



Comparing perceptions of marketing communication channels

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Abstract

Purpose – The purpose of this study is threefold: To compare many old and new media channels in terms of a range of attributes such as perceived intrusiveness, reliability, trustworthiness, convenience, and entertainment value. To compare the perceived relative effectiveness of alternative communication channels in terms of how a marketing proposition is evaluated by recipients and thus to establish whether some channels are better than others for achieving engagement and persuasion. To additionally survey the senders of marketing communications, to examine potential differences between how senders think recipients perceive each channel and what recipients actually perceive. Moreover, it is proposed that the survey be conducted in both consumer and business markets.

Design/methodology/approach – First, in a survey, the channels are compared from the perspective of both receivers and senders of marketing communications and additionally from that of consumer and business markets. Second, by means of experimentally generated scenarios, the paper assesses the relative effectiveness of the 11 channels in eliciting responses to two typical B-to-C and two B-to-B promotion offers.

Findings – The paper finds that, although e-mail is well established and widely used, the traditional channels of television, radio, newspapers and direct mail retain their historically favored attributes of trust and reliability of information that make them still preferred by consumer recipients of marketing communications, even by “tech savvy” younger consumers who use e-mail and SMS extensively. Business receivers are more accepting of e-mail marketing communications than are consumers but, like consumers, they are more likely to act on a marketing offer if it comes through traditional mass media or mail channels.

Originality/value – The paper enables marketing managers to assess the relative benefits of a number of marketing communication channels.

Keywords Marketing communications, Multimedia, Surveys, Attitudes

Paper type Research paper

Introduction

Marketing managers in the new millennium face a wide and diverse choice of media channels through which to send marketing communications to customers. These

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include most recently and significantly the internet channel's banner ads, e-mail and blogs, and also mobile phone communications, such as text-messaging (SMS) and cell phone TV. The internet and e-mail have become an everyday part of the workplace and home lives of millions of people around the globe. Text messaging via cell phones is also increasing (Barwise and Strong, 2002). In North America, where 80 percent of people aged 18 and over own cell phones and about 70 percent of teenagers aged 13 to 17 have one, 34 percent of the older group and 54 percent 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 channels, traditional communications channels like television, mail, telemarketing, and door-to-door sales calls are expected to decline, at least to some extent. Evidence of this is already apparent for network television in the USA, where average ratings are declining and television is experiencing a reduced share of advertising revenue (La Monica, 2006). Postal mail is most directly under threat from e-mail, the fastest expanding new channel. Telemarketing, too, is facing severe competition as a marketing communication channel. In the western world there are fewer telephone marketing calls now that many US households have opted out by listing themselves on the "Do not call" register. 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. 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, is 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 cellular phone 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. The purpose of our study is threefold:

- (1) To compare many old and new media channels in terms of a range of attributes such as perceived intrusiveness, reliability, trustworthiness, convenience, and entertainment value.
- (2) To compare the perceived relative effectiveness of alternative communication channels in terms of how a marketing proposition is evaluated by recipients and thus to establish whether some channels are better than others for achieving engagement and persuasion.
- (3) To additionally survey the senders of marketing communications, to examine potential differences between how senders think recipients perceive each channel and what recipients actually perceive. Moreover, the survey is conducted in both consumer and business markets.

In overview, our study has two main parts. The first is a survey of managers and consumers to document and compare the advantages and disadvantages of 11 traditional and new marketing communication channels[1]: personally addressed mail, generically addressed mail, catalogs, e-mail, telephone, SMS to a cell phone, television,

newspapers, magazines, radio and door-to-door sales visits. The survey covers the use of these 11 channels for both business-to-business (B-to-B) and business-to-consumer (B-to-C) messages. The second part of our study is a scenario-based experiment that tests the perceived effectiveness of two typical marketing offers as delivered via these 11 channels, to consumers and business customers.

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 summarize conclusions, discuss limitations of our study, and provide directions for future research.

Theoretical models of communication

The key features of this study are comparisons of:

- media channel attributes;
- media relative effectiveness; and
- sender and receiver perceptions of media communication channels.

While no single theoretical model covers all of these issues, there are relevant theoretical frameworks germane to each of these separate issues, respectively, being uses and gratification theory (Katz *et al.*, 1973), integrated marketing Communication (Kitchen and Schultz, 1999) and communication theory (Lasswell, 1948). These theories are now discussed in order.

In the communications literature there have been several studies of the attributes of alternative media or channels best suited for particular communication purposes, with the attributes selected in accordance with “uses and gratifications” theory (Katz *et al.*, 1973; Nysveen *et al.*, 2005). This theory posits that communication receivers have needs, such as requirements for information, knowledge, and understanding. These needs, can be met by different communication channels, to a varying extent. For instance, the print media are often seen to be more information-rich than television, while television is more entertaining. Katz *et al.* (1973) decompose several communication channels into a list of attributes and rank them 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. That is, there has been no comprehensive theoretical study of channels for marketing communications, and no study of channel attributes, that are important to senders and receivers. 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 uses and gratifications theory, we compare the channels in terms of a list of attributes, covering why senders use them and what receivers get from them.

A major part of our study compares the relative effectiveness of many media, so a natural theoretical framework is integrated marketing communication (IMC). IMC synthesizes elements of the communication mix so that the strengths of one channel are used to offset the weaknesses of others; that is, synergy between different communication channels is created to put forward a single unified position (Kitchen and Schultz, 1999). IMC begins with the customer and looks for the most appropriate

and effective combination of channels through which persuasive programs can be used to build relationships with customers and other stakeholders (Kitchen *et al.*, 2004).

The concept of synergy in marketing communications refers to the coordination of messages for delivering more impact (Schultz, 1993). This impact is a result of the consumer receiving a consistent message from a variety of advertising channels (Wang, 2006). To provide such a consistent message, firms need to understand how consumers perceive the breadth of available communication channels. Several studies have dealt with synergy in traditional advertising media (e.g. Edell and Keller, 1989; Naik and Raman, 2003) and synergy between traditional media and the internet (Chang and Thorson, 2004; Dijkstra *et al.*, 2005). However, no study comprehensively examines all the key media channels, and none examine perceptions of both senders and receivers on the relative effectiveness of these channels. This is one of the objectives of the second part of our study, which tests the perceived effectiveness of typical marketing communication offers as delivered by 11 different channels. An important trend in IMC is the movement away from assuming that media exposure equates to advertising effectiveness, to considering the role of media engagement and persuasion on effectiveness (Bezjian-Avery *et al.*, 1998). Hence, we measure effectiveness in terms of engagement with the medium conveying the offer and the effect of the offer, in that medium, on persuasion.

Lastly, 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) classic definition of communication is who (source or sender), says what (message), in which channel (medium), to who (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, has indeed demonstrated, that receivers have distinct preferences for the channels, 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 *et al.*, 1998; Flanagin and Metzger, 2001), and that senders of messages, have their own preferences, for channels of communication (Rice *et al.*, 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, it is important to find out whether media divergence is less effective than the theoretically recommended practice of media matching. We test this in the second part of our study, where both the receiver and sender measures of effectiveness are compared.

Methodology

Design overview

As a precursor to the main part of our study, we undertook an extensive exploratory qualitative phase that included eight focus groups and 32 in depth interviews[2]. This

was followed by a large-scale survey of 1,550 people 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 evaluated several hypothetical marketing offers presented in a particular channel, and rated their purchase intention for the product or service offered.

Survey design

Consumer and business markets. Marketing communications are delivered both to consumers in their homes and business people in their workplace. The channel choices in the consumer and business markets are often very different, with broadcast ads being more commonly used for consumers and print ads more popular for business people. Due to the distinctiveness of the two markets and their likely differing preferences for marketing communication channels, we survey the consumer and business markets separately.

For our survey, we wanted respondents who were reasonably knowledgeable and experienced with both old and new channels. We therefore restricted the survey coverage to a population that was familiar with the internet, and cellular phones for either business or home use. The 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 cell phone. The survey work was conducted throughout Australia, where the proportion of the population fulfilling these criteria is 48 percent. Not surprisingly, the respondents surveyed were younger than the general population of Australia aged 18 or more; the average age of respondents in our survey is 43 compared with 47 from the national census.

Communication channels. Marketing communications can be delivered in many ways, ranging from non-personal mass advertising media of TV, radio, magazines, and newspapers, to the more personalized media of catalogs, direct mail (personally and generically addressed). More recently there is e-mail[3] and SMS, and finally we have personal selling direct-marketing channels of door-to-door visits and telemarketing. In this study, we restrict ourselves to these 11 channels, the same for both markets, as they comprise the bulk of marketing communication activity and expenditure.

Querying respondents about each of 11 channels is impossible due to the length of the telephone interview and the repetitive nature of the questioning, resulting in possible respondent fatigue and irritation. We initially piloted the survey with six randomly selected channels, which is too long. We therefore reduced the number of channels per respondent to a random selection of just three. The random selection was stratified so that all respondents answered questions for the personally addressed postal mail channel. Following this, a random selection was made from one of three large marketing communication channels: telephone, e-mail, and television. Lastly, one channel was randomly chosen from the remaining seven channels, which are an unaddressed letter "To the householder" in the mail, an unaddressed catalog or brochure in the mail, an SMS text message, a radio, newspaper, or magazine advertisement, and a door-to-door sales visit. Business receivers had slight changes to the wording of some channels to reflect the different delivery environment (the exact wording of the communication channels for both the consumer and business markets is given in Appendix 1).

