Hogan, M., Barry, C. and Torres, A. (2013). Identifying and Categorizing Decision Constructs used in Business-To-Consumer Commercial Transactions – An Exploratory Study. *In 16th Irish Academy of Management Annual Conference*. Waterford, Ireland. 2-4 September, 2013.

# IDENTIFYING AND CATEGORIZING DECISION CONSTRUCTS USED IN BUSINESS-TO-CONSUMER COMMERCIAL TRANSACTIONS – AN EXPLORATORY STUDY

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Track: Technology Management

COMPETITIVE PAPER

# 1 INTRODUCTION

The whole area of decision-making during a Business-to-Consumer (B2C) on-line transactional process is far more fragmentary and 'start-stop' than one might anticipate. Much of this discontinuance arises from decisions points that users or consumers are presented with. Recent studies (Barry et al. 2011; Torres et al. 2009) into web development and user interface design practices amongst some airlines, concluded that all optional extras are not presented as opt-in decisions to users, and are therefore in breach of European Union regulation (European Union 2008). A further key finding in the 2011 study is that a novel decision construct that forces users to make choices on optional extras (coined a 'must-opt' decision), has been developed. This must-opt appears to assist firms in circumventing the regulations. This practice has been the source of the key research question in this paper - what are the nature and types of decision constructs that users encounter throughout on-line transactional processes? The findings presented herein make an incremental contribution in identifying and categorizing some new decision constructs alongside established ones.

# 2 A BRIEF CONSIDERATION OF OPTIONALITY

An initial consideration of optionality proffers the notion that an option presented to a user is a straightforward choice - you either wish to secure the option or not. The reality is that optionality is far more complex. While the European Union directive dealing with optional charges by European airlines states that 'all optional price supplements should only be accepted by the consumer on an 'opt-in' basis' (European Union 2008), it does not define optionality or opt-in. Thus our starting point must go back a little further. In seeking to define the notion of optionality, the following were identified:

- Merriam Webster (2013) define optional as 'involving an option**:** not compulsory'
- Geddes and Grosset (2004) define to opt as 'to choose or exercise an option'
- Merriam Webster (2013) have no definition for opt-in, but define opt-out as 'to choose not to participate in something'
- The Oxford English Dictionary (2013) define opt-in as to 'choose to participate in something and opt-out to 'choose not to participate in something'

A more nuanced consideration is found on wiktionary.org (2013) where the following distinction is made between opt-in and opt-out.

- To opt-in - of a selection, the property of having to choose explicitly to join or permit something; a decision having the default option being exclusion or avoidance.
- To opt-out - of a selection, the property of having to choose explicitly to avoid or forbid something; a decision having the default option being inclusion or permission.

Another dimension of decision constructs is that of question framing. Questions may be framed in terms of acceptance (e.g., I would like to receive e-mail) or rejection (e.g., I would not like to receive e-mail). Alternatively, Lai and Hui (2006) described them as 'choice' and 'rejection' frames, where positive phrasing corresponds with choice and negative phrasing corresponds with rejection of an option.

# 3 PREVIOUS RESEARCH

Barry et al. (2011) explored user views on whether two Irish airlines were acting in good faith in their compliance with European Union consumer protection legislation (European Union 2008). Rather than the more usual opt-in/opt-out mechanisms used to offer ancillary services, it was found that the airlines were using a new approach, referred to here as a must-opt selection. What appears to be an opt-in option is presented to the user who may choose to overlook it in the normal course of events. However, when they attempt to move to the next webpage, they are informed, generally via a pop-up, that they must go back and make a selection. Elsewhere the construct has been referred to as a 'no default' (Belman et al. 2001) and a 'neutral condition' (Johnson and Goldstein 2003). The difficulty with their definitions is that they do not adequately reveal the more subtle distinctions within the construct.

