depicted in Figures 2a and 2b. Again, door-to-door salespeople, phone calls and SMS are associated with negative attributes. One notable difference between receivers and senders, as observed earlier, is that receivers rate email much more positively than do senders. Business receivers rate email as being trustworthy and reliable, although Table 2 shows that personally-addressed letters and brochures sent to work are still rated higher on these attributes. Indeed, email for the business segment is placed in near proximity to all the other ‘tangible’ print media, such as mail, brochures, magazines and newspapers. In contrast, senders position email (and generic letters sent “To The Manager” at work) as objectionable and annoying. This mismatch of the email channel as a medium for marketing communications to the business segment indicates that there may be some untapped potential for this channel that senders have not yet recognized due to their own rather negative feeling towards it. However, later we find that although email has some favorable attributes among business receivers, this does not necessarily translate into more effective marketing communication outcomes, such as purchase intentions.

### ***Experiment Findings***

The results reported so far have been limited to descriptive statistics of how each of the media channels compare on attributes, such as being entertaining, trustworthy, informative and convenient. Our study is also designed to provide insight into how media channels compare with regard to AIDA outcomes resulting from marketing communications. We now report findings from the experiments in which subjects are assigned to hypothetical promotional scenarios for three different channels. We firstly examine the ratings of attention, interest, desire and (intended) action across channels. We then undertake a series of regression models using equation (1) to determine how channel attributes, the channels themselves, the demographic profile of receivers and information about their current activity

levels for each media channel impact on the AIDA outcomes. The regression models give insight into the factors that have an influence on the effectiveness of each medium, as well as how channels compare in their effectiveness.

#### *Outcome Measures Across Media Channels*

Table 3 compares the average ratings for the outcome variables Welcome-and-Pleasant, Investigate, Consider and Act, for receivers<sup>7</sup> in the consumer and business segments. Recall that the scale for each of these variables is 0 to 10, so it can be seen immediately that all ratings are towards the lower end of the scale. Nonetheless, given these relatively low scores there are considerable differences across media channels. We focus primarily on the Act outcome as it is a statement about purchase intentions and, therefore, has the greatest relevance to managers. Table 3 shows that for receivers of promotional advertising communications in the consumer segment, several groupings of scores emerge. The highest scores are for a group of mass media channels (radio, magazines and newspapers). The second highest group is for printed direct marketing (catalogs, personally addressed mail and generic mail) and television. The group with the lowest scores comprises the digital and telephone channels (phone, email, SMS), as well as door-to-door sales calls.

For receivers in the business segment, the top group of ratings is for printed direct mail (catalogs/brochures and personally addressed letters) and radio. The second group is the remaining mass media channels (television, magazines and newspapers). The group of channels with the lowest purchase intentions is again the digital and telephone channels (phone, email, SMS), along with door-to-door sales calls.

Given that our scale ranges from 0 to 10, being of a similar gradation to the Juster scale (Morrison 1979), we have an opportunity to calculate predicted purchase intention

---

<sup>7</sup> We report scores for just receivers as they are the ones potentially making the actual purchase. As it happens, we also calculated the average scores for senders in both segments. Interestingly, the ranking of the channels is almost the same for senders as for receivers, but the average ratings are always higher, indicating that senders are more optimistic than receivers about the success of promotional efforts.

probabilities. For example, Rossiter and Bellman (2005, p. 116) suggest the transformation  $0.05*(1+Act)$ , where  $Act$  is the score from 0 to 10 for behavioral intention. The probabilities are a weighted average of the original scale, and are given in Table 3. Since the weighting function is linear, the rankings of the eleven channels are unchanged, but the actual purchase intention probabilities show that purchase intention probabilities for mass media in the consumer segment (averaging 0.18) and printed direct mail in the business segment (at 0.22) are relatively high (cf. Morrison 1979).

Turning attention to the attention (Welcome and Pleasant) and interest (Investigate and Consider) outcomes, the same broad groupings are apparent as for the Act outcome. That is, mass media do best for the consumer segment, while printed direct marketing and mass media are favorably evaluated in the business segment. Of the three direct marketing channels, catalogs/brochures are rated the highest, often being very close to the scores for mass media. Once again, email, telephone and SMS are rated the lowest of all the channels.

### ***Comparing Channel Effectiveness with the Regression Model***

Tables 4 and 5 show the estimated regression results based on equation (1) for receivers and senders in the consumer segment<sup>8</sup>. There are five separate regression models reported in each table, corresponding to the five outcome variables described earlier. To improve the readability of the tables, only regression coefficients that are significant at the 5% level or better are given.

#### *Receivers in the Consumer Segment*

Table 4 shows that the significant independent variables are not always consistent across the five measured outcomes. Rather than interpreting each of the five regressions separately, we initially look for broad generalizations across each of the regressions, then

---

<sup>8</sup> We do not report the estimated value of  $\delta_j$  from equation (1) in Tables 4 through 7, as the inclusion of the 10 media channel dummy variables effectively ‘soaks up’ all the variation across channels, so that  $\delta_j \approx 0$  in each model.

focus on just the regression when Act is the dependent variable due to the importance of this purchase intention criterion.

The channel attributes Enjoyable, Entertaining and Reliable are significant in all or some of the five regression models. To generate attention (as measured by Welcome and Pleasant), marketing communications should also be appropriate and not objectionable. Regarding the information itself, it is not surprising to see that the outcome of a marketing communication is more likely to be successful if the recipient is interested in the information, sees it as relevant and would be concerned if they did not receive it. Higher involvement with the product or service is also more likely to result in a higher rating for all of the outcomes. Unexpected is the finding that whether a respondent is a current customer or not has no impact on the success of the promotional offer. However, it is apparent that plasma TV is a more attractive option than the superannuation fund for receivers in the consumer segment, as evidenced by the significant TV dummy variable.

Recall that we set the mail channel to be the baseline media channel and then dummy coded the remaining 10 channels accordingly. Table 4 shows that the parameter estimates for many of the other channels are not significantly different from 0, indicating they are equivalent to mail in terms of AIDA outcomes. However, four of the channels – telephone, email, SMS and door-to-door – have significant negative coefficients, indicating they have significantly lower likelihood of increasing favorable attitudes and purchase intentions than the other seven channels. Catalogs are more likely to trigger further investigation than all other channels, while magazines impart significantly more favorable attitudes than other media channels.

The demographic variables, especially age and gender, are never significant, which is rather surprising given the popularity and relatively higher usage levels of digital media among younger people. Clearly, when it comes to marketing communications, younger

people (and older people at the other extreme) are no different from other age groups in terms of their attitudes towards marketing communications and their intention to purchase<sup>9</sup>.

Looking at the Act outcome in isolation, the Enjoyable, Entertaining and Reliable attributes are statistically significant, which shows that receivers want a communication to be both likeable and believable. Purchase intentions are primarily governed by prior AIDA steps, product involvement and interest in the information. Comparing the channels themselves, the telephone, email, SMS and door-to-door are significantly worse than the other seven channels for stimulating purchase intentions. Rather there is a preference among consumers for mass media and printed direct mail. The relatively new medium, SMS text messaging is particularly ineffective at generating sales, as is email, whereas traditional media channels demonstrate greater effectiveness. Finally, there is a significant negative coefficient for Present Channel Activity. This indicates that the more communications a consumer receives from a channel, be it TV, radio, mail or email, for instance, the less likely they are to buy the product. This finding is consistent with a threshold of irritation reached by consumers whereby too many marketing communications result in a negative reaction to the new communication irrespective of the message content or interest in the product. An irritation threshold is already widespread for television advertising clutter (Lafayette 2004) and internet advertising (Dreze and Hussherr 2003).

#### *Senders to the Consumer Segment*

For senders to the consumer segment, there is reasonable agreement across the five regression models, so again we limit our discussion primarily to the Act dependent variable in Table 5. The significant channel attributes for senders have almost no overlap with the significant attributes for receivers in Table 4. While receivers prefer marketing communications to be enjoyable and entertaining, senders think that receivers would prefer a

---

<sup>9</sup> It is worth reminding at this point that all our respondents use the internet and have a mobile phone. This lowers the average age of our target group compared with the general population and makes them more homogeneous demographically, which might be part of the reason we observe no age and gender effects.

communication to be informative, appropriate, not annoying and yet difficult to ignore. Senders' experience has taught them to emphasize informative advertising, but a key attribute that receivers require is that a marketing communication be entertaining and this appears to have been overlooked by senders.

For the Act outcome variable, senders are in broad agreement with receivers. Senders of B-to-C communications perceive significantly lower purchase intentions for the telephone, email and SMS channels. Senders also believe that newspapers will generate significantly higher purchase intentions than other channels. We depict the similarities and differences between senders and receivers with respect to the various channels in Figure 3a. This chart shows the estimated dummy variable regression coefficients for each channel. As personally addressed mail is the baseline, its coefficient is zero. Also note that generic mail and catalogs are seen as not significantly different from personal mail, so we group these three channels under the heading "printed direct media" (PDM). Similarly, the estimated coefficients for the mass media channels of television, radio, newspapers and magazines are all zero, so we group them together. Figure 3a shows clearly that receivers believe that the telephone, email and SMS are less effective than PDM and mass media in terms of enhancing purchase intentions. Senders of B-to-C communications are in close agreement with receivers for all channels except newspaper, which senders feel is the most effective channel for generating sales, an opinion not shared by receivers of promotional offers.

#### *Receivers and Senders in the Business Segment*

Tables 6 and 7 give regression results for the business segment, for receivers and senders, respectively. This time we discuss receivers and senders simultaneously rather than separately.

Receivers in the business segment differ considerably from those in the consumer segment in terms of their channel attribute preferences. While consumers emphasized

entertainment, business people are more concerned with convenience, acceptability and appropriateness. Focusing attention on the Act outcome for business receivers, while acceptability and appropriateness are the most important attributes, and they additionally have higher purchase intentions when the marketing communication is difficult to ignore. This is perhaps indicative of the business segment's recognition that many marketing communications they receive do not have much impact, but those that are difficult to ignore, be it for low price, eye-catching creativity or promised high quality of the product/service, are more likely to result in a subsequent purchase.

In contrast, Table 7 shows that senders in the business segment do not think business receivers want a communication to be difficult to ignore. Instead, they believe that a B-to-B marketing communication needs to be entertaining and not disruptive. Business receivers often agree that the communication should not be disruptive, but they see no value in it being entertaining. Interestingly, senders in the consumer segment, but not the business segment, emphasize that a communication should be difficult to ignore (see Table 5).