Channel attributes. Communication channels differ in their trustworthiness, authenticity, and many other attributes. For instance, due to the large volume of unsolicited spam, e-mail is not as credible a channel as, say, a catalog from a retailer. Therefore, it is necessary to describe and compare communication channels in terms of a range of attributes that may influence the recipient's receptivity of marketing messages conveyed by such channels.

The qualitative phase of our study revealed many channel attributes, which we capture with a final list of 14 attributes. These attributes include intrusiveness, trustworthiness, convenience, informativeness, and entertainment value. Appendix 2 (see Table AI) provides the exact wording of the 14 questions used to gauge channel attributes for communication receivers, and also gives the scale anchor points, for each attribute. The lowest scale point is always coded as zero, while the uppermost point is always coded as ten[4].

Senders versus receivers. Senders as well as receivers of communications were interviewed (for B-to-C and B-to-B). 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 in which receivers perceive each communication channel, and what the senders of such communications think receivers perceive about each channel.

The broad structure of the questionnaire for senders was the same as for receivers, but the orientation of the questions was different. For example, for the receivers' questionnaire, respondents were asked "How reliable do you consider information you receive from companies via . . . [communication channel]?" The equivalent question for senders was "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 was 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 impact of marketing channels. Senders also use their experience from previous campaigns when making assessments about channel attributes, as is apparent in the qualitative research.

Demographic variables. It is possible that the channel evaluations depend on the demographic status of the respondent, especially for the newer channels. For consumers, the demographic variables are age, gender, education, employment status, and presence of children in the home. For business receivers, the demographic variables relate to both the respondent and the firm where they work. The personal demographic questions mostly overlap with those for consumers, with the addition of the length of time they have been in their current job. Table I gives the demographic profiles of the consumer and business receiver samples.

Experimental design

One way to test the relative effectiveness of alternative media channels is to deliver commercials via each medium and monitor their outcome. However, for the 11 media in our study, the cost of doing this is prohibitive. Running even just a television advertising campaign in Australia would cost over \$2 million, let alone the cost across all media, making such a method infeasible. Instead, we designed a scenario-based experiment to assess the relative effectiveness of the 11 marketing communication channels.

	Consumer (%)	Market	Business (%)
<i>Age</i>			
18-25	8.3		4.0
25-44	42.5		55.3
45-64	41.7		40.0
65 +	7.5		0.8
<i>Gender</i>			
Male	33.0		77.5
Female	67.0		22.5
<i>Education</i>			
High school	36.3		19.6
Trade	23.7		23.2
College	40.0		57.2
<i>Employment status</i>			
Part time	18.1		–
Full time	53.7		–
Not employed	28.2		–
<i>Children</i>			
No	46.1		–
Yes	53.9		–
<i>Employment duration</i>			
< one year	–		9.8
One to two years	–		13.8
Three to six years	–		28.5
Seven to ten years	–		17.3
> ten years	–		30.6

Table I.
Demographic profile of
consumer and business
receivers

Experimentally generated scenarios are now a well-established marketing research methodology (see, e.g. Smith *et al.*, 1999; Homburg *et al.*, 2005). We believe this approach to be sufficiently valid to assess the relative perceived effectiveness of a marketing offer in a between-channels experiment, while not, of course, being able to measure absolute in-market response rates. Such response rates are very low (typically about 1 percent for direct mail and fractions of a percent for e-mail) and our scenario-based experiment has the additional advantage of measuring engagement and purchase intentions among all survey participants, not just among those who respond to a marketplace offer. Moreover, Homburg *et al.* (2005) find good agreement between the results from a scenario-based experiment and a separate study of actual behavior, demonstrating reasonable validity for the scenario-based method. Later, we demonstrate validity of this method for communication senders in our experiment.

In the experiment, we created two credible hypothetical sales propositions, both of which might reasonably be promoted through any of the 11 channels. The first was a superannuation fund[5] (membership in a superannuation fund is very common in Australia), and the second was a plasma, high-definition, wide-screen, television set. The exact wording of these two sales scenarios is given in the following.

Scenario 1a: Superannuation Fund

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 percent per annum.

Scenario 2a: Plasma TV

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 (105 cm) wide and capable of displaying high-definition images.

Survey respondents were randomly assigned to one of the two product offer scenarios.

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

Customer/non-customer status for Scenario 1a – consumers

[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/non-customer status for Scenario 2a – consumers

[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 non-customers are most frequently sought by advertisers of these infrequently purchased services, and products, we arranged the random assignment of customer/non-customer status so that three-quarters of respondents were allocated to be non-customers. The wording of these scenarios was altered appropriately for each of the 11 channels.

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

Scenario 1b: temp agency

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

Scenario 2b: portable projector

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

Customer/non-customer status for Scenario 1b – business people

[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/non-customer status for scenario 2b – business people

[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, it is expected that a respondent's purchase intention depends 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 his or her 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, and the importance of the information. All of these questions were answered on a scale of 0 to 10 (see Appendix 3). Cronbach alpha values for these three items are above 0.9 for all four surveys, so we averaged the three ratings to create a composite measure of information importance.

Many studies in consumer behavior have demonstrated the importance of product involvement as a moderator of purchase likelihood, so we also included three questions from the involvement scale developed by Zaichkowsky (1985). For the superannuation fund, respondents were asked "Choosing a superannuation fund is:

- important to you;
- a decision you are really interested in; and
- 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 the answers to these three questions, we created a single involvement measure, which is the average of the three ratings.

Outcome measures. The perceived effectiveness of the marketing communications presented in the experimental scenarios was assessed with two outcome measures: engagement and persuasion. These correspond to McGuire's (1968) classic communication response stages of reception and yielding. Engagement with ads has

been adopted by the US Advertising Research Foundation as the new way forward in media planning (White, 2005) and here we measured engagement with ratings of how welcome and pleasant it is to receive the offer via a particular channel. Persuasion was measured by purchase intention[6]. Appendix 4 gives the wording of the outcome measures for the consumer and business markets.

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 messages already received through each of the media channels. For instance, a person who already receives 100 e-mails a day, many of which are sales offers, may be less inclined to pay attention or consider any particular offer compared with someone who receives just five e-mails a day. The same is true of all the channels. Therefore, we asked respondents about their levels of activity for the three channels allocated to them. Appendix 5 gives the details.

Senders versus receivers. Senders were also asked about the same hypothetical product or service offering scenarios as for receivers, but, as for channel attributes, this time the answering perspective was the anticipated recipient's reaction as perceived by the manager who is sending the offer. As for receivers, senders were assigned to the mail channel, a random choice of one of telephone, e-mail, and a TV ad, plus a random allocation of one of the remaining seven channels. Hence, each sender was also questioned about just three channels.

The outcome questions parallel those of receivers, but, again, senders were asked how likely the recipient of the product or service would be to find the arrival of the offer via that channel welcome and pleasant (engagement), and then act on the offer (persuasion).

Regression model. The main purpose of the designed experiment is to assess the relative impact of the channel attributes, information importance, product or service involvement, type of offer, customer status, channel type, personal and organizational demographics, and channel activity on marketing communication outcomes. Multiple regression, is an appropriate method for achieving this objective[7].

Since there are 11 communication channels in total, but respondents are queried on just three of them, it is inefficient to regress the outcome variables on each channel separately due to the small sample sizes for some of the channels (especially channels E through K in Appendix 1). 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 were 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, were different for each person. Therefore, there are two possible sources of heterogeneity, one being the heterogeneity across individuals and the other being heterogeneity across the channels. Danaher *et al.* (2006) developed a model, which can accommodate these two sources of heterogeneity, based on a previous model by Ansari *et al.* (2000). Furthermore, in Danaher *et al.*'s, (2006) application, duration times on web sites were observed, but not everyone visited all web sites. This is analogous to our situation, where not all media channels are evaluated by each respondent. The Danaher *et al.* (2006) model applied to our setting has the functional form of:

$$y_{ij} = \alpha + \beta_1 \text{Channel_Attributes}_{ij} + \beta_2 \text{Information_Importance}_i + \beta_3 \text{Involvement}_i + \beta_4 \text{Demographics}_i + \beta_5 \text{Non - customer}_i + \beta_6 \text{Offer_Type}_i + \beta_7 \text{Channel_Activity}_{ij} + \beta_8 \text{Channel_Dummies}_j + \delta_i + \eta_j + \varepsilon_{ij},$$

where y_{ij} is the outcome evaluation for person i on channel j , $\delta_i \sim N(0, \sigma_\delta^2)$, $\eta_j \sim N(0, \sigma_\eta^2)$ and $\varepsilon_{ij} \sim N(0, \sigma^2)$ and δ_i and η_j terms are random effects that allow for possible heterogeneity across people (δ_i) and across channels (η_j). Such individual-level heterogeneity, as would be expected, induces a correlation in the evaluations across channels for the same person (Laird and Ware, 1982). For instance, $\text{corr}(y_{ij}, y_{ij'}) = \sigma_\delta^2 / (\sigma_\delta^2 + \sigma^2)$, 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 covariates for channel attributes, information importance, and channel activity are as listed, respectively, in Appendices 2, 3, and 5. The customer covariate is binary coded based on the random assignment, with 1 being a current customer and 0 a current non-customer. The offer-type variable is coded as 0 for the superannuation fund and 1 for the plasma TV in the consumer market, and 0 for the temp agency and 1 for the projector in the business market[8]. 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 the survey and experiment. There are four sample groups in the study comprising receivers and senders in both the consumer and business markets. Each of these groups has a sample size of 400 respondents in the survey, except for senders in the consumer market[9], where the sample size is 350. Those responding to the survey on channel attributes are also asked to evaluate the hypothetical communication scenarios.