**Table 1. Ancillary Services Categorised**

| | **Airline** | | | |
|---|---|---|---|---|
| **Option presented as:** | **Ryanair** | | **Aer Lingus** | |
| | **Option** | **No.** | **Option** | **No.** |
| **Opt-in** | Baggage<br>Sports equipment<br>Special assistance | 3 | Flex fare (1)<br>Flex fare (2)<br>SMS confirmation<br>Special assistance<br>Voucher<br>Baggage<br>Extra baggage weight<br>Sports equipment<br>Lounge | 10 |
| **Opt-out** | - | 0 | Mailing List | 1 |
| **Must-opt** | Priority boarding<br>Travel insurance (1)<br>SMS confirmation<br>Ryanair approved cabibag<br>Terms and conditions<br>Travel insurance (2)<br>Hertz Rent-a-car | 7 | Terms and conditions<br>Travel insurance<br>Parking | 3 |

The findings of the analysis from Barry et al (2011) are reproduced here in Table 1. They identify the nature of the optional decision constructs encountered during a flight reservation process. One airline presented ten different decision points (three opt-in and seven must-opts), while the other presented fourteen (ten opt-in, one opt-out and three must-opts) to be negoti-

ated before a flight was booked. Dictionary definitions do not fully capture the way in which must-opt optional extras are presented. It can be argued they are both opt-in and opt-out as the user must explicitly choose or decline to participate. However, the must-opt can also be viewed as neither opt-in nor opt-out, since the default option is to prevent the user from continuing until they either choose or decline the option. The net effect is that users cannot overlook this type of decision and must give it their full consideration. Although regulations specifically state that optional charges be accepted on an opt-in basis, the airlines seem to have found a technical mechanism to by-pass the regulations – the must-opt construct.

# 4 DECISION CONSTRUCTS AND THEIR IMPACT

The lack of clarity in the definition of optional price supplements has resulted in a case being taken to the European Court of Justice (eBookers Germany v BVV 2012). Article 23(1) of Regulation No. 1008/2008 (European Union 2008) states that: 'Optional price supplements shall be communicated in a clear, transparent and unambiguous way at the start of any booking process and their acceptance by the customer shall be on an 'opt-in' basis'. The judgement in relation to this regulation has clarified the issue somewhat. It states that optional price supplements are not unavoidable and:

> In particular, the last sentence of Article 23(1) of Regulation No 1008/2008 refers to 'optional price supplements', which are not unavoidable, in contrast to air fares or air rates and other items making up the final price of the flight, referred to in the second sentence of Article 23(1) of that regulation. Those optional price supplements therefore relate to services which, supplementing the air service itself, are neither compulsory nor necessary for the carriage of passengers or cargo, with the result that the customer chooses either to accept or refuse them. It is precisely because a customer is in a position to make that choice that such price supplements must be communicated in a clear, transparent and unambiguous way at the start of any booking process, and that their acceptance by the customer must be on an opt-in basis, as laid down in the last sentence of Article 23(1) of Regulation No 1008/2008.
>
> That specific requirement in relation to optional price supplements, within the meaning of the last sentence of Article 23(1) of Regulation No 1008/2008, is designed to prevent a customer of air services from being induced, during the process of booking a flight, to purchase services additional to the flight proper which are not unavoidable and necessary for the purposes of that flight, unless he chooses expressly to purchase those additional services and to pay the corresponding price supplement.

While the regulation only applies to airlines, the definition above relating to optional price supplements is clear and could be used to define optional price supplements on other e-commerce sites.

The European Union has recognised the need for regulation in relation to other forms of distance and off-premises contracts, which would include e-commerce transactions. They have introduced a new directive on consumer rights (European Union 2011) whose intent is to protect the consumer in distance contracts. In this directive it is stated that additional payments above and beyond the minimum cost of the transaction require the explicit consent of the consumer. The directive states in Article 22, with respect to additional payments, that:

> Before the consumer is bound by the contract or offer, the trader shall seek the express consent of the consumer to any extra payment in addition to the remuneration agreed upon for the trader's main contractual obligation. If the trader has not obtained the consumer's express consent but has inferred it by using default options which the consumer is required to reject in order to avoid the additional payment, the consumer shall be entitled to reimbursement of this payment.