As for the consumer segment, both receivers and senders in the business segment believe that a marketing communication will be more successful if the recipient is interested in the information, likely to retain it, and they are involved with the product or service. Unlike consumers, however, business receivers think that the promotional offer will be less successful among present noncustomers, and they generally see little difference in the ultimate outcome between the temp agency and the portable projector propositions. Senders in this segment, by contrast, are more optimistic about the chances of the temp agency than the projector.

Regarding a comparison of the channels themselves among receivers in the business segment, we see a very similar pattern to that found with consumers, whereby the phone, email and SMS channels perform significantly worse than the baseline medium – personally

addressed mail sent to your workplace. Again, the mass media channels are equivalent to the printed direct response channels, with both these broad sets of media being preferred over digital and telephone channels. The finding that email produces significantly lower purchase intentions than direct mail contrasts markedly with our previous observation that business receivers evaluate email attributes favorably and in much the same way as mail and catalogs. Whereas email has favorable attributes in the business segment, this does not appear to extend to generating higher purchase intentions for marketing communications sent by email.

Senders in the business segment are in general agreement with receivers on relative channel effectiveness, except for the telephone for the Act purchase intention measure. Senders see the telephone as an equivalent channel to direct mail and mass media, which is inconsistent with what receivers state. We portray the differences between the channel effectiveness perceptions between receivers and senders in Figure 3b. As for the consumer segment, all three PDM channels are grouped together, but this time the mass media channels are separated due to their significant (positive) regression coefficients. Receivers in the business segment are similar to those in the consumer segment, believing that all mass media and printed direct response media are equivalent in their effectiveness (all have estimated regression coefficients not significantly different from zero in Table 6), while the telephone, email and SMS are less effective at increasing purchase intentions<sup>10</sup>. In contrast, senders single out newspapers and magazines as being the most effective media in the business segment. Senders also think that the phone is equivalent to PDM, television and radio. That is, senders believe that communication recipients will have higher purchase intentions if the message is placed in a magazine or newspaper. They also see the telephone in a less negative light than receivers. We do not know if this opinion of senders is based on experience from

---

<sup>10</sup> The absence of bars for magazines and newspapers for receivers in Figure 3b indicates that these channels have estimated coefficients of zero.

previous campaigns or perceptions within the industry. Nonetheless, the favorable evaluation of magazines, newspapers and the telephone is not shared by receivers.

Lastly, Table 6 shows that purchase intentions will be higher if the receiver has a higher level of present activity in the nominated channel. This is a reversal of the finding for consumers and is rather intriguing. It shows that promotional messages sent via channels where the receiver already has a high level of activity, such as PDM or email, generate higher purchase intentions. This may be due to trust being built up from regular use of a channel.

### ***The Effect of a Mismatch Between Senders and Receivers***

Recall that one of our objectives is to assess the result of a misalignment between what senders of marketing communications think recipients want and what receivers themselves prefer. To do this we use the predicted purchase intentions from the Act regression model for receivers in the consumer market, as reported in Table 4. We additionally use the findings for the Act model for senders in the consumer market from Table 5.

The significant regression coefficients for senders in Table 5 shows that senders of B-to-C communications think that consumers do not want an easy-to-reject medium, they want the communication to be informative, appropriate and difficult to ignore, but not annoying. Senders also feel that the newspaper medium is significantly better than all others at gaining higher purchase intention. On the other hand, Table 4 shows that receivers prefer marketing communications to be enjoyable, entertaining and reliable, with the newspaper medium rated no differently from mail and other mass media. By substituting the average attribute<sup>11</sup> and information values for receivers into the complete fitted regression model for Act, the predicted purchase intention for newspaper is 2.4 (on the 10-point scale), which is very close to the actual value of 2.8 reported in Table 3. If we adjust this prediction to include just the

---

<sup>11</sup> Average attribute scores for consumer and business receivers for newspapers and other media are given in Tables 1 and 2, respectively.

statistically significant media attributes for receivers given in Table 4 (i.e., enjoyable, entertaining and reliable), the predicted purchase intention for newspapers becomes 2.2.

To gauge how receivers will evaluate a marketing communication delivered by a sender who promotes just the significant attributes reported in Table 5 (for Act), we re-predict the Act outcome using only the receiver regression coefficients for attributes that senders think would be important for receivers (namely, easy to reject, informative, appropriate, difficult to ignore and annoying). This time the predicted Act outcome drops to 1.54, about 30% lower than the prediction for the communication that has attributes that consumers themselves prefer. Hence, if senders apply their own preconceptions to a marketing communication to impute what they think a receiver wants, the advertising message might be 30% less effective than if the sender had correctly anticipated the attributes that a receiver actually wants.

Applying the same technique to the business segment using Tables 6 and 7 it can be seen that, once again, there is a mismatch between senders and receivers. This time the predicted purchase intention value, using just the significant sender communication attributes from Table 7, is 35% below the predicted intention based on the significant receiver attributes in Table 6. This is in line with the finding for the consumer segment and reiterates the importance of senders taking notice of what receivers want from a marketing communication. Without satisfying receivers' needs, the result is likely to be a substantially less effective advertising message.

### ***Comparing Channel Effectiveness for Transactional Communications***

In the case of the transactional communication scenario of on-time bill/invoice payment, just the mail, email and SMS channels are included as only these channels are viable delivery media for this type of communication. Channel allocation is the same as for the promotional offer, so that all respondents evaluated the mail, about one-third evaluated

email and one seventh evaluated SMS. Table 8 gives the average scores for the likelihood to pay by the due date for consumer and business receivers. It shows that in the consumer segment, delivery by regular mail results in a much greater likelihood of on-time payment, than do email and SMS. In the business segment, the mail and email scores are quite close, perhaps reflecting the greater sophistication of the business segment for day-to-day communication handling, where convenience is highly valued.

Table 9 gives the estimated regression model in equation (1) when the dependent variable is the likelihood of paying a bill/invoice by the due date. Four separate regression models are reported, corresponding to receivers and senders in the consumer and business segments, respectively. Receivers in the consumer segment are more likely to pay on time when the bill is informative, not entertaining, reliable and not disruptive. They also say the bill is more likely to be paid on time when the channel used to communicate it is annoying. This is probably best interpreted as meaning the bill is not lost in the clutter of day-to-day household tasks. Senders in this segment, on the other hand, believe that receivers will be more likely to pay on time if the bill is appropriate and not disruptive. Of the three delivery channels, personally addressed mail is regarded by senders as significantly more effective at eliciting on-time payment than both email and SMS. This is consistent with the results in Table 8. The clear preference for paper-based billing delivery by mail is consistent with the apparent attributes of mail, namely, being informative, not entertaining, reliable and not disruptive, as seen in Table 1 previously.

In the business segment, no channel attributes are significant for receivers, while senders of invoices believe that receivers will pay on time if the invoice is informative and difficult to ignore. One of the most interesting findings in the business segment is that receivers think that mail and email are equivalent in their effectiveness for on-time payment (as the email dummy variable regression coefficient is not significantly different from the

baseline of mail). Receivers in the business segment seem prepared to accept email as a viable delivery channel, this being indicative of their relative experience and sophistication with email. However, senders of invoices continue to believe that receivers will think that email is less effective than regular mail. If senders slowly change their opinion about B-to-B email this represents an on-going concern for postal mail.

In contrast, receivers in the consumer segment have unfavorable opinions of email communications and express a significant preference for regular mail. A low opinion is also prevalent for the SMS channel, which lags well behind both mail and email in terms of effectiveness in all four groupings. Receivers in the consumer segment may be less inclined to pay their bill on time with email or SMS because they may not take it as seriously. They may not think it's a 'real' bill or it may get lost in the clutter of numerous other emails and text messages. A tangible, paper-based bill has more credibility and can be filed or displayed on a pin board. It also looks more official and visible than something printed on the receiver's own printer. This means it is less likely to be overlooked in the clutter of daily communications. Issues such as this were mentioned in the focus groups and are also found in the study by Harper et al (2002).

Figure 4 depicts the regression coefficients for all four groupings. It immediately shows the strong negative perceptions of SMS as a delivery channel across all groups, as well as the equivalence of mail and email for business receivers only. An examination of Figures 3a and 4 enables us to compare the relative effectiveness of the mail, email and SMS channels for promotional and transactional communications. Focusing attention on just email, the estimated coefficient in Figure 3a for receivers of promotions sent by email in the consumer segment is -0.6. The comparable coefficient for transactional email in Figure 4 is -1.6, nearly three times larger in magnitude. This shows that the strength of the difference between mail and email is more marked for transactional mail. That is, the mail channel is

much more likely than email to result in a successful outcome for the sender of transactional communications compared with promotional communications.

### ***Senders' Channel Preferences***

At the conclusion of the survey for consumer and business senders, respondents were asked which channels they felt were best for promotional, branding and operational communications. The intention here is to get a sender's 'top of mind' opinion as to the most appropriate media channel for a particular message. The verbal responses were written down by the interviewer and later categorized. Table 10 gives the percentages for each category for the three types of communications. For senders in the consumer segment, postal mail, television and email are the most popular media for promotional channels. Television is well ahead of all other media for branding. Mail is strongly dominant for operational communications like bills and invoices. Very similar patterns emerge for the business segment, with a slightly higher usage of email for bills and invoices for operational communications. These results are consistent with the findings in Table 7.

To a large extent, these results are consistent with our expectations, but it is interesting to note the reluctance to use digital channels, particularly email. Email is now commonplace, but it lags well behind traditional postal mail for promotional, and especially, transactional communications. Given that senders in this survey are often experienced, or at least have informed perceptions of the effectiveness of the various media channels available today, their choices of media for these three everyday tasks reveal a preference for traditional media. Digital channels, particularly email, are not being adopted by senders at the same pace at which internet penetration is growing. Some insight into this is offered by the following quote from a depth interview, "If you have something important to say, then don't use email".

## Discussion and Conclusions

In this research we undertook a large nationwide study in Australia to get a better understanding of the relative effectiveness of new and old marketing communication channels. The study is comprehensive in that it covers consumer and business markets, and novel in that it examines the viewpoints of both receivers and senders of marketing communications. Media channel selection is one of today's most complex and pressing issues for marketing managers in many countries around the globe (Foley et al 2005), and ours is the first study to examine this topic comprehensively. Our findings have implications for theory and practice, as we now discuss.