Random-digit dialing was used to contact receivers in the consumer market, while Dun and Bradstreet lists were used as the sampling frame for receivers in the business market and both sender groups. A cash incentive of \$50 (about \$40 in US currency) was offered to business receivers, but not to 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, was generally good, ranging from 38 to 46 percent. As mentioned previously, only people aged over 18 with daily internet access, and a cell phone were eligible for the surveys.

Results

Comparison of channel attributes

Channel ratings in the consumer market. The average ratings on the 0 to 10 scale for each attribute and channel in the consumer market are given in Table II. Receivers' and senders' ratings are adjacent. When determining whether a receiver versus sender comparison is statistically significantly different, the varying sample sizes should be borne in mind, but as an approximate guide, ratings that differ by at least one rating point are significantly different at the 5 percent level. For example, receivers of e-mail communications sent to them at home rate its ease of rejection as 8.2, while the rating

	Sample size	Easy-to- reject	Enjoyable	Trustworthy	Informative	Convenient	Acceptable	Entertaining	Reliable	Appropriate	Objectionable	Annoying	Time-consuming	Difficult-to- ignore	Disruptive
Letter addressed to you at home	Rec	400	7.6	4.1	4.8	5.5	5.3	3	5.2	4.9	6.4	5.5	3.9	2.3	2.3
	Sen	350	6.1	5.3	6.2	6.4	6.6	4.3	6.5	6.3	6.1	5.3	4.3	3.9	2.7
Letter "to the householder"	Rec	59	7.8	3.2	3.6	4	4.3	2.6	3.8	3.5	6.1	6.1	3.6	1.7	2.3
	Sen	59	7.6	3.1	3.6	4.2	3.7	3.1	3.7	3.6	4.1	5.5	4.3	2.8	2.8
Catalog/brochure	Rec	80	7.9	4.7	4.6	5.1	5	4.3	4.8	4.7	5	4.4	3.5	2.6	2.5
	Sen	48	7.9	4	4	4.7	4.8	4.9	4.8	4.2	3.9	5.1	3.4	2.5	2.8
E-mail to you at home address	Rec	125	8.2	3.5	3	4.1	3.8	2.9	3.3	3.3	7	6.8	4.5	2.7	4.1
	Sen	121	6.9	4.9	4.5	5.6	5.3	4.5	5	5.2	7	6.9	4.8	3.8	5.5
Phone call at home	Rec	171	6.3	2.2	3.1	3.6	2.5	1.7	3.4	2.3	7.1	8.3	7.1	5.3	8.4
	Sen	140	6	2.8	4.1	4.6	3	2.3	4	3	7.5	8.5	7.5	5.9	8.7
SMS	Rec	54	8.3	3	3.1	2.8	3.1	1.7	2.8	2.6	6.1	7	4.6	3.3	5.2
	Sen	44	6.4	4.2	4.2	3.6	4.7	3.6	4	3.8	6.6	6.8	4.5	4.5	5.7
TV ad	Rec	102	7.7	4.7	4.5	5.1	5.6	5.4	5.1	5.5	4.4	4.6	4	2.9	3.9
	Sen	97	7	5.3	5.2	5.2	6.1	6.7	5.7	6.3	3.9	4.6	3.2	3.2	3.8
Radio ad	Rec	44	7.5	4.3	4.7	4.6	5.8	4.9	4.9	5.6	4.4	4.3	2.2	2.1	2.3
	Sen	55	6.2	5.4	5.3	5.1	5.8	6.2	5.9	5.8	4.1	3.9	2.6	3.8	3.1
Newspaper ad	Rec	43	8.2	5.1	5.2	5.3	5.8	4.6	5.3	5.7	3.7	3.4	3.1	2.1	1.6
	Sen	49	7.2	4.8	5.4	5.1	6.6	5.3	5.4	6.4	3	3.3	2.6	2.2	1.6
Magazine ad	Rec	47	7.7	5.7	4.8	5.2	6.1	4.6	5.2	6.1	4.4	3.5	2.3	2.3	2.2
	Sen	47	7.4	5.1	5.3	5.4	5.8	5.9	6	6.5	4	3.7	2.3	2.8	2.1
Door-to-door salesperson at home	Rec	62	6.1	2.1	3.1	4	2.6	2.5	3.4	2.6	7	7.9	7.4	5.9	8.3
	Sen	50	5.6	2.1	3.6	4.9	2.5	2.8	4.2	3	6.8	7.9	7.6	6.9	8.8

Table II. Receivers and senders compared on channel attributes – average ratings in the consumer market

for senders is significantly lower, at 6.9. Since receivers think that e-mail is easier to reject than senders do, senders may be too optimistic about how much engagement is achieved by communications sent by e-mail. Similarly, senders believe that e-mail, is more trustworthy, than receivers do. In contrast, looking at attributes across different media, among receivers, personal mail communications are rated significantly more trustworthy and reliable than phone calls and e-mail.

Channel ratings in the business market. Table III gives the corresponding results in the business market. A finding of note is that among business receivers, e-mail compares very well with the other channels on the attributes of being convenient, acceptable, and appropriate. Senders, surprisingly, rate e-mail more negatively than receivers do; that is, business receivers view e-mail in a positive light, but senders are more cautious. This contrasts sharply with the finding among consumer receivers, who do not evaluate e-mail marketing communications favorably. A likely explanation for this difference between markets is that in a workplace setting, e-mail is quick and efficient and people are concentrating on their work and are more accommodating of many e-mail messages, be they internal to their firm or external in the form of a marketing communication. However, in a residential setting, consumers in the qualitative study often say they want to relax in their home and not be bombarded with non-personal e-mails. That is, e-mail is usually associated with work pressure and so is not as welcome in a home setting, whereas 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 channels and their attributes

The information in Tables I and II is somewhat 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 close together on the graph, are closely associated by respondents. Since respondents evaluate only three of the 11 possible channels, we use aggregate, rather than individual-level, data. 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 × 14 crosstabulation.

Correspondence analysis of channels in the consumer market. The correspondence analysis maps for receivers and senders in the consumer market are shown in Figures 1 and 2. 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 e-mail, and channels that are enjoyable, informative, trustworthy and entertaining, such as catalogs, radio, newspaper, and television. Consumers find personally addressed mail and catalogs to be informative, reliable, and trustworthy. In contrast, they rate e-mail and generic letters addressed "To the householder" as objectionable and easy to reject.

Senders of B-to-C marketing communications generally agree with receivers about the negative attributes of phone calls, door-to-door solicitations, and SMS text messages, but senders do not perceive e-mail in such a negative light as receivers do.

	Sample Size	Easy-to- reject	Enjoyable	Trustworthy	Informative	Convenient	Acceptable	Entertaining	Reliable	Appropriate	Objectionable	Annoying	Time-consuming	Difficult-to- ignore	Disruptive
Letter addressed to you at work	Rec 400	6.9	5.7	6.4	6.3	6.5	6.9	4.1	6.5	6.7	5.4	4.3	4.1	3.1	2.4
	Sen 400	6.2	5.3	6.3	6.2	6.5	6.9	4.3	6.4	6.8	5.7	5	4.3	3.8	2.7
Letter "To the manager"	Rec 62	6.2	4.7	5	5.1	5	5.3	4	5.1	4.9	5.3	4.9	4.5	3.4	3.2
	Sen 53	6.1	4.2	4.7	4.7	4.8	4.8	3.7	4.7	5	5.5	6.1	4.8	3.8	3.6
Catalog/brochure	Rec 70	7.9	5.9	5.8	5.6	6.1	6.3	4.1	5.9	6	4.9	4.4	3.3	2.5	2.1
	Sen 64	6.8	4.9	5.4	5.8	5.8	6.4	4.9	5.8	6.4	4.6	4.8	4.3	3.6	3.3
E-mail to you at work	Rec 139	7	5.9	5.3	6.2	7	6.8	4.8	5.9	6.4	5.4	4.9	4.3	3.4	4
	Sen 135	6.9	4.6	5.1	5.7	6.7	5.7	4.1	5.4	5.2	6.5	6.3	4.1	3.5	4.9
Phone call at work	Rec 179	4.9	4.4	5.4	5.5	4.1	4.8	3.5	5.4	5	6.3	6.2	6.2	5.2	7.3
	Sen 161	4.4	4.5	5.6	5.8	4.5	5.1	3.8	5.6	5.3	6.4	6.5	6.5	6.2	7.4
SMS	Rec 63	6.6	3.6	3.7	2.8	4.2	3.5	3	3.9	3.2	6.2	6.7	3.8	4	5.5
	Sen 57	6.5	2.8	3.5	3.2	4.2	3.4	2.5	3.6	2.7	6.3	6.4	4.2	3.6	5.7
TV ad	Rec 129	7.9	4.3	4.6	4.6	5.1	4.9	5.3	4.9	4.6	4.5	4.6	3.2	2	2.6
	Sen 116	6.8	5.1	5.1	5.1	5.9	6	6.4	5.5	5.5	4.1	4.6	3.4	3.2	3.1
Radio ad	Rec 50	7.1	4.9	5	5.3	5.1	5.1	5.3	5.3	5.1	4.5	4.2	2.8	2.6	2.9
	Sen 48	7.1	4.5	5.2	4.6	5.2	5.4	5.1	5	4.8	4.1	4.9	3.4	2.7	2.8
Newspaper ad	Rec 54	8.1	4.9	5.2	4.7	5.9	5.8	4.4	5	5.4	3.8	3.5	2.2	1.5	1.6
	Sen 52	7.9	5.2	5.4	5.1	5.7	6.2	4.4	5.6	5.9	2.9	3.1	2.3	2.2	1.7
Magazine ad	Rec 45	8.1	4.8	5.2	5	5.6	6	4.5	5.3	5.3	3.9	3.8	3.1	1.9	2.5
	Sen 51	7	4.9	5.4	5.3	5.9	6.4	5.6	5.8	6.1	3.5	3.6	3.1	3.1	3
Door-to-door salesperson at work	Rec 73	6.1	3.1	4.5	5	2.9	3.5	3.5	4.5	3.8	6.8	7.5	7.6	5.2	7.7
	Sen 80	5.9	2.8	4.4	4.9	2.8	3	3.2	4.6	3.2	6.7	7.5	7.8	6.4	8.3