The European Union recognise consumers need to be protected against unscrupulous practices that may result in an inadvertent purchase that is not a necessary part of the transaction. For

airlines, they state that the additional options may only be purchased on an 'opt-in' basis while for all other distance contracts, the consumer's express consent is required and the vendor may not use default options that require the consumer to reject the option. However, neither piece of legislation defines what is meant by an 'opt-in' or what type of constructs are allowed where the consumer must make a decision on an optional extra. There is, however, a definition of 'consent' in the Data Protection Directive (European Union 1995) relating to the use of an individual's data. Consent is defined as: 'any freely given specific and informed indication of his wishes by which the data subject signifies his agreement to personal data relating to him being processed.'

While no definition of this nature is included in the Directive on Consumer Rights, it is possible that the European Court would deem it an acceptable definition for this directive. However, there is still no indication of what are considered acceptable ways of obtaining consent other than stating that the use of default options that the consumer must reject are unacceptable. It is therefore at the discretion of the vendor to determine the most suitable method of obtaining the consent.

The Office of Fair Trading in the UK (Ahmetoglu et al. 2010) carried out a study on the impact of pricing practices on consumer behaviour. In this study, they described a process referred to as 'drip pricing'. The tactic is the practice of presenting the user with an element of the price up front and then presenting additional components as 'drips' throughout the buying process. The drips can be either compulsory, where they are inherent to the price of the product (e.g., shipping cost) or optional, where they are generally add-ons (e.g., an optional warranty). These 'drips' can be presented as opt-ins, opt-outs or must-opts. Their review of the available literature indicated that consumers tend to retain the default option, even if it is detrimental to them, if one is presented. This decision may be due to inertia and an inherent belief that the default is a recommendation by the vendor. Consumers may also choose the default in order to avoid the cognitive effort required to make a decision. Therefore, where the vendor uses an opt-out policy, the consumer may accept options that are detrimental to them or make purchases they do not need or want.

Much research, albeit not in the area of e-commerce, has been carried out to determine whether users are more likely to participate when an option is framed as an opt-out rather than an opt-in (McKenzie et al. 2006; Junghans et al. 2005; Johnson and Goldstein 2003; Madrian and Shea 2001). They generally conclude that an individual is more likely to retain the default option than to change it. That is, they are more likely to participate if an option is presented as an opt-out, rather than an opt-in. Johnson and Goldstein (2003) also found there was little difference in acceptance rates between an opt-out and a must-opt (referred to as a neutral condition in their paper). The reasons identified for this negligible difference are participant inertia and a perception that the presentation of a default is a recommendation. McKenzie et al. (2006) take that conclusion further and state that those presenting the choice are more likely to present it in a way that indicates their beliefs or attitudes towards the choice. They also state that those choosing an option are less likely to accept the default if they are educated

about the issues in question. Although no study was found that examined this question, perhaps the vendor could also influence the consumers' decision by providing additional information that is biased in favour of the vendor's preferred choice even when they are required to present the decision as an opt-in.

Lai and Hui (2006) have carried out additional research into the impact of the question framing on user decisions. Their study indicates that the way in which the option is described as well as the selection mechanism has an impact on user choice. They found that for opt-in decisions using check boxes, users are more likely to accept an un-selected opt-in over a pre-selected opt-in. They posit that the language of acceptance (referred to in this paper as acceptance format) inherent in an un-selected opt-in is likely to influence the users' decision (e.g., 'Please send me newsletters' with the checkbox un-ticked versus 'Please do not send me newsletters" with the check box ticked). However, for the opt-out mechanism, they did not find a significantly different acceptance rate between the pre-selected opt-out and the un-selected opt-out. Belman et al. (2001) found similar results for opt-in using radio buttons, where an option in an acceptance format was more likely to be accepted than one in a rejection format (e.g., 'Notify me about more health surveys' with the No button pre-selected versus 'Do NOT notify me about more health surveys' with the Yes button pre-selected). However, Belman et al. (2001) did identify a difference between the acceptance rates for pre-selected opt-outs using radio buttons. They found that users were more likely to accept an option when the language was phrased in an acceptance format, rather than a rejection format e.g., 'Notify me about more health surveys' with the Yes button pre-selected, versus 'Do NOT notify me about more health surveys' with the No option pre-selected). They also considered a must-opt format that forced users to choose an option. In this case, users were more likely to choose the option when it was framed in an acceptance format rather than a rejection format (e.g. 'Notify me about more health surveys' versus 'Do NOT notify me about more health surveys'). This finding indicates users perceive the way in which the selection is presented as guidance rather than a neutral choice.