Existing theoretical models of communication effectiveness are limited to communications in general, rather than marketing communications *per se*. Nonetheless, our results are consistent with McLuhan's (1964) implied addendum to Shannon and Weaver's (1949) model of effective communication, whereby for effective communication, the sender should match the channel receivers prefer. Our designed experiment shows that senders tend to rate newspapers and magazines as channels that ought to generate higher purchase intentions compared with television and mail, for example. However, receivers themselves do not rate newspapers and magazines ahead of other mass media, or personally addressed mail and catalogs. Receivers rate them identically in terms of effectiveness. They do, however, rate email, SMS, the telephone and door-to-door channels as being significantly less effective than all other media. When there is divergence between the channels that senders think receivers prefer and what receivers themselves prefer, the downstream predicted purchase intentions are lower for message recipients. This finding for marketing communications is consistent with previous theoretical and empirical work for general communications (Westmyer, DiCioccio and Rubin 1998; Flanagin and Metzger 2001). In sum, our findings for marketing communications are aligned with theoretical frameworks for general

communications, namely, communications are more effective when senders transmit their message via channels and with attributes that receivers prefer (see also Rice, D'Ambra and More 1998). The upshot is that senders need to be cognizant of receivers' preferences and adjust their message and model of delivery accordingly.

From a marketing practice standpoint, no one is in any doubt that the internet has changed and will continue to change the way that marketing is conducted. Indeed, the rise of the internet and other digital delivery channels is the main motivation for our study. However, a number of issues have continued to plague the internet, such as viruses, fraud, invasion of privacy, spam and a proliferation of annoying and disruptive advertising messages. These negative perceptions have contributed to a cautious uptake of the time-saving and cost-saving features of the internet, like online bill payment and banking. Our results show a general reluctance to embrace all the possible opportunities and features available from the internet. Even though internet penetration is around 66% for many countries, these same countries still predominantly use traditional media for marketing communication and transactional mail. For example, in the U.S. internet ad spend amounts to one-eighth of that spent on television and only one-tenth of that spent on direct mail (Rossiter and Bellman 2005, p. 9). Postal mail and television are good examples of media that could potentially lose out to the internet, but our findings show that 10 years after the widespread consumer launch of the internet, traditional media have retained many of their historically favored attributes, notably trust and reliability. In contrast, the internet has been tainted by many consumers with undesirable attributes like being annoying and objectionable. Advertising communications sent by mobile phones (SMS) fare even worse than email. Hence, there is a high level of consumer conservatism, whereby more established media not only have more favorable attributes, but also are more likely to be effective in generating sales than new media like email and SMS.

Where we do see a higher level of acceptance for email as a marketing communication channel is in the business segment. Receivers of marketing communications in this segment position email alongside printed direct mail, with the positive attributes of being trustworthy, informative and acceptable. However, despite this favorable evaluation of its attributes, email is less effective than mass media and printed direct mail for enhancing purchase intentions for receivers in the business segment.

Overall, email is viewed more favorably in the business segment compared with the consumer segment, and this might be an indication of more widespread acceptance of email in the future. However, our qualitative study repeatedly found that people have different attitudes towards marketing communications in their workplace compared with their homes. The work environment emphasizes speed and efficiency, which are strongly associated with email and mobile phone communications. On the other hand, when that same person is at home he or she values tranquility, relaxation and a feeling of being in control. Digital communication is not strongly associated with these attributes. As one manager said in a depth interview, “We all know that email is delivered instantly, the medium itself is about speed and timeliness. Messages sent by email, therefore, automatically attain the status of urgent, even if they are not urgent”. The manager went to say that “When I know that I can’t access my email [be it for travel or holiday reasons], my stress levels are relieved”. Hence, the preference for traditional media in the home is likely to persist, even though the internet is often favorably evaluated at work as a medium for marketing communications. Given that the vast majority of marketing communications are transmitted to consumers in their homes, it is unlikely that advertising expenditures will shift significantly into the internet/email and out of mass media and printed direct media in the near future.

Besides the contrast between business and consumer segments, our study also permits comparisons between receivers and senders of marketing communications. Looking at the

consumer market first, the attributes that senders think are important for a successful B-to-C marketing communication are that it should be informative, appropriate (i.e., properly targeted), difficult to ignore, but not annoying. They feel that receivers' purchase intentions will be raised if the communication is also difficult to reject. As it happens, none of these attributes is seen as important by consumer receivers. They prefer communications to be enjoyable, entertaining and reliable. In terms of which channels are most effective, there is more agreement between senders and receivers. The phone, email, SMS and door-to-door media all result in lower purchase intentions than mail (personal and generic), television, catalogs, radio, newspapers and magazines. B-to-C senders believe that receivers might be more receptive to the newspaper channel, but receivers place newspapers as equivalent to all other mass media in terms of effectiveness.

In the business market we also observe differences between senders and receivers. Senders generally think that a B-to-B marketing communication that is entertaining and not disruptive will be more effective. Business receivers agree that a communication should not be disruptive, but their preference is for acceptable and appropriate communications rather than entertaining ones. As we exhibit above, these differences between B-to-B senders and receivers can amount to quite large differences in downstream purchase intentions, and thereby actual purchase. A comparison of predicted purchase probabilities when senders emphasize attributes that diverge from what receivers want results in 30 to 35% lower values of purchase intention. Therefore, senders must be more attentive to receivers' preferences before delivering a marketing communication. The channel of communication is also important. While senders to the business segment often feel that newspapers and magazines are more effective, than other media, receivers do not agree. For B-to-B recipients, their purchase intentions are equivalent, and highest, for printed direct media and mass media. Email, telephone, SMS and door-to-door channels perform consistently the lowest.

Transactional mail comprises the majority of postal volume. When comparing promotional with transactional communications, we find that, in all but one case, delivery by mail is more likely to result in a favorable (higher purchase intention or on-time payment of a bill/invoice) than delivery by email or SMS. The superiority of mail over digital delivery is more marked for transactional mail. That is, the mail channel is more likely to result in a successful outcome for senders of transactional communications rather than promotional communications. The only departure from this conclusion is for receivers of transactional communications in the business segment. Here, business receivers say both mail and email are equal in terms of resulting in on-time payment. However, SMS is inferior to both mail and email for business receivers when they are delivered a bill or invoice.

It is generally believed that the adoption and use of the internet and mobile phones is more prevalent among younger people. If this is the case, it might be expected that younger people in both the consumer and business segments are more likely to act on an offer sent by email or SMS. However, we do not find this. This could be due to our target group, which is limited to those that have internet access and a mobile phone. This has the effect of capturing respondents that are ‘tech-savvy’ (about half of Australia’s population). Hence, our sample is more homogenous with respect to usage of digital technology, which is the likely reason we do not see any differences across the age range. But this makes our findings even more remarkable: if such a ‘tech-savvy’ group is so conservative in their preferences of media for marketing communications, favoring mass media and printed direct media, the likelihood is that the general population is even more conservative in their tastes.

Lastly, receivers in the consumer segment are less likely to act on an offer from a particular channel if there is already a lot of material sent to them via that channel. For example, if they already receive lots of email, then an offer made by email is less likely to result in a positive outcome. This is akin to negative feelings reported previously for

advertising clutter on television and the internet (Lafayette 2004; Dreze and Hussherr 2003; Schlosser et al 1999). Senders of marketing communications via digital channels, where costs are lower, might be tempted to send more frequent communications. Clearly, this is likely to have a downstream negative impact on the effectiveness of marketing communications, as our results already demonstrate. By contrast, receivers in the business segment are more likely to act on an offer if they already receive higher volumes from that channel. This could be interpreted as meaning that a business receiver does not see additional offers sent to them via high-activity channels as an impediment to consideration and action on future offers. Perhaps they have come to trust and become comfortable with channels where there is already quite a lot of business communication. No doubt, there will be a threshold to such acceptance, so senders still need to be cautious about overusing one particular communication channel.

Although our study is comprehensive, it is not without its limitations. First, we study just one country, Australia. Replication of our research in other markets would enable us to generalize the results further, although we suggest that Australia is a very typical Western market. Second, our measure of marketing communication effectiveness hinges on purchase intentions. While there is a strong tradition of using purchase intentions as an effectiveness variable in the marketing literature (Rossiter and Bellman 2005), the link to actual purchase behavior is not as precise as marketers would wish (Morrison 1979). Third, although we examine 11 media, there are others that we did not study, such as outdoor advertising and marketer-initiated word-of-mouth, or 'buzz', which is often very influential for purchase decisions (Foley et al 2005).

Despite these limitations, our study has nonetheless provided a good starting point for research on marketing channel evaluation and effectiveness at a time when this is a key issue for marketing communications. Future work could use choice modeling to weigh up

product/service as well as channel attributes to assess how media compare in their effectiveness. Additionally, the number of channels examined could be expanded. The contrast between business and consumer segments can be explored further to see if channel usage behavior at work might eventually shape home-based behavior.

## References

- Ansari, Asim, Skander Essegaier and Rajeev Kohli (2000), "Internet Recommendation Systems", *Journal of Marketing Research*, 37 (August), 363-375.
- Barwise, T. Patrick and John U. Farley (2005), "The State of Interactive Marketing in Seven Countries: Interactive Marketing Comes of Age", *Journal of Interactive Marketing*, 19, 3 (Summer), 67-80.
- Barwise, T. Patrick and Colin Strong (2002), "Permission-Based Mobile Advertising", *Journal of Interactive Marketing*, 16, 1 (Winter), 14-24.
- Bring, Johan (1994), "How to Standardize Regression Coefficients," *American Statistician*, 48, 3 (August) 209-213.
- Britt, Robert R. (2006), "Era Ends: Western Union Stops Sending Telegrams", [http://www.livescience.com/technology/060131\\_western\\_union.html](http://www.livescience.com/technology/060131_western_union.html) (accessed 7 February 2006)
- Computer Industry Almanac Inc. (2006), "Worldwide Internet Users Top 1 Billion in 2005: USA Reach Nearly 200M Internet Users, ", 4 January, <http://www.c-i-a.com/pr0106.htm>, accessed 2/23/2006.
- Creamer, M. (2006), "He's Not a Target, He's Your Best Sales Tool," *Advertising Age*, May 15, pp. 1, 49.
- Dreze, Xavier and Francois-Xavier Husherr (2003), "Internet Advertising: Is Anybody Watching?", *Journal of Interactive Marketing*, 17, 4 (Autumn), 8-23.
- East, Robert (2003), *The Effect of Advertising and Display: Assessing the Evidence*, Boston, MA: Kluwer Academic Press.
- Flanagin, Andrew J and Miriam J Metzger (2001), "Internet Use in the Contemporary Media Environment", *Human Communication Research*, 27, 1 (January), 153-181.
- Foley, Tim, Peter Engelberts and Geoff Wicken (2005), "Compose: The Art of Channel Planning", *Admap*, 467 (December), 3-8.
- Greenacre, M.J. (1984), *Theory and Applications of Correspondence Analysis*, London, U.K.: Academic Press.
- Harper, Richard , Venetia Evergeti, Lynne Hamill and John Strain (2002), "Paper-mail in the 21st century: an analysis of the future of paper-mail and implications for the design of electronic alternatives", <http://www.surrey.ac.uk/dwrc/Publications/index.htm>.
- Hoffman, Donna L and G.R. Franke (1986), "Correspondence Analysis: Graphical Representation of Categorical Data in Marketing Research", *Journal of Marketing Research*, 23, 213-227.