Table III. Receivers and senders compared on channel attributes - average ratings in the business market

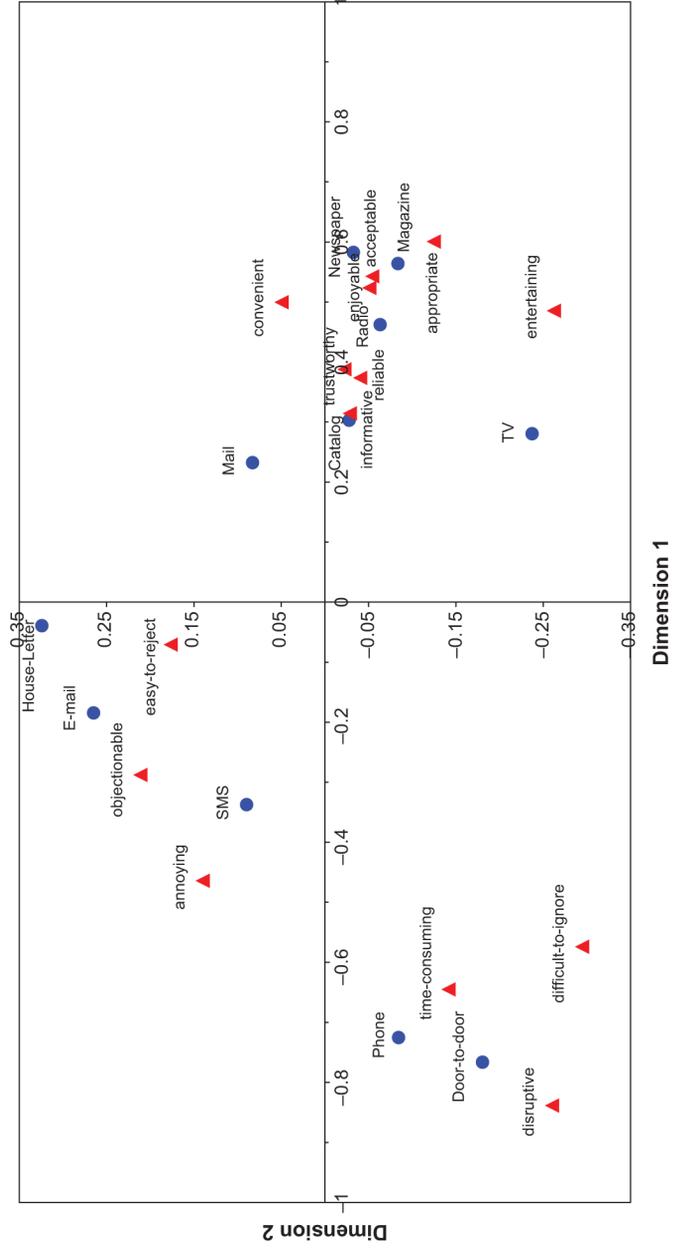


Figure 1.
Perceptual map of
communication channels
and their attributes –
consumer receivers

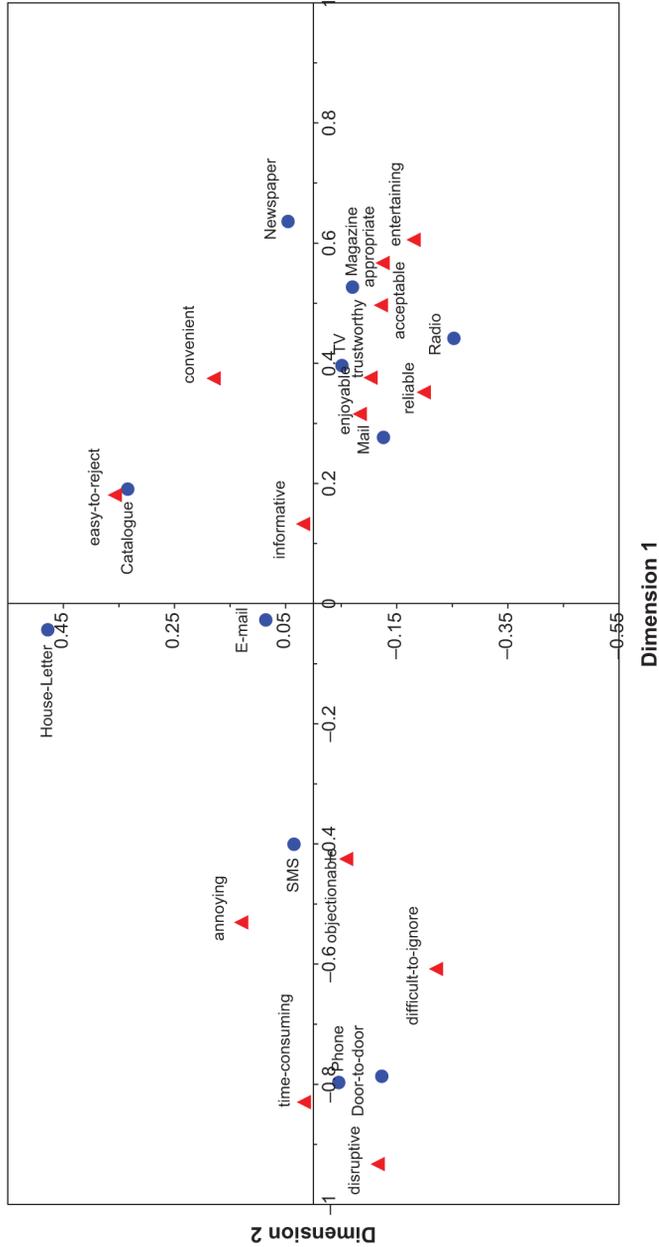


Figure 2. Correspondence analysis map of communication channels and their attributes – senders to the consumer market

B-to-C 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, whereas consumer 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.

Correspondence analysis of channels in the business market. The correspondence analysis maps for the business market (B-to-B) are depicted in Figures 3 and 4. B-to-B senders and receivers associate door-to-door salespeople, phone calls, and SMS with negative attributes. A notable difference between receivers, and senders is that business receivers, rate e-mail much more positively than do senders. Business receivers rate e-mail as being trustworthy and reliable. Indeed, e-mail for business receivers is placed in near proximity to the printed media, of mail, brochures, magazines, and newspapers. B-to-B senders, in contrast, position e-mail (and generic letters sent "To the manager" at work) as objectionable and annoying. This mismatch of the e-mail channel as a medium for marketing communications to business people 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[10].

Experiment findings

The results reported so far have been limited to descriptive statistics of how the marketing communication channels compare on attributes such as being entertaining, trustworthy, informative, and convenient. Our study is also designed to provide insight into how the channels compare with regard to promotional offer effectiveness. We now report findings from the experiment in which respondents were assigned to hypothetical promotional scenarios for three different channels. We first report the average ratings on engagement and persuasion 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 channel influence the perceived effectiveness of marketing offers in those channels.

Outcome measures across channels. The average ratings for the outcome measures of engagement and purchase intention, for receivers[11] in the consumer and business markets are shown in Table IV. Recall that the scale for each of these variables is 0 to 10, so it can be seen immediately that the mean ratings are towards the lower end of the scale. Despite the absolute low scores, there are considerable relative differences across channels.