# 5 RESEARCH APPROACH

The authors have constructed a research plan to investigate how decision constructs are presented to users engaged in B2C commercial transactions. An extensive and systematic study is planned to examine how this presentation is made. Before this can be conducted it is necessary, in as far as possible, to identify an exhaustive list of the various decision constructs that users encounter when purchasing a product or service whilst on-line and some of the more salient issues that surround the process. The constructs are not core to the actual product or service and are, for the most part, options. Based on previous research into the airline industry the authors had noted a number of decision constructs that did not conform to typical design patterns in user interactions. Thus, an exploratory study was conducted that set out to examine e-commerce transactions to identify and categorise various forms of decision constructs. It was made up of two parts as outlined below.

Initially, more than twenty on-line retailers' website were explored and on some, several products or services were studied. The transactional process on each website is made up of a number of sequential webpages that end, ultimately, in a payments page where the exploration terminated. During the process, normally after the core product or service has been selected, the user is presented with various decisions points. The desk research uncovered seven distinct decision constructs.

Secondly, seventy-seven decision constructs across fifteen websites were examined in detail. Representative e-commerce B2C websites were identified from retail firms listed with Retail Ireland, Ireland's Small Firm's Association, and analysis from Google Analytics and Google Ad Planner. The decision constructs were encountered during the following B2C transactions:

- Buying a book
- Hiring a car
- Buying a ticket to a horse race meeting
- Buying tickets to a museum
- Taking out a motor insurance policy
- Buying health insurance
- Buying travel insurance
- Buying clothes
- Booking a flights
- Booking a ferry
- Buying electronic gadgets
- Booking a hotel room

# 6 FINDINGS OF THE EXPLORATORY STUDY

The authors confirmed the identification of the must-opt construct (Barry et al. 2011), made distinctions between essential and optional decisions and identified more elaborate and complex constructs. Further, the actual usage of the constructs in practice was confirmed. Lastly, a number of aspects relating to decision clarity, levels of persuasion, decision framing and ease of use were investigated.

## 6.1 Decision Types – Essential and Optional

Most decisions, other than those relating to the core product or service, are real 'options' that may or may not be chosen. However, there are also common decisions that must be made which involve various options. Such decisions are 'essential' to obtaining the product or service. Thus, the first meta-category of decisions is whether they are essential or truly optional.

**Definition of an Essential Decision**

An essential decision is where the customer must choose between variants of a necessary and fundamental aspect of the product or service. The customer will not be able to complete the purchase without choosing one of the variants. For example: choosing between different de-

livery methods or choosing between different payment methods. It is a non-intrinsic aspect of the product or service. Thus, it is not the garment size or colour decisions; nor is it the dates or destination decisions for a flight.

**Definition of an Optional Decision**

An optional decision is where the customer may choose an optional extra. It is not a necessary or fundamental aspect of the product or service. The customer will be able to complete the purchase without choosing this option, such as choosing an extended warranty or receiving an SMS message. There is often an extra charge for the optional extra. It is an ancillary aspect of the product or service.

## 6.2 Decision Constructs

To assist the following discussion, Tables 2 and 3 contain descriptions and illustrations of each decision construct. What emerged through the transactional process was that optional decisions are not always presented in a manner users might anticipate. Opt-in decisions are normally just that – you choose or do something in order to receive the option. This action could involve ticking a check box or choosing an item from a drop down list, thus, an un-selected opt-in. However, a pre-selected opt-in involves much more uncertainty. If a check box on an option is ticked, it is suggestive of something having been pre-selected for the user. Instinctively users are likely to quickly de-select an option for, say, opting-out of receiving an e-mail newsletter. However, the construct can be used with rejection framing such as 'I do not want an extended warranty'. To opt-in you un-tick the box. The construct is counter-indicative and uses un-ticking of the check box to opt-in, while the text uses rejection framing to NOT receive the option. Undoubtedly, this construction would be extremely confusing for users.