- Internet World Stats (2005) "Top 30 Countries with the Highest Internet Penetration Rate", <http://www.internetworldstats.com/top25.htm>, accessed on 2/23/2006.
- Johnson, Bradley (2006), "Connected and Craving: Teens Hungry for latest Cellphone Technology," *Advertising Age*, March 20, p. 36.
- Johnson, Steve (2003) "Could This be the Beginning of the End for Broadcast TV?", <http://entertainment.ctrcentral.com/html/modules.php?op=modload&name=News&file=article&sid=314&mode=thread&order=0&thold=0>, Chicago Tribune, 15 November, accessed on 7/4/06.
- Katz, Elihu, J.G. Blumler and M. Gurevitch (1974), "Utilization of Mass Communication by the Individual," in J.G. Blumler & E. Katz (eds.), *The Uses of Mass Communications: Current Perspectives on Gratifications Research*, Beverly Hills, CA: Sage, pp. 19-32.
- Katz, Elihu, M. Gurevitch and H. Haas (1973), "On the Use of the Mass Media for Important Things," *American Sociological Review*, 38, 164-181.
- Kleinman, Philip (2006), "Philosopher's Stone Revealed?", *Admap*, May, p. 8.
- Lafayette, Jon (2004), "Clutter on Broadcast Rises", *Television Week*, <http://www.tvweek.com/topstorys/041204clutter.html>.
- Laird, Nan M. and J.H. Ware (1982), "Random Effects Models for Longitudinal Data", *Biometrics*, 38, 963-974.
- La Monica, Paul R. (2006) "Cable Stealing Network TV's Ad Thunder", <http://money.cnn.com/2006/06/22/news/companies/cable/>, cnn.com, 22 June, accessed on 7/4/06.
- Lasswell, Harold D. (1948), "The Structure and Function of Communication in Society," in Lyman Bryson, ed., *The Communication of Ideas*, New York: Harper and Brothers, pp. 37-51.
- McLuhan, Marshall (1964), *Understanding Media; The Extensions of Man*, New York, NY: McGraw-Hill.
- Morrison, Donald G. (1979). "Purchase Intentions and Purchase Behavior", *Journal of Marketing*, 43 (Spring) 65-74.
- Pilotta, Joseph J and Don Schultz (2005), "Simultaneous Media Experience and Synesthesia", *Journal of Advertising Research*, 45, 1, 19-26.
- Rice, Ronald E., John D'Ambra and Elizabeth More (1998), "Cross-Cultural Comparison of Organizational Media Evaluation and Choice," *Journal of Communication*, Summer, 3-26.
- Rossiter, John R. and Steven Bellman (2005), *Marketing Communications: Theory and Applications*, Frenchs Forest, Australia: Pearson Prentice Hall.

- Rossiter, John R and Peter J Danaher (1998), *Advanced Media Planning*, Norwell, MA: Kluwer Academic Publishers.
- Rust, Roland T. (1986), *Advertising Media Models: A Practical Guide*. Lexington, MA: Lexington Books.
- Schlosser, A., S. Shavitt and A. Kanfer (1999), "Internet Users' Attitudes Towards Internet Advertising", *Journal of Interactive Marketing*, 13, 3, 34-54.
- Shannon, Claude E. and Warren Weaver (1949), *The Mathematical Theory of Communication*, Urbana, IL: University of Illinois Press.
- Tauder, Arthur R. (2005), "Getting Ready for the Next Generation of Marketing Communications," *Journal of Advertising Research*, 45, 1, 5-8.
- Thompson, L.L. (2001), *The Mind and Heart of the Negotiator*, 2<sup>nd</sup> ed., Upper Saddle River, NJ: Prentice Hall.
- Westmyer, Stephanie A., Rachel L. DiCioccio and Rebecca B. Rubin (1998), "Appropriateness and Effectiveness of Communication Channels in Competent Interpersonal Communication", *Journal of Communication*, Summer, 27-48.
- Zaichowsky Ruth L. (1985), "Measuring the Involvement Construct", *Journal of Consumer Research*, 12 (December), 341-351.

## Appendix A: Communication Channels for the Consumer and Business Segments

### Advertisement Communication Channels – Consumer Receivers and Senders

Respondents are asked about the first **1** (A) plus 1 of (B-D), plus a random **1** from E, F, G, H, I, J, and K:

- A: Letter personally addressed to you at home**
- B: Telephone call at home**
- C: Email to your personal email address**
- D: TV ad**
- E: Unaddressed letter (“To the Householder”) in the mail**
- F: Unaddressed catalog or brochure in the mail**
- G: SMS message**
- H: Radio ad**
- I: Newspaper ad**
- J: Magazine ad**
- K: Door-to-door salesperson**

### Advertisement Communication Channels – Business Receivers and Senders

Respondents are asked about the first **1** (A) plus 1 of (B-D), plus a random **1** from E, F, G, H, I, J, and K:

- A: Letter personally addressed to you at work**
- B: Telephone call at work**
- C: Email to a work address**
- D: TV ad**
- E: Unaddressed letter (“To the Manager”) in the work mail**
- F: Unaddressed brochure in the work mail**
- G: SMS message to work mobile**
- H: Radio ad**
- I: Newspaper ad**
- J: Magazine ad**
- K: Door-to-door salesperson at work**

## Appendix B: Media Channel Attribute Questions –Receivers in the Consumer Segment

Attribute Wording	Lower scale anchor	Upper scale anchor
How <u>easy</u> do you find it <u>to reject</u> communications received from companies in the following ways	Not at all easy to reject	Extremely easy to reject
In general, how <u>enjoyable</u> do you find communications you receive from companies in the following ways	Not at all enjoyable	Extremely enjoyable
How <u>trustworthy</u> do you consider communications you receive from companies in the following ways	Not at all trustworthy	Extremely trustworthy
In general, how <u>informative</u> do you find communications you receive from companies via...	Not at all informative	Extremely informative
How <u>convenient</u> do you consider communications you receive from companies via...	Not at all convenient	Extremely convenient
How <u>acceptable</u> to you are communications you receive from companies via...	Not at all acceptable	Extremely acceptable
In general, how <u>entertaining</u> are communications you receive from companies via...	Not at all entertaining	Extremely entertaining
How <u>reliable</u> do you consider information you receive from companies via...	Not at all reliable	Extremely reliable
How <u>appropriate</u> do you consider communications you receive from companies via...	Not at all appropriate	Extremely appropriate
Assuming you did not directly provide any personal details to a company, how <u>objectionable</u> would you find it if that company communicated with you through the following way	Not at all objectionable	Extremely objectionable
How <u>annoying</u> do you consider communications you receive from companies in the following ways	Not at all annoying	Extremely annoying
How personally <u>time-consuming</u> do you consider communications you receive from companies in the following ways	Not at all time-consuming	Extremely time-consuming
How <u>difficult to ignore</u> do you consider communications you receive from companies via...	Not at all difficult	Extremely difficult
When you receive a communication from a company, it can interrupt what you are doing at the time. How <u>disruptive</u> do you consider communications you receive from companies via...	Not at all disruptive	Extremely disruptive

## Appendix C – Product/Service Interest Questions

1. How interested would you be in this information, where 1 = not at all interested and 10 = extremely interested?
2. How relevant to you would this information be?
3. How likely would you be to keep this information at least one month for possible future reference?
4. Still thinking of the information about [INFOTYPE], how important would this information be to you?
5. How concerned would you be if you did not receive this information?

## Appendix D – Outcomes Questions

### Outcome questions for both segments (options for question 3 are given below)

1. Thinking about the communication overall, how welcome would it be to receive the letter addressed to you at home? (0=not at all welcome, 10=extremely welcome)
2. How pleasant would it be? (0=not at all pleasant, 10=extremely pleasant)
3. After receiving this information about [INFOTYPE] via a letter addressed to you at home, how likely would you be to... (0=not at all likely, 10 =extremely likely)
  - a) [INVESTIGATE]
  - b) Consider the [SOURCE] as a potential purchase option?
  - c) [ACT]

### Consumer Segment

**For Scenario 1** [INFOTYPE] = [superannuation]  
[SOURCE] = [the superannuation offer]  
[INVESTIGATE] = [look for more information about the superannuation fund]  
[ACT] = [take up the superannuation offer]

**For Scenario 2** [INFOTYPE] = [the new TV]  
[SOURCE] = [the new TV]  
[INVESTIGATE] = [visit the department store to see the new TV]  
[ACT] = [purchase the new plasma TV]

### Business Segment

**For Scenario 1** [INFOTYPE] = [the temp agency promotional offer]  
[SOURCE] = [the temp agency promotional offer]  
[INVESTIGATE] = [look for more information about the temp agency]  
[ACT] = [take up the temp agency promotional offer]

**For Scenario 2** [INFOTYPE] = [the new portable projector]  
[SOURCE] = [the new portable projector]  
[INVESTIGATE] = [visit the electronics store to see the new portable projector]  
[ACT] = [purchase the new portable projector]