For receivers of marketing offers in the consumer market, several groupings of scores emerge. The highest purchase intention scores are for a group of mass media channels (radio, magazines, and newspapers). The second highest scores are for a grouping of print direct mail (catalogs, personally addressed mail, and generic mail) and television. The group with the lowest scores consists of the digital and telephone channels (phone, e-mail, and SMS) and door-to-door sales calls.

For receivers of marketing offers in the business market, the top group of purchase intention scores is not for mass media channels, with the interesting exception of radio, but for print direct mail (catalogs or brochures and personally addressed letters). The

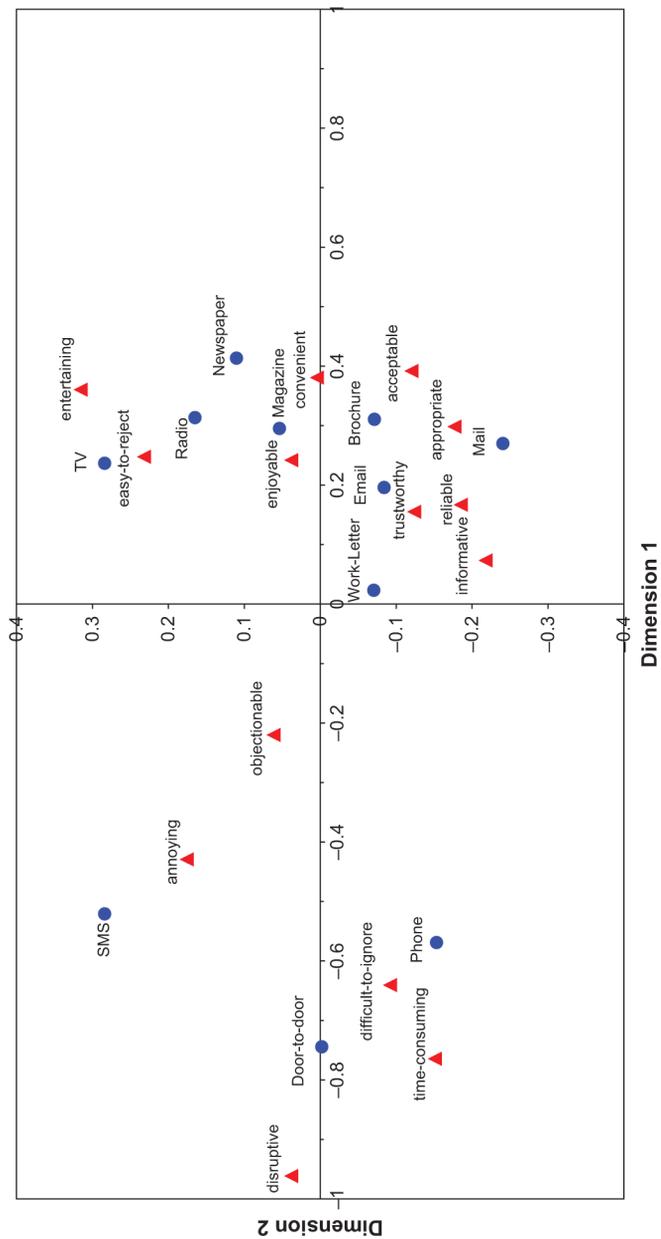


Figure 3. Correspondence analysis map of communication channels and their attributes – business receivers

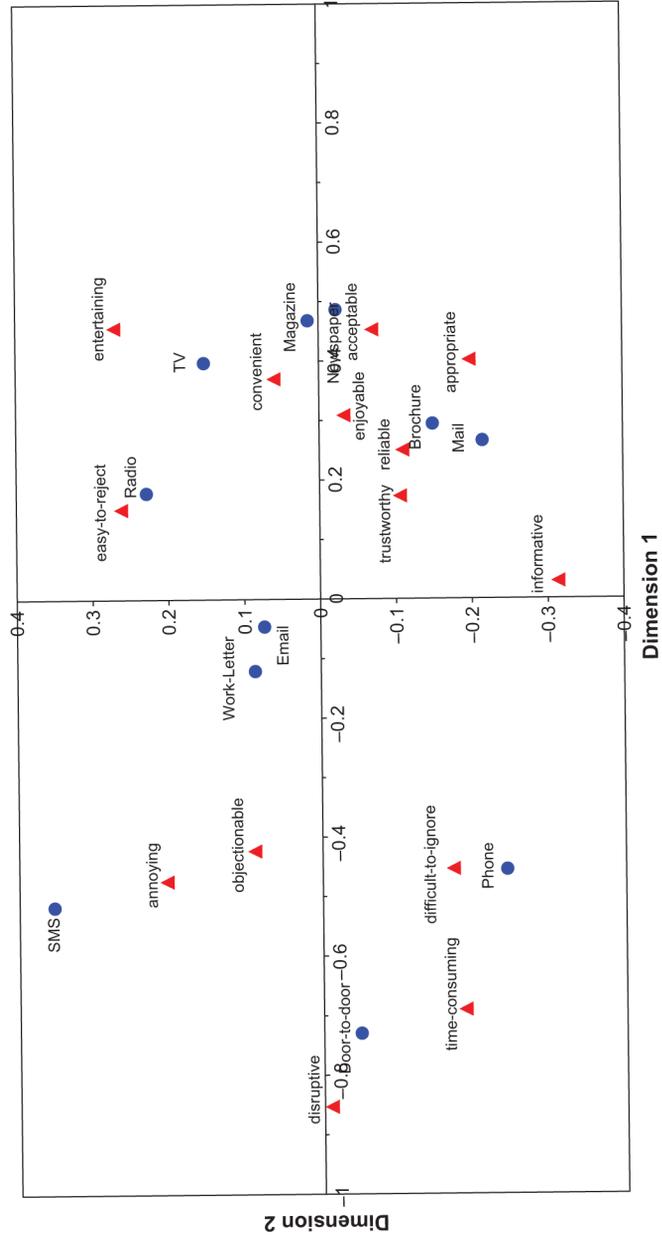


Figure 4.
Correspondence analysis
map of communication
channels and their
attributes – senders to the
business market

	Receivers in the consumer market			Receivers in the business market		
	Engagement	Purchase intention	Purchase intention/probability	Engagement	Purchase intention	Purchase intention/probability
Letter addressed to you at home/work	3.4	2.1	0.16	4.3	3.3	0.22
Letter "To the householder/manager"	3.1	1.9	0.15	3.2	2.7	0.19
Catalog/brochure	4.0	2.3	0.16	4.6	3.4	0.22
E-mail to you at home/work address	2.2	1.7	0.13	3.3	2.7	0.19
Phone call at home/work	1.4	1.2	0.11	2.3	2.1	0.16
SMS	1.1	0.5	0.07	1.9	1.3	0.11
TV ad	4.1	2.3	0.17	4.4	3.1	0.20
Radio ad	4.5	2.9	0.19	4.8	3.4	0.22
Newspaper ad	3.9	2.8	0.19	4.9	2.9	0.20
Magazine ad	4.9	2.5	0.17	4.6	3.0	0.20
Door-to-door salesperson at home/work	1.8	1.4	0.12	3.1	2.4	0.17

Table IV.
Average outcome ratings for promotion scenarios – receivers in the consumer and business markets

second group is the remaining mass media channels (television, magazines, and newspapers). The group of channels with the lowest purchase intention scores again consists of the digital and telephone channels (phone, e-mail, and SMS) and door-to-door sales calls.

Our answer scale range is from 0 to 10, which is the same gradation as the Juster scale of purchase intention (Morrison, 1979) for which we can calculate predicted purchase intention probabilities. Rossiter and Bellman (2005) suggest the transformation $0.05*(1 + PI)$, where PI is the purchase intention score from 0 to 10. The probabilities are a weighted average of the original scale, and are given in Table IV. Since the weighting function is linear, the rankings of the 11 channels are unchanged, but the weighted measure shows that purchase intention probabilities for mass media in the consumer market (averaging 0.18) and printed direct mail in the business market (at 0.21) are relatively high (see Morrison, 1979).

Comparing perceived channel effectiveness with the regression model

The regression results based on equation (1) for both receivers and senders in the consumer market[12] are given in Table V. The model is estimated by maximum likelihood using the SAS MIXED procedure. To improve the readability of the tables, only regression coefficients that are significant at the 5 percent level or lower are shown.

Receivers in the consumer market. The first column in Table V shows that to generate engagement (as measured by the attributes welcome and pleasant) it is evident that a marketing offer should be sent via a channel for which communications are perceived as enjoyable, entertaining, appropriate and not objectionable. Recall that we set the mail channel (personal letter) to be the baseline channel and then dummy coded the remaining ten channels accordingly. The parameter estimates for unaddressed letters and catalogs, TV, radio, newspaper, and door-to-door channels are not significantly different from 0, indicating they are equivalent to personal mail in terms of engagement. However, three of the channels – telephone, e-mail, and SMS – have significant negative coefficients, indicating they generate much less engagement among consumers.

Regarding the information itself, it is not surprising to see that a marketing offer is more likely to be successful if the recipient regards the information as important. Higher involvement with the product or service is also more likely to result in greater engagement. Unexpected is the finding that whether a respondent is a current customer or not makes no difference to engagement. Incidentally, it is apparent that the plasma TV is a more attractive option than the superannuation fund for receivers in the consumer market, as evidenced by the significant dummy variable for the TV offer.