It is usual for an opt-out decision to appear as a pre-selected tick in a check box with acceptance framing, for example, 'I wish to receive email'. Drawing attention to the option in this manner may result in the user giving the option more consideration than they would otherwise. While it may be questionable whether firms should force users to opt-out of a pre-selected option, at least the pre-selection may be logically interpreted to mean the user will receive that option. However, one opt-out construct was found to be actually un-selected, which is a most extraordinary, counter-intuitive means of designing an opt-out structure. Essentially, the option appears like a 'normal' opt-in decision. If conventionally used, a user might safely overlook an un-selected option, assuming it to be opt-in. However, the un-selected opt-out construct is designed so a user must tick a box to reverse out of an opt-out decision. The decision framing is rejection, a negation of the decision. In this case, 'I do not want Collision Damage Waiver' as part of insuring a hired car.

**Table 2. Decision Construct Descriptions**

| Decision Construct | Description |
|---|---|
| Un-selected opt-in | This decision structure has a default option of not receiving the option. It is generally presented as an un-ticked check box or a radio button set to off, where the option is framed in an acceptance format. Thus, the terminology states that the customer wants the option. |

| | |
|---|---|
| Pre-selected opt-in | This decision structure has a default option of not receiving the option. It is generally presented as a ticked check box or a radio button set to on where the option is framed in a rejection format. Thus, the terminology states that the customer does not want the option. |
| Un-selected opt-out | This decision structure has a default option of receiving the option. It is generally presented as an un-ticked check box or a radio button set to off where the option is framed in a rejection format. Thus, the terminology states that the customer does not want the option. |
| Pre-selected opt-out | This decision structure has a default option of receiving the option. It is generally presented as a ticked check box or a radio button set to on where the option is framed in an acceptance format. Thus, the terminology states that the customer wants the option. |
| Must-opt | A must-opt decision occurs when an optional extra is presented to a customer as un-selected. It is not possible to proceed to the next webpage without having made a selection. It is generally presented as radio buttons, command buttons or a drop down list. |
| Un-selected essential decision | An un-selected essential decision is where none of the variants has been pre-selected for the customer. For example, the customer chooses a payment method. |
| Pre-selected essential decision | A pre-selected essential decision is where one of the variants has been pre-selected for the customer. It may be in either the customer's or the vendor's favour – or it may be neutral. For example, fast delivery for a surcharge may be pre-selected. |

A must-opt decision occurs when an optional extra is presented to a user as un-selected. However it is not an opt-in since the user is prevented from progressing onto the next webpage unless they explicitly accept or reject the option – thus they 'must-opt'. Generally, a user is only alerted to this when they click a 'Continue' or similar button at the bottom of the webpage. Instead of progressing to the next webpage, the user must go back and read the option variants and choose one. For example, some airlines force customers to explicitly indicate they do or do not want travel insurance.

The final constructs relate to essential decisions. These may also be pre-selected (e.g., a fast delivery method) or more usually un-selected (e.g., choice of a payment method). Table 2 summarises the seven decision constructs identified in the study while illustrations are shown in Table 3.

**Table 3. Illustrations of Decision Constructs**

| Decision Construct | Description | Framing |
|---|---|---|
| Un-selected opt-in | ☐ I want an extended warranty | Acceptance |
| Pre-selected opt-in | ☑ I do not want an extended warranty | Rejection |
| Un-selected opt-out | ☐ I do not want an extended warranty | Rejection |
| Pre-selected opt-out | ☑ I want an extended warranty | Acceptance |
| Must-opt | ○ I want an extended warranty<br>○ I do not want an extended warranty | Acceptance<br>Rejection |
| Un-selected essential decision | ○ Express delivery in 2 days (€5.00)<br>○ Fast delivery in 3-4 days (€2.00)<br>○ Free delivery in 5-7 days (free) | Neutral |
| Pre-selected essential decision | ◉ Express delivery in 2 days (€5.00)<br>○ Fast delivery in 3-4 days (€2.00)<br>○ Free delivery in 5-7 days (free) | Neutral |

The more comprehensive analysis of decision constructs carried out here is clearly merited in light of the European Union's recognition of the requirement for consumer consent on optional price supplements and other provisions. What is clear is that the basis of their directives and judgments needs to be more finessed so that they account for all the decision constructs identified in this study.