## Appendix E – Channel Activity Questions

1. Approximately how many letters addressed to you at home do you receive per week? (none, 1-5, 6-10, 11-15, 15+)
2. Approximately how many hours per week do you spend on voice calls using your home phone? (none, 1-5, 6-10, 11-15, 15+)
3. Approximately how many emails do you receive per week? (none, 1-20, 21-40, 41-60, 61-80, 81-100, 100+)
4. Approximately how many hours of TV do you watch per week? (none, 1-5, , 6-10, 11-15, 15-20, 21-25, 25+)
5. Approximately how many letters addressed “To the Householder” do you receive in your home letterbox per week? (none, 1-5, 6-10, 11-15, 15+)
6. Approximately how many catalogues or brochures do you receive in your home letterbox per week? (none, 1-5, 6-10, 11-15, 15+)
7. Approximately how many SMS messages do you receive on your mobile phone per week? (none, 1-5, 6-10, 11-15, 15+)
8. Approximately how many hours of radio do you listen to per week? (none, 1-5, 6-10, 11-15, 15+)
9. Approximately how many days per week do you read the newspaper? (none, 1, 2, 3, 4, 5, 6, 7)
10. Approximately how many days per week do you read a magazine? (none, 1, 2, 3, 4, 5, 6, 7)
11. Approximately how many times per year do you talk to a door-to-door salesperson at home? (none, 1-5, 6-10, 11-15, 15+)

Table 1: Receivers and Senders Compared on Channel Attributes –Average Ratings for Consumer Segment

	Letter Addressed to You at Home		Phone Call at Home		Email to You at home address		TV ad		Letter "To the Household er"		Catalog/ Brochure		SMS		Radio ad		Newspaper ad		Magazine ad		Door-to-Door Salesperson at Home	
	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen
Sample Size	400	350	171	140	125	121	102	97	59	59	80	48	54	44	44	55	43	49	47	47	62	50
Easy_to_reject	7.6	6.1	6.3	6.0	8.2	6.9	7.7	7.0	7.8	7.6	7.9	7.9	8.3	6.4	7.5	6.2	8.2	7.2	7.7	7.4	6.1	5.6
Enjoyable	4.1	5.3	2.2	2.8	3.5	4.9	4.7	5.3	3.2	3.1	4.7	4.0	3.0	4.2	4.3	5.4	5.1	4.8	5.7	5.1	2.1	2.1
Trustworthy	4.8	6.2	3.1	4.1	3.0	4.5	4.5	5.2	3.6	3.6	4.6	4.0	3.1	4.2	4.7	5.3	5.2	5.4	4.8	5.3	3.1	3.6
Informative	5.5	6.4	3.6	4.6	4.1	5.6	5.1	5.2	4.0	4.2	5.1	4.7	2.8	3.6	4.6	5.1	5.3	5.1	5.2	5.4	4.0	4.9
Convenient	5.8	6.6	2.5	3.0	4.6	6.5	5.5	6.1	4.4	4.3	5.3	5.1	3.1	4.7	5.7	5.8	5.8	6.0	6.1	5.8	2.6	2.5
Acceptable	5.3	6.6	2.4	2.9	3.8	5.3	5.6	6.5	4.3	3.7	5.0	4.8	3.0	4.5	5.8	6.5	6.1	6.6	6.1	6.5	2.5	3.0
Entertaining	3.0	4.3	1.7	2.3	2.9	4.5	5.4	6.7	2.6	3.1	4.3	4.9	1.7	3.6	4.9	6.2	4.6	5.3	4.6	5.9	2.5	2.8
Reliable	5.2	6.5	3.4	4.0	3.3	5.0	5.1	5.7	3.8	3.7	4.8	4.8	2.8	4.0	4.9	5.9	5.3	5.4	5.2	6.0	3.4	4.2
Appropriate	4.9	6.3	2.3	3.0	3.3	5.2	5.5	6.3	3.5	3.6	4.7	4.2	2.6	3.8	5.6	5.8	5.7	6.4	6.1	6.5	2.6	3.0
Objectionable	6.4	6.1	7.1	7.5	7.0	7.0	4.4	3.9	6.1	4.1	5.0	3.9	6.1	6.6	4.4	4.1	3.7	3.0	4.4	4.0	7.0	6.8
Annoying	5.5	5.3	8.3	8.5	6.8	6.9	4.6	4.6	6.1	5.5	4.4	5.1	7.0	6.8	4.3	3.9	3.4	3.3	3.5	3.7	7.9	7.9
Time_consuming	3.9	4.3	7.1	7.5	4.5	4.8	4.0	3.2	3.6	4.3	3.5	3.4	4.6	4.5	2.2	2.6	3.1	2.6	2.3	2.3	7.4	7.6
Difficult_to_ignore	2.3	3.9	5.3	5.9	2.7	3.8	2.9	3.2	1.7	2.8	2.6	2.5	3.3	4.5	2.1	3.8	2.1	2.2	2.3	2.8	5.9	6.9
Disruptive	2.3	2.7	8.4	8.7	4.1	5.5	3.9	3.8	2.3	2.8	2.5	2.8	5.2	5.7	2.3	3.1	1.6	1.6	2.2	2.1	8.3	8.8

Table 2: Receivers and Senders Compared on Channel Attributes - Average Ratings for Business Segment

	Letter Addressed to You at Work		Phone Call at Work		Email to You at Work		TV ad		Letter "To the Manager"		Catalog/ Brochure		SMS		Radio ad		Newspaper ad		Magazine ad		Door-to-Door Salesperson at Work	
	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen	Rec	Sen
Sample Size	400	400	179	161	139	135	129	116	62	53	70	64	63	57	50	48	54	52	45	51	73	80
Easy_to_reject	6.9	6.2	4.9	4.4	7.0	6.9	7.9	6.8	6.2	6.1	7.9	6.8	6.6	6.5	7.1	7.1	8.1	7.9	8.1	7.0	6.1	5.9
Enjoyable	5.7	5.3	4.4	4.5	5.9	4.6	4.3	5.1	4.7	4.2	5.9	4.9	3.6	2.8	4.9	4.5	4.9	5.2	4.8	4.9	3.1	2.8
Trustworthy	6.4	6.3	5.4	5.6	5.3	5.1	4.6	5.1	5.0	4.7	5.8	5.4	3.7	3.5	5.0	5.2	5.2	5.4	5.2	5.4	4.5	4.4
Informative	6.3	6.2	5.5	5.8	6.2	5.7	4.6	5.1	5.1	4.7	5.6	5.8	2.8	3.2	5.0	4.6	4.7	5.1	5.0	5.3	5.0	4.9
Convenient	6.5	6.5	4.1	4.5	7.0	6.7	5.1	5.9	5.0	4.8	6.1	5.8	4.2	4.2	5.3	5.2	5.9	5.7	5.6	5.9	2.9	2.8
Acceptable	6.9	6.9	4.8	5.1	6.8	5.7	4.9	6.0	5.3	4.8	6.3	6.4	3.5	3.4	5.1	5.4	5.8	6.2	6.0	6.4	3.5	3.0
Entertaining	4.1	4.3	3.5	3.8	4.8	4.1	5.3	6.4	4.0	3.7	4.1	4.9	3.0	2.5	5.3	5.1	4.4	4.4	4.5	5.6	3.5	3.2
Reliable	6.5	6.4	5.4	5.6	5.9	5.4	4.9	5.5	5.1	4.7	5.9	5.8	3.9	3.6	5.3	5.0	5.0	5.6	5.3	5.8	4.5	4.6
Appropriate	6.7	6.8	5.0	5.3	6.4	5.2	4.6	5.5	4.9	5.0	6.0	6.4	3.2	2.7	5.1	4.8	5.4	5.9	5.3	6.1	3.8	3.2
Objectionable	5.4	5.7	6.3	6.4	5.4	6.5	4.5	4.1	5.3	5.5	4.9	4.6	6.2	6.3	4.5	4.1	3.8	2.9	3.9	3.5	6.8	6.7
Annoying	4.3	5.0	6.2	6.5	4.9	6.3	4.6	4.6	4.9	6.1	4.4	4.8	6.7	6.4	4.2	4.9	3.5	3.1	3.8	3.6	7.5	7.5
Time_consuming	4.1	4.3	6.2	6.5	4.3	4.1	3.2	3.4	4.5	4.8	3.3	4.3	3.8	4.2	2.8	3.4	2.2	2.3	3.1	3.1	7.6	7.8
Difficult_to_ignore	3.1	3.8	5.2	6.2	3.4	3.5	2.0	3.2	3.4	3.8	2.5	3.6	4.0	3.6	2.6	2.7	1.5	2.2	1.9	3.1	5.2	6.4
Disruptive	2.4	2.7	7.3	7.4	4.0	4.9	2.6	3.1	3.2	3.6	2.1	3.3	5.5	5.7	2.9	2.8	1.6	1.7	2.5	3.0	7.7	8.3

Table 3: Average Outcome Ratings for Promotion Scenarios – Receivers in the Consumer and Business Segments

	Letter Addressed to you at home/work	Phone Call at Home/work	Email to you at home/work address	TV ad	Letter "To the Householder/ Manager"	Catalog/ Brochure	SMS	Radio ad	Newspaper ad	Magazine ad	Door-to-Door Salesperson at Home/work
<b>Receivers in the Consumer Segment</b>											
Investigate	2.6	1.4	1.7	2.6	2.2	3.0	.6	3.5	3.1	3.1	1.7
Consider	2.6	1.4	1.7	2.6	2.0	2.8	.7	3.0	3.1	2.9	1.5
Act	2.1	1.2	1.7	2.3	1.9	2.3	.5	2.9	2.8	2.5	1.4
Welcome	3.7	1.4	2.4	4.2	3.0	4.2	1.1	4.8	4.1	5.1	1.8
Pleasant	3.2	1.3	2.1	3.9	3.1	3.7	1.2	4.2	3.6	4.7	1.9
Act – weighted	.16	.11	.13	.17	.15	.16	.07	.19	.19	.17	.12
<b>Receivers in the Business Segment</b>											
Investigate	3.0	1.9	2.4	3.0	2.5	3.0	1.2	3.3	2.9	3.2	2.2
Consider	3.6	2.2	2.8	3.3	2.8	3.7	1.3	3.6	3.0	3.3	2.6
Act	3.3	2.1	2.7	3.1	2.7	3.4	1.3	3.4	2.9	3.0	2.4
Welcome	4.4	2.3	3.5	4.5	3.3	4.8	2.0	4.9	4.9	4.6	3.0
Pleasant	4.2	2.4	3.3	4.5	3.2	4.4	1.7	4.7	5.0	4.6	3.1
Act – weighted	.22	.16	.19	.20	.19	.22	.11	.22	.20	.20	.17