The demographic variables of age and gender are never significant, even when interacted with channel, which is rather surprising given the popularity and relatively higher usage levels of digital media among younger people (see, e.g. Trappey and Woodside, 2005). Our findings suggest that when it comes to marketing communications, younger people are no different from other age groups in terms of their engagement with marketing communication channels[13].

Next, in terms of persuasion (purchase intentions) shown in the second column in Table V, we see that receivers are more likely to be persuaded by the marketing offer in a particular channel if they find communications in that channel to be enjoyable and

	Receivers		Senders	
	Engagement	Purchase intention	Engagement	Purchase intention
<i>Channel attributes</i>				
Easy to reject				-0.039
Enjoyable	0.104*	0.060	0.064	
Trustworthy				
Informative			0.121	0.086
Convenient				
Acceptable				
Entertaining	0.079	0.109	0.083	0.059
Reliability of information		0.086		
Appropriate	0.158			0.076
Objectionable	-0.057			
Annoying			-0.114	-0.104
Time-consuming				
Difficult to ignore				
Disruptive				
<i>Channel</i>				
Mail – personally addressed	0	0	0	0
Unaddressed letter				
Unaddressed catalog				
E-mail	-0.541	-0.311	-0.891	-0.847
Phone	-0.700	-0.474	-1.063	-0.759
SMS	-1.135	-0.995	-1.486	-1.341
TV				
Radio				
Newspaper			0.921	0.719
Magazine	0.916		0.668	
Door-to-door		-0.434	-0.955	
<i>Expt design factors</i>				
Current customer (Y/N)				
Superannuation = 0, TV = 1	0.446	0.406		
<i>Covariates</i>				
Information Importance	0.235	0.421	0.214	0.253
Involvement with product	0.078	0.139		0.118
Channel activity		-0.080	-	-
<i>Demographics</i>				
18-24	0	0	0	0
25-44			-0.754	-0.855
45-64				
65 +				
Female (Y/N)				
College educated (Y/N)	-0.361	-0.378		
Full time employed (Y/N)				
Have children (Y/N)			-	-
-2*Log-likelihood	4801.8	4566.0	4013.7	3797.8
Pseudo-R ² (%)	18	20	15	16
No. parameters	37	37	35	35
σ^2	0.864	1.710	0.439	1.231
σ^2	3.219	1.945	2.767	1.737

Note: *Only variables significant at the 5% level or lower are reported

Table V.
Outcome regressions for
receivers and senders in
the consumer market

entertaining, and if the channel that has a reputation for reliable information. Comparing the channels directly, consumers show no significant difference in purchase intentions if the offer is made via a mass media ad or by direct mail. However, telephone, door-to-door, e-mail, and SMS are all significantly worse than the other channels for stimulating purchase intention.

Also, there is a significant negative effect of channel activity on persuasion, which indicates that the more communications a consumer receives from a channel, be it TV, radio, mail, or e-mail, for instance, the less likely the consumer is to respond to an offer made in that channel. This finding is consistent with a threshold of irritation reached by consumers whereby too many marketing communications result in a negative reaction to a new communication. An irritation threshold is already widespread for TV advertising clutter (Lafayette, 2004) and internet advertising (Dreze and Hussherr, 2003).

Senders to the consumer market. The regression results for senders to the consumer market (B-to-C marketers), are shown in the last two columns of Table V. For generating engagement, senders are correct in selecting a channel for which communications are enjoyable and entertaining, but they overestimate the importance of the channel's reputation for providing information.

Receiver and sender persuasion comparison in the consumer market. A comparison of senders' estimates of and receivers' actual opinions of purchase intention ratings by channel is shown in Figure 5. This chart shows the estimated dummy variable regression coefficients for each channel for receivers and senders, respectively[14]. As personally addressed mail is the baseline, its coefficient is zero. Because generic mail and catalogs show the same persuasive effectiveness as personally addressed mail, we group these three channels under print direct media, abbreviated "printed DM" in the chart. Similarly, the mass media channels of television, radio, newspapers, and magazines are all equally persuasive, and no more effective than personally addressed mail, so we group them together. Figure 5 shows clearly that consumer receivers

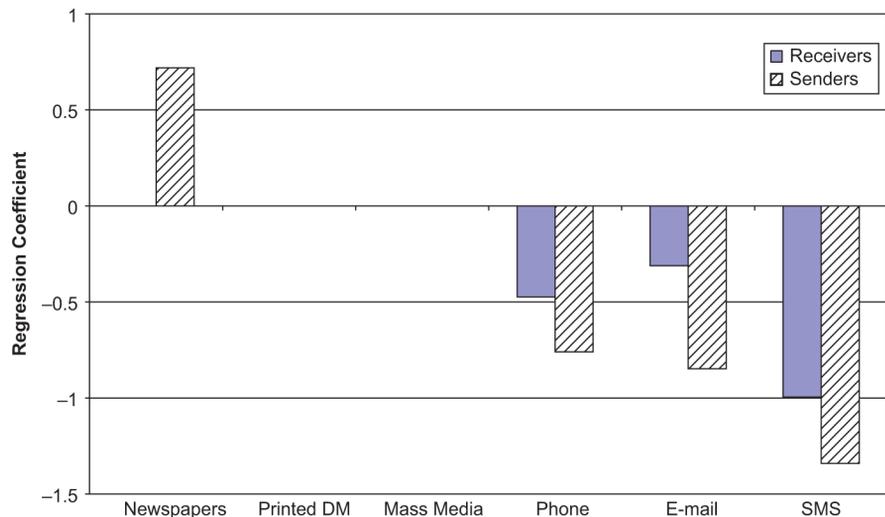


Figure 5.
Purchase intentions of
receivers and senders by
channel - consumer
market

believe that telephone, e-mail, and SMS are less persuasive than print direct media and mass media as channels for marketing offers. B-to-C senders are in fairly close agreement with consumers for all channels except newspaper, which senders believe is the most effective channel for placing marketing offers, an opinion not shared by consumers.

Receivers and senders in the business market. Table VI shows the regression results for the business (B-to-B) market, for both receivers and senders. To engage a business receiver, the offer needs to be via a channel for which communications are more entertaining and appropriate, but not disruptive. B-to-B senders are largely in tune with these needs, as two of their three estimated significant attributes are the same as for receivers (entertaining and non-disruptive).

Both receivers and senders in the business market believe that a marketing offer will be more persuasive if the recipient is interested in the information and is involved with the product or service. Business receivers also have higher intention to purchase if they are present customers of the company. They see little difference in the appeal of the temp agency and the portable projector propositions, whereas senders are more optimistic about the chances of the temp agency offer than the projector. Business receivers who are older, age 65 or more, are unreceptive to marketing offers and are much less likely to be persuaded. Business senders do not perceive this older market resistance.

Lastly, Table VI shows that purchase intentions will be higher if the business receiver has a high level of activity in the channel. This is a reversal of the finding for consumers, in Table V, and is rather intriguing. Our data do not assist us in resolving this difference, so we leave it to future research.

Turning to a direct comparison of the channels on the engagement measure, shown in the middle rows of the first and third columns in Table VI, we see that business receivers find marketing offers received via SMS, e-mail, telemarketing, and unaddressed direct mail significantly less engaging than when received via the other channels. Interestingly, they are not unreceptive to personal sales visits, which would be quite frequent at work, whereas B-to-B senders believe they are. Receivers like catalogs, and senders underestimate the appeal of this channel. On the other hand, senders correctly perceive that business receivers engage with offers presented in mass media channels.

Persuasion comparisons in the business market. We portray the differences between the rated persuasiveness (receivers) and estimated persuasiveness (by senders) in the business market in Figure 6. The three print direct media channels are grouped together, but this time the mass media channels are separated due to their significant (positive) regression coefficients. Receivers in the business market are similarly persuaded by all mass media and print direct response media (all have estimated regression coefficients not significantly different from zero, the baseline value for personally addressed mail in Table VI). They are resistant to marketing offers via telephone, e-mail, and SMS. In contrast, B-to-B senders overestimate the persuasiveness of offers in newspapers and magazines and do not regard telemarketing as ineffective.