## 6.3 Exploratory Analysis

An exploratory analysis of a number of websites accessible to Irish consumers was conducted in order to determine whether the decision constructs identified are, in fact, used in practice and to determine whether any additional decision constructs need to be added to the list. The websites represented a number of different categories: Travel, Consumer Products, Financial Services, Accommodation, and Entertainment and Recreation with between 2 and 6 websites selected from each category.

A single representative task was chosen for each website (e.g. purchase a book; rent a car) and each decision point encountered during that transaction was recorded. The decision constructs were categorised according to the construct types identified above. Further information relating to the interaction with the decision constructs was recorded. This included data such as the clarity of the decision construct, whether it was framed in a way that tried to persuade the user to choose a particular option, clarity of the available options and ease of use when interacting with the decision construct.

Some websites had multiple decision constructs, while others had very few. For example, the travel websites had a total of 25 decisions based on three websites whereas consumer products had 20 decisions based on 6 websites (see Table 4).

As can be seen, the most commonly encountered decision construct is the un-selected opt-in, with 32 instances. This was followed by the un-selected essential decision with 17 instances. Each construct encountered was assessed in terms of its clarity; that is, whether the type of construct would be clear to the user. The majority of the un-selected opt-ins were deemed to be clear (20 of 32) or very clear (6 of 32). All of the pre-selected essential decisions were clear (8 of 17) or very clear (9 of 17). The clarity of the less frequently encountered decision constructs tended to be less clear, or inconclusive. All 3 of the un-selected opt-outs were very unclear. One of the 3 must-opts was deemed unclear, 1 neutral and 1 unclear.

Of the 4 pre-selected opt-ins, 1 was unclear, 1 neutral and 2 clear. There was however, one infrequently encountered decision construct that was relatively clear. Only 7 pre-selected opt-outs were encountered and 3 of those of those were neutral, 3 were clear and only 1 was unclear. However, a user may have an expectation that a pre-selected check box is an opt-out as that would be the most common way of presenting an opt-out. The user would, therefore, be likely to presume that a ticked checkbox is an opt-out rather than an opt-in.

**Table 4. Decision Constructs by Website Category**

| | Website Category | | | | | |
|---|---|---|---|---|---|---|
| **Type of Decision Construct** | Travel (n=3) | Consumer Products (n=6) | Financial Services (n=2) | Accommoda-tion (n=2) | Entertainment and Recrea-tion (n=2) | Total |
| Pre-selected opt-in | 2 | 0 | 2 | 0 | 0 | 4 (5.2%) |
| Un-selected opt-in | 16 | 5 | 5 | 5 | 2 | 32 (41.6%) |
| Pre-selected opt-out | 0 | 4 | 2 | 2 | 0 | 7 (9.1%) |
| Un-selected opt-out | 2 | 0 | 0 | 0 | 0 | 3 (3.9%) |
| Must-opt | 2 | 0 | 0 | 0 | 1 | 3 (3.9%) |
| Pre-selected essential decision | 1 | 5 | 3 | 3 | 1 | 11 (14.3%) |
| Un-selected essential decision | 2 | 6 | 2 | 2 | 4 | 17 (22.1%) |
| Total | 25 (32.5%) | 20 (26.0%) | 12 (15.6%) | 12 (15.6%) | 8 (10.4%) | 77 (100%) |

The clarity of the more commonly used constructs followed through to ease of use (see Table 5) where of the 32 un-selected opt-ins, 13 were easy and 10 were very easy to use, while of the 17 un-selected essential decisions, 10 were easy and 5 were very easy to use. In contrast, the less commonly encountered constructs were not necessarily difficult to use even though the constructs were not always clear. All 3 of the must-opts were easy to use as they tended to be presented in a way where it was obvious to the user what action was required (e.g. a must-opt with two unselected radio buttons) even though it may not have been obvious what type of decision construct was being used. Similarly, even though all 3 of the un-selected opt-outs were unclear, only 1 of them was difficult to use while the other 2 were either easy or very easy to use.