Table 4: Outcome Regressions for Receivers in the Consumer Segment

	Outcome				
	Welcome	Pleasant	Investigate	Consider	Act
<b>Channel Attributes</b>					
Easy to reject					
Enjoyable	.096	.107	.063	.065	.061
Trustworthy					
Informative					
Convenient					
Acceptable					
Entertaining		.067	.083	.067	.095
Reliability of information				.074	.086
Appropriate	.146	.152			
Objectionable	-.060	-.048			
Annoying					
Time-consuming					
Difficult to ignore					
Disruptive	-.059				
<b>Information</b>					
Interest in info			.114	.107	.106
Relevance of info					
Likely to retain info			.104	.103	.110
Importance of info	.221	.207	.272	.192	.169
Concerned if not receive	.113	.150	.184	.197	.164
Involvement with product	.061		.108	.156	.116
Current non-customer Super=0, TV=1	.567	.586		.542	.610
<b>Channel</b>					
Mail -personal	0	0	0	0	0
Phone	-.810	-.572	-.521	-.672	-.534
Email	-.649	-.415	-.600	-.551	-.284
TV					
Unaddressed letter					
Unaddressed catalog			.464		
SMS	-1.427	-.835	-1.047	-1.090	-1.028
Radio					
Newspaper					
Magazine	.958	1.021			
Door-to-door	-.727			-.807	-.506
<b>Demographics</b>					
<25	0	0	0	0	0
25-44					
45-64					
65+					
Female (Y/N)					
College Educated	-.367				
Present Channel activity					-.079
-2*Log-likelihood	5021.9	4772.6	4638.2	4559.5	4435.7
No. Parameters	44	44	44	44	44
$\sigma_i^2$	.585	.905	1.098	1.094	1.457
$\sigma^2$	4.328	3.179	2.625	2.433	1.966

Table 5: Outcome Regressions for Senders to the Consumer Segment

	Outcome				
	Welcome	Pleasant	Investigate	Consider	Act
<b>Channel Attributes</b>					
Easy to reject					-.039
Enjoyable	.080				
Trustworthy					
Informative	.129	.121	.104	.098	.082
Convenient					
Acceptable					
Entertaining		.088			
Reliability of information					
Appropriate		.094	.112	.092	.076
Objectionable					
Annoying	-.117	-.110	-.079	-.073	-.105
Time-consuming					
Difficult to ignore			.049	.055	.041
Disruptive	-.070				
<b>Information</b>					
Interest in info		.149	.176	.115	.129
Relevance of info					
Likely to retain info	.078	.075	.128	.098	.107
Importance of info					
Concerned if not receive					.082
Involvement with product	.079		.109	.128	.109
Current non-customer Super=0, TV=1	-.379				
<b>Channel</b>					
Mail -personal	0	0	0	0	0
Phone	-1.104	-1.052	-.912	-1.137	-.784
Email	-.831	-.841	-.808	-1.054	-.789
TV		.493			
Unaddressed letter	-.624			-.0587	
Unaddressed catalog					
SMS	-1.511	-1.522	-1.842	-2.037	-1.378
Radio					
Newspaper	.930	.951	.864		.738
Magazine	.712	.735			
Door-to-door	-1.011	-.844			
<b>Demographics</b>					
<25	0	0	0	0	0
25-44		-.870			
45-64			-.322		
65+					
Female (Y/N)					
-2*Log-likelihood	4283.9	4053.0	3997.3	3905.6	3772.5
No. Parameters	39	39	39	39	39
$\sigma_i^2$	.337	.507	.534	.729	1.111
$\sigma^2$	3.828	2.840	2.649	2.278	1.733

Table 6: Outcome Regressions for Receivers in the Business Segment

	Outcome				
	Welcome	Pleasant	Investigate	Consider	Act
<b>Channel Attributes</b>					
Easy to reject	-.051	-.041			
Enjoyable					
Trustworthy					
Informative					
Convenient			.088	.072	
Acceptable	.099				.081
Entertaining		.067			
Reliability of information					
Appropriate	.118		.118	.077	.091
Objectionable					
Annoying					
Time-consuming					
Difficult to ignore					.040
Disruptive	-.132	-.138	-.059		
<b>Information</b>					
Interest in info			.154	.102	
Relevance of info			.113		
Likely to retain info	.099	.087		.161	.176
Importance of info	.198			.122	
Concerned if not receive			.139		
Involvement with product	.070	.102	.097	.123	.159
Current non-customer			-.531	-.750	-.618
Temp Agency=0, Projector=1			-.427		
<b>Channel</b>					
Mail -personal	0	0	0	0	0
Phone	-.848	-.654		-.598	-.475
Email	-.758	-.781	-.454	-.668	-.567
TV		.561			
Unaddressed letter	-.593			-.470	
Unaddressed brochure	.608				
SMS	-.836	-1.203	-.924	-1.118	-1.008
Radio	.976	.710			
Newspaper	.853	1.000			
Magazine	.756	.907	.658		
Door-to-door					
<b>Demographics</b>					
<25	0	0	0	0	0
25-44					
45-64		.319		.394	.387
65+		-2.882			
Female (Y/N)					
Present Channel activity				.088	.110
<hr/>					
-2*Log-likelihood	5044.9	4890.4	4753.5	4688.1	4509.9
No. Parameters	41	41	41	41	41
$\sigma_i^2$	.694	1.053	1.738	1.421	1.740
$\sigma^2$	3.834	3.049	2.296	2.266	1.743

Table 7: Outcome Regressions for Senders to the Business Segment

	Outcome				
	Welcome	Pleasant	Investigate	Consider	Act
<b>Channel Attributes</b>					
Easy to reject					
Enjoyable		.056			
Trustworthy					.066
Informative				.082	
Convenient					
Acceptable	.083	.079			
Entertaining	.095	.132	.087	.096	.076
Reliability of information					
Appropriate					
Objectionable					
Annoying					
Time-consuming					
Difficult to ignore					
Disruptive	-.095	-.121		-.067	-.062
<b>Information</b>					
Interest in info			.146	.166	.132
Relevance of info		.103			
Likely to retain info			.079		
Importance of info					
Concerned if not receive					
Involvement with product			.079	.075	.090
Current non-customer	-.339	-.294			-.347
Temp Agency=0, Projector=1			-.670	-.563	-.529
<b>Channel</b>					
Mail -personal	0	0	0	0	0
Phone	-.821	-.701	-.396	-.704	0
Email	-.766	-.418	-.449	-.891	-.363
TV		.614			
Unaddressed letter				-.755	
Unaddressed brochure					
SMS	-1.600	-1.453	-1.615	-1.859	-1.417
Radio	1.007	.868			
Newspaper	1.294	1.106	.921		.536
Magazine	.982	1.267	.991	.560	.672
Door-to-door	-.924				
<b>Demographics</b>					
<25	0	0	0	0	0
25-44					
45-64					
65+					
Female (Y/N)					
-2*Log-likelihood	4758.1	4506.4	4526.4	4510.1	4399.6
No. Parameters	40	40	40	40	40
$\sigma_i^2$	.381	.583	1.037	1.340	1.507
$\sigma^2$	3.514	2.616	2.412	2.230	1.925

Table 8: Average ratings for on-time bill payment by channel

Pay Mobile Bill or Invoice by Due Date		
Delivery Media	Consumer Receivers	Business Receivers
Mail	9.1	7.9
Email	7.2	7.4
SMS	6.2	3.3

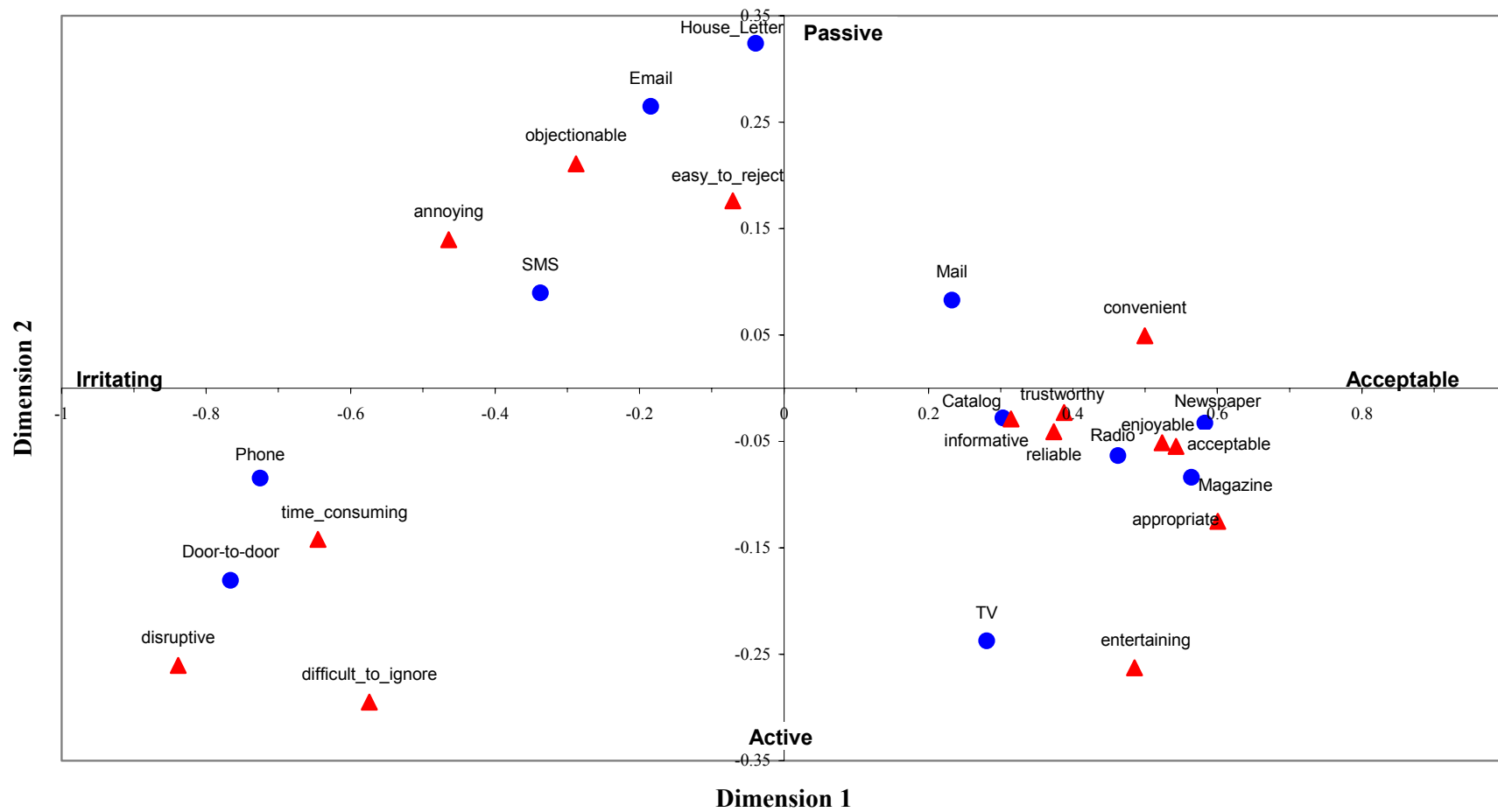
Table 9: Regression Results for the Dependent Variable: Likelihood to Pay Bill/Invoice on Time