The finding that e-mail produces significantly lower purchase intentions among business receivers than direct mail contrasts markedly with our previous observation that business receivers evaluate e-mail attributes favorably and in much the same way

	Receivers		Senders	
	Engagement	Purchase intention	Engagement	Purchase intention
<i>Channel attributes</i>				
Easy to reject				
Enjoyable				
Trustworthy				0.058
Informative				
Convenient				
Acceptable			0.074	
Entertaining	0.060*		0.121	0.089
Reliability of information				
Appropriate	0.079	0.090		
Objectionable				
Annoying				
Time-consuming				
Difficult to ignore				
Disruptive	-0.136	-0.047	-0.095	-0.059
<i>Channel</i>				
Mail – personally addressed	0	0	0	0
Unaddressed letter	-0.503			
Unaddressed catalog	0.470			
E-mail	-0.865	-0.575	-0.651	-0.389
Phone	-0.773	-0.430	-0.820	
SMS	-1.016	-0.956	-1.632	-1.436
TV	0.466		0.459	
Radio	0.854		0.958	
Newspaper	0.906		1.212	0.524
Magazine	0.798		1.206	0.664
Door-to-door			-0.626	
<i>Expt design factors</i>				
Current customer (Y/N)		0.595	0.303	0.329
Agency = 0, projector = 1				-0.529
<i>Covariates</i>				
Information importance	0.213	0.421	0.198	0.284
Involvement with product	0.095	0.161		0.098
Channel activity		0.090	-	-
<i>Demographics</i>				
18-24	0	0	0	0
25-44				
45-64				
65 +	-2.329	-1.935		
Female (Y/N)				
Employment duration (years)				
College educated (Y/N)				
-2*Log-likelihood	4761.5	4523.8	4482.5	4412.8
Pseudo-R ² (%)	14	20	15	15
No. parameters	36	36	35	35
$\hat{\sigma}^2$	0.966	1.902	0.480	1.566
$\hat{\sigma}^2$	2.728	1.710	2.576	1.889

Table VI.
Outcome regressions for
receivers and senders in
the business market

Note: *Only variables significant at the 5 percent level or lower are reported

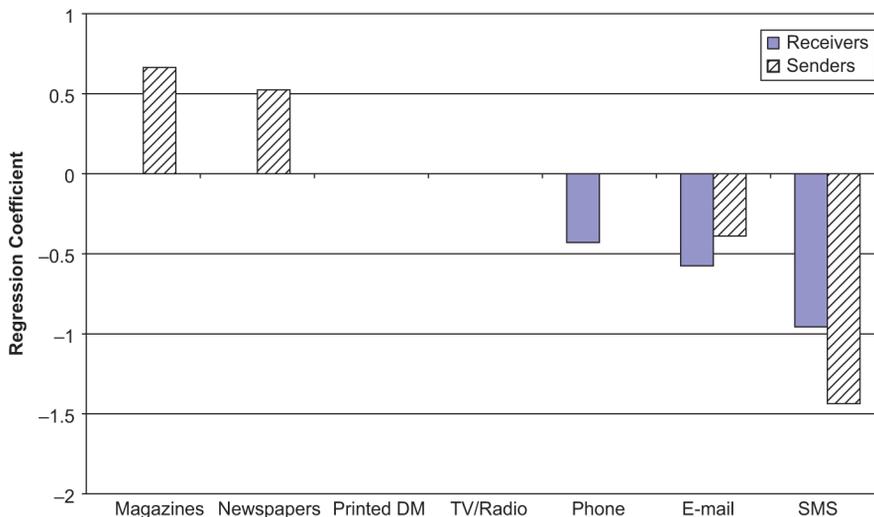


Figure 6.
Purchase intentions of receivers and senders by channel – business market

as mail and catalogs. Although business receivers evaluate e-mail's attributes favorably, this does not appear to extend to generating higher purchase intentions for marketing offers sent to them by e-mail. A possible reason for this is that the offers we used in the experiment, a temporary-employee agency and a portable projector, might be perceived as high-risk. Although the e-mail channel's attributes are evaluated favorably in the prior survey, business receivers may be less willing to make a risky purchase from an e-mail offer than from a traditional direct-mail offer.

Validation test of the hypothetical scenarios

Although hypothetical scenarios have previously been used successfully in customer satisfaction experiments, they do not have precedent in marketing communication experiments. Therefore, we now endeavor to validate our experimental method. For receivers, a possible way to validate their responses to the hypothetical scenarios is to see if they later purchase a plasma TV or sign up for a superannuation scheme, and to find out which media channel most influenced them. This is not possible for receivers in our survey as Australian privacy legislation requires market research firms to remove a respondent's name and contact details from the questionnaire within four weeks of the interview. However, for senders, an open-ended question in which they were asked which channel they primarily use for promotional communications (such as the plasma TV and superannuation fund offers used in our scenarios). The verbal responses were written down verbatim by the interviewer. About 90 percent of the named channels were the 11 channels used in our study.

To demonstrate the validity of senders' evaluations of the channels in the hypothetical scenarios, we might look to see if their evaluations are good predictors of senders' actual channel-usage behavior for promotional communications. That is, if a sender rates a channel highly in a hypothetical scenario, is this manifested in their later disclosure of their most-used channel for actual promotional campaigns? Conversely, it could be argued that the reason a sender rates a channel highly in a hypothetical

scenario is that their previous experience with various channels enables them to make informed judgment about whether or not a hypothetical promotional scenario in a particular channel will succeed. Hence, we do not wish to infer a direction of causation in the linkage between scenario evaluation and channel usage, but merely demonstrate a positive association between them. We can do this by cross-tabulating engagement and purchase intention ratings for a scenario in a particular channel against a binary variable, which indicates, whether or not that channel is the one most used for promotional communications[15].

Table VII gives these cross-tabulations, where, for example, only 14 percent of senders in the consumer market who rate a particular channel as 0 for engagement in the hypothetical scenario actually use that channel for promotional ad campaigns. This figure rises markedly to 60 percent for those rating a channel's engagement between 8 and 10. This indicates a strong association between the evaluation of a channel in the hypothetical scenarios and the use of that channel by a sender. The strength of this association and those for the other three cases is confirmed by the results of Mantel-Haenszel chi-squared tests in Table VII. They show that in both consumer and business markets, and for both engagement and purchase intentions, there is a statistically significant positive association between the sender's evaluation of a channel in a hypothetical scenario and that sender's usage of the channel for promotional communications. Therefore, we have some evidence in support of the validity of our scenario-based method.

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 in a channel think recipients want and what receivers themselves prefer. To do this we use the predicted purchase intentions from the purchase intentions regression model for receivers in the consumer market, as reported in Table V, and compare these with the predicted purchase intentions for senders in the consumer market from the rightmost column in Table V. By substituting the average attribute[16] and information values for receivers into the complete fitted

Market	Outcome	n	Rating										χ^2	p-value	
			0	1	2	3	4	5	6	7	8-10*				
<i>Consumer</i>	Engagement	439													
	Percent using channel		14	20	18	31	38	40	56	63	60	42.0	.0001		
	Purchase intention	439													
	Percent using channel		21	30	34	37	39	46	58	59	50	18.9	.0001		
<i>Business</i>	Engagement	553													
	Percent using channel		21	28	25	37	39	35	43	36	36	5.0	.026		
	Purchase intention	543													
	Percent using channel		30	22	34	32	38	36	46	34	39	3.9	.049		

Table VII. Validation tests of the hypothetical scenarios

Note: The Mantel-Haenszel χ^2 statistic is used, as the rating scale is ordinal. In our case, there is 1 degree of freedom for all four tests of association. *Categories 8 to 10 are combined, as the data is relatively sparse for these cells

regression model, the predicted purchase intention for offers in newspaper ads[17], for example, is 2.6 (on the 0 to 10 scale), which is very close to the actual value of 2.8 reported in Table IV earlier. If we adjust this prediction to include just the statistically significant channel attributes for receivers given in Table V (i.e. enjoyable, entertaining and reliable), the predicted purchase intention for newspapers becomes 2.3.

To gauge how consumer receivers will evaluate a marketing communication, delivered by a sender, who promotes just the significant attributes reported in Table V (for purchase intention), and again using newspaper ads, we re-predict purchase intention, using only the receiver regression coefficients for attributes, that B-to-C senders think would be important for receivers (namely, easy to reject, informative, entertaining, appropriate, and annoying). This time the purchase intention predicted by senders, drops to 1.6, 32 percent lower than the predicted value of 2.3 for consumer receivers. Hence, if senders apply their own preconceptions about marketing communication channels they may choose a different and less effective channel to reach consumers.

Applying the same technique to the business market, using the results in Table VI, there is again a mismatch between senders and receivers. B-to-B senders' predicted purchase intention value, using just the significant sender communication attributes, is 34 percent below the predicted intention based on the significant receiver attributes in Table VI. The B-to-B sender might make the wrong channel choice and experience a substantially less effective marketing offer due simply to the channel in which it is delivered.

Discussion and conclusions

In this research, we undertook a large nationwide study in Australia to get a better understanding of the relative perceived effectiveness of new and old marketing communication channels. The study is extensive in that it covers consumer and business markets, and novel in that it examines the viewpoints of senders, as well as receivers, of marketing communications. Channel selection for marketing communications 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.

Theory. Existing theoretical models of communication effectiveness apply to communications in general, rather than marketing communications in particular. Nonetheless, our results for marketing communications are consistent with general theory and notably 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 experiment shows that senders rate newspapers and magazines as channels that ought to generate higher purchase intentions compared with television and mail. However, receivers themselves do not rate newspapers and magazines ahead of other mass media, or ahead of personally addressed mail and catalogs. They do, however, rate e-mail, 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, predicted purchase intentions for message recipients are lower. This finding for marketing communications is consistent with previous

theoretical and empirical work for general communications (Westmyer *et al.*, 1998; Flanagin and Metzger, 2001). Marketing communications are more effective when senders transmit their message via channels that have attributes that receivers prefer (see also Rice *et al.*, 1998). Senders need to be cognizant of receivers' preferences and adjust their channel choices accordingly.