	Pay Mobile Bill (Consumer) or Pay Catering Invoice (Business)			
	Consumer Receivers	Senders to Consumer	Business Receivers	Senders to Business
<b>Channel Attributes</b>				
Easy to reject				
Enjoyable				
Trustworthy				
Informative	.146			.138
Convenient				
Acceptability				
Entertaining	-.119			
Reliability of information	.120			
Appropriate		.128		
Objectionable				
Annoying	.137			
Time-consuming				
Difficult to ignore				.084
Disruptive	-.099	-.083		
<b>Information</b>				
Interest in info				.105
Relevance of info		.197		
Likely to retain info				
Importance of info	-.185	-.175		
Concerned if not receive				
Involvement with product	.162		.159	.109
<b>Channel</b>				
Mail -personal	0	0	0	0
Email	-1.589	-.535	0	-.544
SMS	-2.068	-1.245	-3.721	-3.438
<b>Demographics</b>				
<25	0	0	0	0
25-44				
45-64				
65+				
Female (Y/N)				
Channel usage		-		-
-2*Log-likelihood	2451.9	2007.5	2628.4	2375.1
No. Parameters	32	29	31	30
$\sigma_i^2$	.793	1.139	2.678	.814
$\sigma^2$	4.509	2.239	3.523	3.077

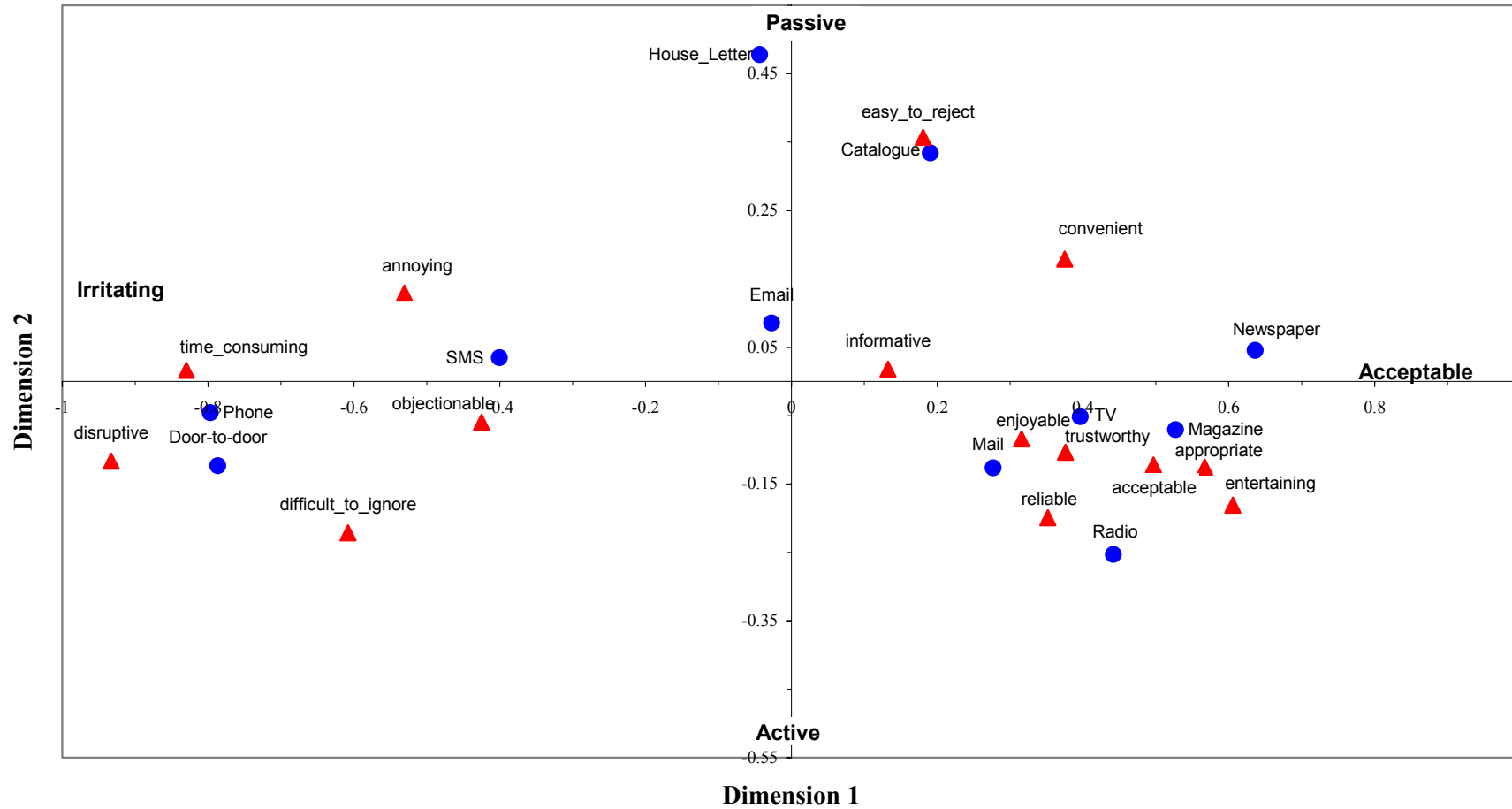
Table 10: Senders beliefs of which channels are best for different communications

	Senders to Consumers			Senders to Business		
	Promotional Comms	Branding Comms	Operational Comms – bills/invoices	Promotional Comms	Branding Comms	Operational Comms – bills/invoices
Mail	29	15	75	35	17	69
Phone	2	0	0	4	0	1
Email	16	4	20	17	5	28
Web	5	3	4	3	2	1
TV	20	41	0	14	34	0
Catalog	4	2	0	3	3	0
SMS	2	0	0	0	0	0
Radio	4	5	0	2	3	0
Newspaper	9	18	0	7	17	0
Magazine	2	6	0	5	8	0
Door-to-door	4	1	0	8	3	1
Other	5	6	1	3	7	1

Figure 1a: Perceptual Map of Communication Channels and Their Attributes - Personal Receivers



**Figure 1b: Correspondence Analysis Map of Communication Channels and Their Attributes - Senders in the Consumer Segment**