Although our study evaluates channels one at a time, it does demonstrate that channels can work synergistically, as consistent with IMC theory. For example, our correspondence analysis shows that receivers in the consumer market rate the attributes of traditional mass media channels (TV, radio, print and catalogs) as very similar, but they are distinct from digital media (e-mail and telephone) and door-to-door. Therefore, while synergies are apparent, so are differences, as also noted by Kanso and Nelson (2004).

Implications. From a marketing channels perspective, no one is in any doubt that the internet will continue to change the way that marketing is conducted. 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. Although it is possible that, in the long run, postal mail and television could lose out to the internet, our findings show that over ten years after widespread consumer adoption of the internet, traditional channels have retained their historically favored attributes, especially trust and reliability of information. Advertising communications sent by cell phones (SMS) fare even worse than e-mail. We find a high level of consumer conservatism, whereby more established media channels, not only have more favorable attributes, but also are more likely to be effective in generating sales, than new channels, like e-mail and SMS. These findings are supported by a recent industry study, reported by Eaton (2007), in which 32 percent of survey respondents said their primary preferred medium for advertising information is television, followed by 23, 14, 10 and 0 percent choosing, respectively, postal mail, the internet, newspapers and SMS as their preferred channel for receiving advertising.

We find in our qualitative study that people have different attitudes towards marketing communications in their workplace compared with their homes. The work environment emphasizes speed, and efficiency, attributes that are strongly associated with the e-mail, and cell phone channels. 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, "We all know that e-mail is delivered instantly, the medium itself is about speed and timeliness. Messages sent by e-mail therefore automatically attain the status of urgent, even if they are not urgent". Hence, the preference for traditional media in the home is likely to persist, even though e-mail advertisements are sometimes favorably evaluated at work. Given that the vast majority of marketing communications are transmitted to consumers in their homes, mass media and print direct media will continue to be significant communication channels in the near future.

Use of the internet, and SMS is highest among younger people, and thus it might be expected that younger people in both the consumer and business markets are more likely to act on an offer sent by e-mail or SMS. However, we do not find this among our respondents, who might be described as "tech savvy", as they all have internet access and a cell phone. In support of this, McKenzie-Minifie (2006) reports that among 14 to

30 year olds in New Zealand some 46 percent prefer to receive advertising via TV, with just 5 percent preferring online and 2 percent SMS.

Limitations. Although our study is comprehensive, it is not without its limitations. First, our study is exploratory and examines just one western country. Replication of our research in other countries would enable us to generalize the results and develop stronger theory. Second, our persuasion measure of channel effectiveness is purchase intention rather than actual purchase. While there is a strong tradition of using purchase intention as an effectiveness variable in the marketing literature (Rossiter and Bellman, 2005), it does not predict purchase behavior as precisely as marketers would wish (Chandon *et al.*, 2005; Morrison, 1979). Third, our experimental method uses hypothetical scenarios. We are able to demonstrate the validity of this method among communication senders, but future work could use field experiments to verify our findings among receivers. Fourth, although we examine 11 major marketing communication channels, there are others that we do not study, such as outdoor advertising, internet banner ads and marketer-initiated word-of-mouth, or “buzz,” which can be very influential for purchase decisions (Foley *et al.*, 2005). Fifth, an expanded set of items for involvement would likely have improved the reliability of our three-item measure. Sixth, we acknowledge that media channel choice is not only about matching sender and receiver channel preferences. Media planners also weigh up demands of ad campaign coverage (reach), the repetition of the message (frequency), the relative cost of each channel and lead times required to place the advertising (Sissors and Baron, 2002; Kelley and Jugenheimer, 2004).

Despite these limitations, we believe our study provides a broad base for further research on marketing channel evaluation and effectiveness at a time when this is a key issue for marketing communications. In future research, the number of channels examined could be expanded and there may well be new ones soon. Other possibilities include the use of choice modeling to weigh up product and service attributes as well as channel attributes to assess how media channels compare in their effectiveness for marketing communications.

Notes

1. We clarify from the outset that we are comparing communication channels rather than advertising media. Of course, there are qualitative and quantitative differences among media, which are well reviewed by media planning texts such as Sissors and Baron (2002) and Kelley and Jugenheimer (2004). The choice of media also depends on the campaign objectives, such as target-audience reach and frequency, but it is not the purpose of this study, to take these campaign-specific factors, into account.
2. Six focus groups, and 28 in-depth interviews, were moderated, by two experienced commercial-qualitative researchers. While two focus groups and four in-depth interviews, were moderated by one of the authors. 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 we do report some pertinent verbatim comments. The qualitative findings were used extensively to develop the questionnaires.
3. Note, in particular, that we represent the internet channel with e-mail rather than banner ads. This is because we do not think that pithy banner ads are a credible advertising vehicle for the information-rich products and service we aim to communicate.

4. Use of 0 to 10 answer scales is strongly recommended, especially for non-student respondents, in Rossiter's (2002) scale development procedure. With plain questions such as used in this study, where the content is easily distinguishable, we argue that there is no or at least very minor common-methods bias.
5. Superannuation is similar to an individual retirement account (IRA) in the USA, 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.
6. We recognize that persuasion is often conceptualized as a person's shift in brand or product attitude subsequent to advertising exposure. In our case, we do not have a pre-measure, but instead consider purchase intention to be an item, which reflects the persuasion construct.
7. Since we have a designed experiment with two factors and many covariates, we could have used an ANOVA analysis. However, an ANOVA 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.
8. We initially included the interaction between the non-customer and offer-type experimental factors, but it was rarely significant, so we omit it from the reported model.
9. The sample size of senders in the consumer market was smaller than the other three samples due to the smaller sub-population size from which to recruit respondents.
10. However, later we find that although e-mail has some favorable attributes among business receivers, this does not necessarily translate into more effective marketing communication outcomes, such as purchase intentions.
11. 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, not surprisingly, the average ratings are always higher, indicating that senders are more optimistic than receivers about the success of marketing offers.
12. We do not report the estimated value of $\text{var}(\eta_j)$ from equation (1) in Tables V and VI because the inclusion of the teen media channel dummy variables effectively "soaks up" all the variation across channels, so that $\text{var}(\eta_j) \approx 0$ in each model.
13. It is worth reminding at this point that all our respondents use the internet, and have a cell 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 effect.
14. The absence of bars Figures 5 and 6 indicates that these channels have estimated coefficients, not statistically significantly different from zero.
15. >Since respondents rate only three of the possible 11 channels, it is also a requirement that they actually evaluated their most used channel.
16. Average attribute scores for consumer and business receivers for newspapers and other media are given in Tables II and II, respectively.
17. We choose newspapers as Table V shows that senders believe this channel is the most effective, having the only significant positive channel dummy variable estimate of 0.719.

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Appendix 1

Communication channels for the consumer and business markets

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 (at work)*
- B. Telephone call at home (at work)
- C. E-mail to your personal e-mail address (e-mail to your work address)
- D. TV ad
- E. Unaddressed letter ("To the householder") in the mail (unaddressed letter "To the manager" in the work mail)
- F. Unaddressed catalog or brochure in the mail (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)

*Modifications to the questions for the business segment are given in parentheses

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Attribute Wording	Lower scale anchor	Upper scale anchor
How easy do you find it to reject communications received from companies in the following ways	Not at all easy to reject	Extremely easy to reject
In general, how enjoyable do you find communications you receive from companies in the following ways	Not at all enjoyable	Extremely enjoyable
How trustworthy do you consider communications you receive from companies in the following ways	Not at all trustworthy	Extremely trustworthy
In general, how informative do you find communications you receive from companies via ...	Not at all informative	Extremely informative
How convenient do you consider communications you receive from companies via ...	Not at all convenient	Extremely convenient
How acceptable to you are communications you receive from companies via ...	Not at all acceptable	Extremely acceptable
In general, how entertaining are communications you receive from companies via ...	Not at all entertaining	Extremely entertaining
How reliable do you consider information you receive from companies via ...	Not at all reliable	Extremely reliable
How appropriate 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 objectionable would you find it if that company communicated with you through the following way	Not at all objectionable	Extremely objectionable
How annoying do you consider communications you receive from companies in the following ways	Not at all annoying	Extremely annoying
How personally time-consuming do you consider communications you receive from companies in the following ways	Not at all time-consuming	Extremely time-consuming
How difficult to ignore 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 disruptive do you consider communications you receive from companies via ...	Not at all disruptive	Extremely disruptive

Table A1.
Media channel attribute questions for communication receivers

Appendix 3

Interest in product/service information 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) Still thinking of the information about [INFOTYPE], how important would this information be to you?

Appendix 4

Outcome questions

Outcome questions for both markets (options for question 3 are given in the following):

- (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 [ACT]? (0 = not at all likely, 10 = extremely likely).

Consumer market

For Scenario 1a [INFOTYPE] = [superannuation]
[ACT] = [take up the superannuation offer].

For Scenario 2a [INFOTYPE] = [the new TV]
[ACT] = [purchase the new plasma TV].

Business market

For Scenario 1b [INFOTYPE] = [the temp agency promotional offer]
[ACT] = [take up the temp agency promotional offer].

For Scenario 2b [INFOTYPE] = [the new portable projector]
[ACT] = [purchase the new portable projector].

Appendix 5

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 e-mails 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 +).

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