**Figure 2a: Correspondence Analysis Map of Communication Channels and Their Attributes - Business Receivers**

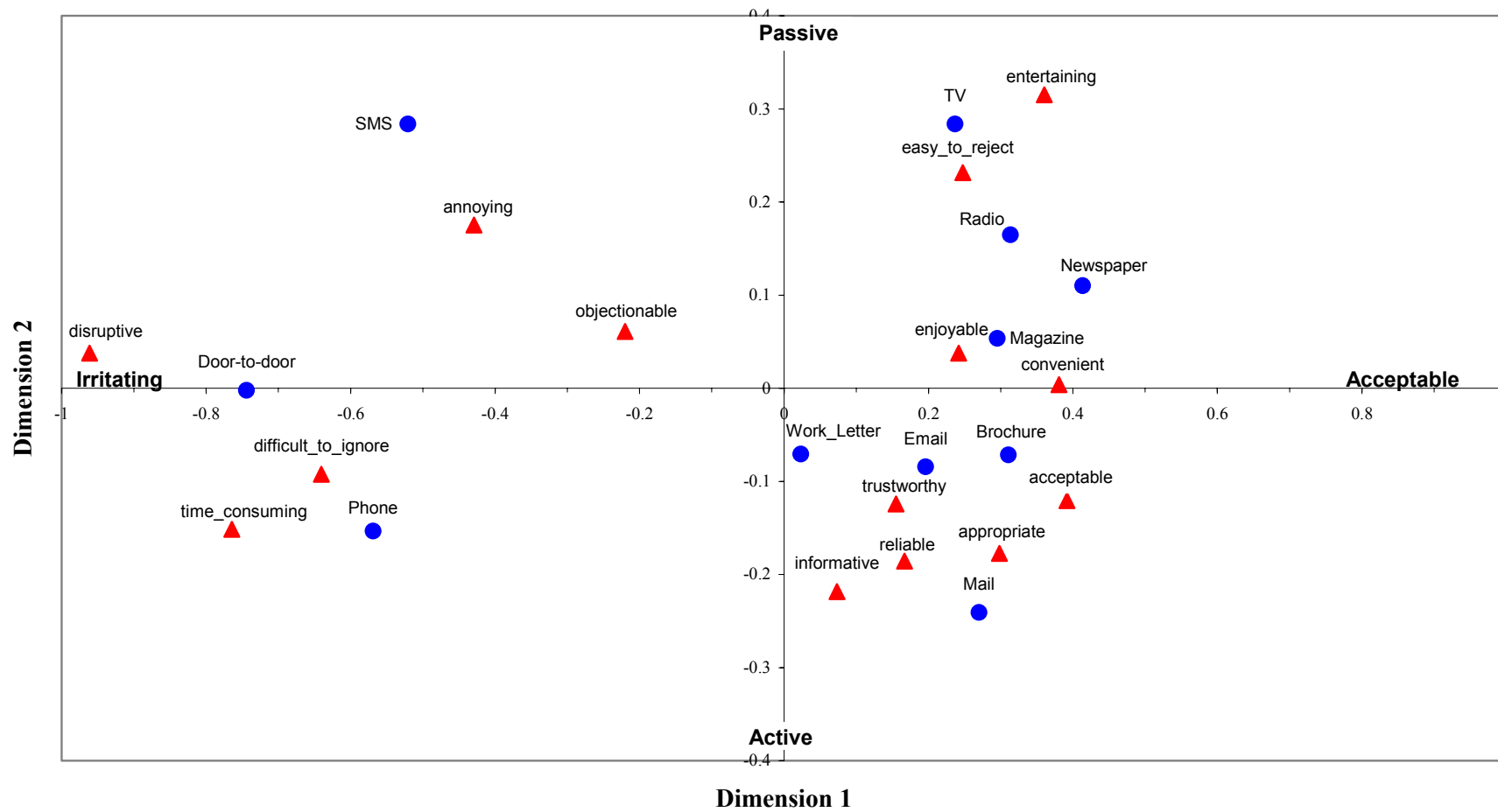
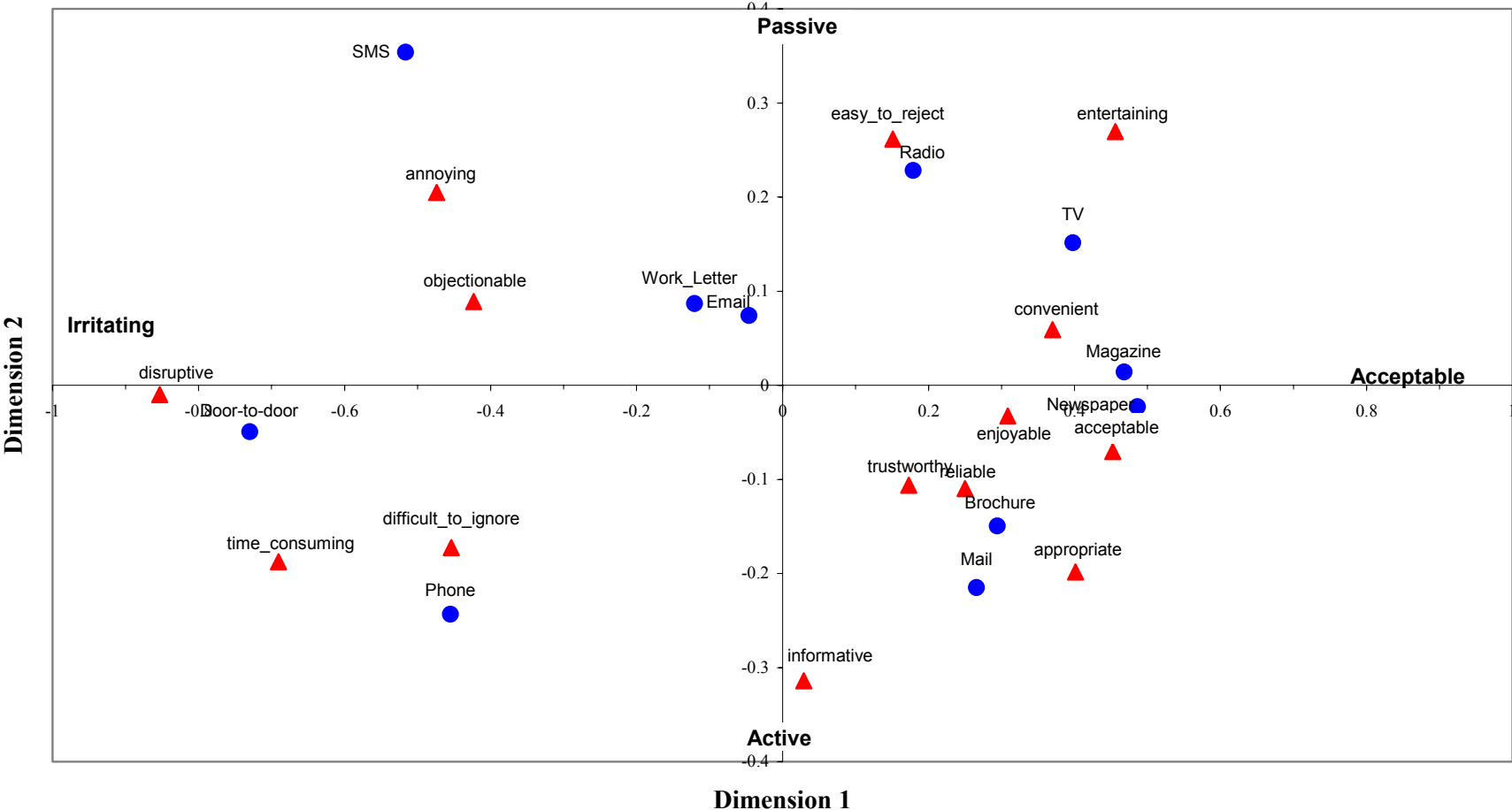


Figure 2b: Correspondence Analysis Map of Communication Channels and Their Attributes - Business Senders



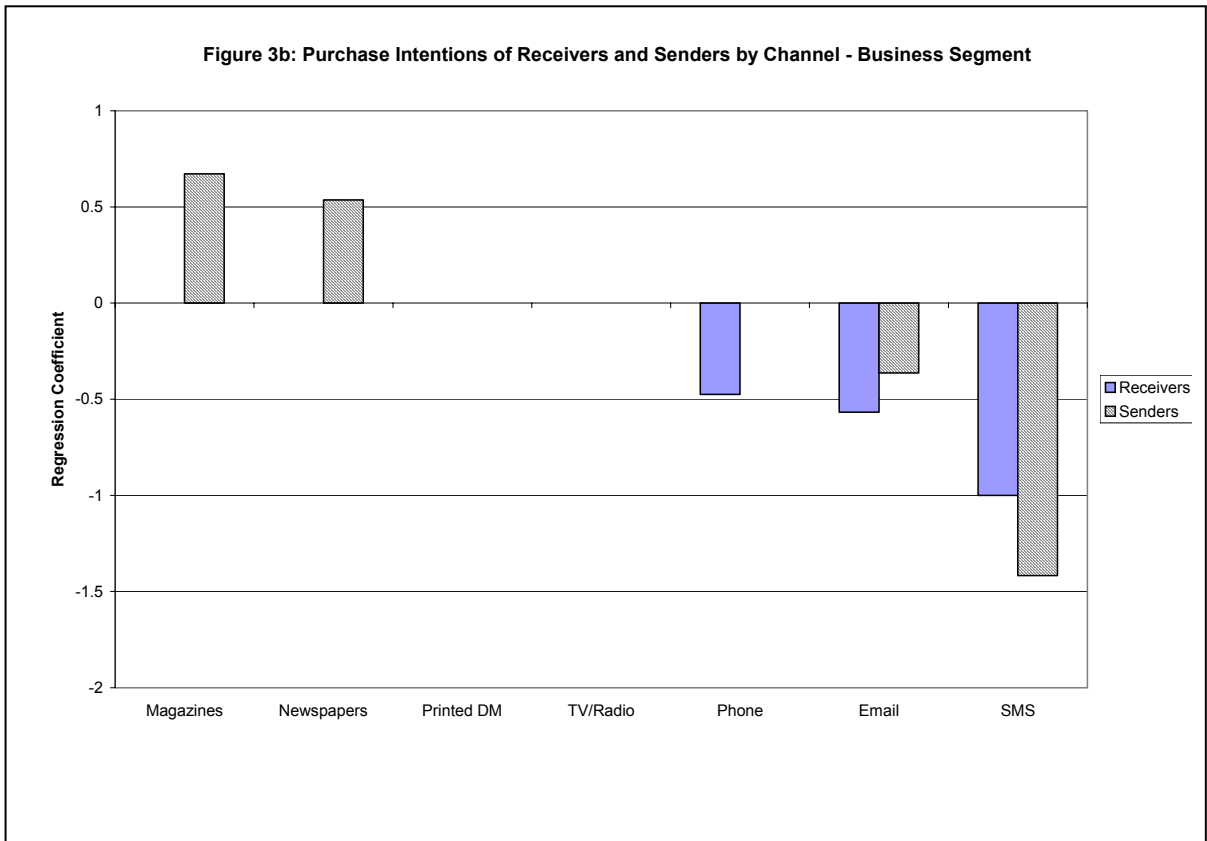
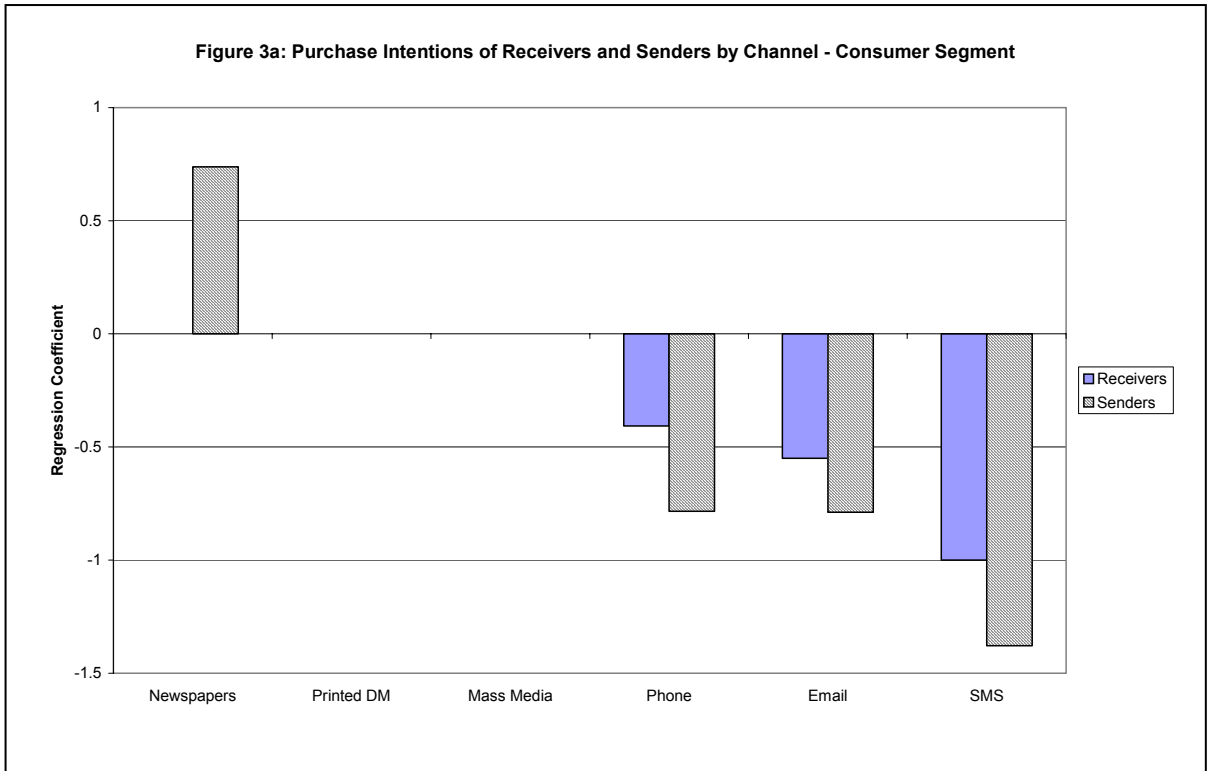


Figure 4: Pay Bill/Invoice by Due Date - comparison by Channels and Segments