**Table 5. Decision Constructs by Ease of Use**

| | Ease of use for the Decision Construct | |
|---|---|---|

| **Type of decision structure** | Very difficult | Difficult | Neutral | Easy | Very easy | **Total** |
|---|---|---|---|---|---|---|
| Pre-selected opt-in | 0 | 1 | 1 | 1 | 1 | 4 (5.2%) |
| Un-selected opt-in | 1 | 5 | 3 | 13 | 10 | 32 (41.6%) |
| Pre-selected opt-out | 0 | 0 | 0 | 5 | 2 | 7 (9.1%) |
| Un-selected opt-out | 0 | 1 | 0 | 1 | 1 | 3 (3.9%) |
| Must-opt | 0 | 0 | 0 | 3 | 0 | 3 (3.1%) |
| Pre-selected essential decision | 0 | 0 | 1 | 6 | 4 | 11 (14.3%) |
| Un-selected essential decision | 0 | 2 | 0 | 10 | 5 | 17 (22.1%) |
| **Total** | 1 (1.3%) | 9 (11.7%) | 5 (6.5%) | 39 (50.7%) | 23 (29.9%) | 77 (100%) |

None of the decision constructs were presented in a way that would try to dissuade the user from selecting the option. However, a number of them were presented in a way that tried to persuade the user to select a particular option. Some of the constructs were inherently persuasive (e.g. an opt-out is, by its nature, suggesting to the user that it is the recommended course of action (McKenzie et al. 2006; Junghans et al. 2005; Johnson and Goldstein 2003; Madrian and Shea 2001) while others were more explicitly persuasive (e.g. stating the benefits of choosing the option). Of the 77 decision constructs, 41 were not persuasive at all while 36 were either persuasive or highly persuasive (only 1, a pre-selected opt-in was highly persuasive). All 10 of the opt-outs (both pre-selected and un-selected) were, by their nature, persuasive while 17 of the 32 un-selected opt-ins were persuasive. This generally took the form of wording that suggested choosing the option would be beneficial. Only 1 of the 3 must-opts was persuasive and 4 of the 11 pre-selected essential decisions were persuasive. All 4 of the pre-selected opt-ins were either persuasive or highly persuasive. The construct that was highly persuasive had a long paragraph detailing the benefits of choosing the option, including the potential financial savings to the user of choosing the option. In contrast, none of the un-selected essential decisions were persuasive.

Of the decision constructs that were persuasive, the vast majority emphasised positive consequences of selection (26 of the 36), with another 10 being neutral (these were the opt-outs). None of the decision constructs emphasised negative consequences for the user if they did not select the option.

Where the user was presented with options to choose from, it was in most cases clear what those options were. Only 4 of the 77 constructs did not present options. Of the remaining 73 constructs, 63 were either clear or very clear, 3 were neutral while only 7 were unclear. Of the 7 unclear constructs, 3 were un-selected opt-ins (n = 32), 1 was an un-selected opt-out (n = 3), 1 was a must-opt (n = 3) and 2 were un-selected essential decisions (n = 17). An example of the lack of clarity can be seen on one of the consumer product websites where there were 2 different options for payment by card. Both were titled "Credit Card Payment". One had a picture of the Laser card logo and the other had a picture of the Visa and Mastercard logos. It was not clear what the difference was between the 2 options, particularly as the link for additional information provided the information in French. A second example was an un-selected opt-in on a Museum website. The option of subscribing to the mailing list was presented in such a way that the label for "Yes" was next to the radio button for "No", which could easily lead to the user inadvertently selecting the wrong option.

# 7 CONCLUSIONS

This study set out to identify all possible ways in which essential and optional decision constructs can be presented to a user in an on-line transactional process. The exploratory study was used to determine whether the constructs are used in practice and to identify any additional constructs that had been missed in the initial process. The genesis for the research question was to explore whether sectors, other than the airline sector, were acting in good faith in relation to consumer protection regulations. As noted earlier, the European Union has recognised that programming constructs are being used to nudge consumers to behave in a way that airlines wish. It would appear that these constructs are also being used in many other sectors. Furthermore, with the must-opt and other ambiguously presented decisions, it is clear that European Union regulations deal with the notion of optionality inadequately.

Based on the exploratory study, the authors believe they have captured all decision constructs presently in use. It is evident from the results of this study that firms, in most cases, are using obvious decision constructs that allow the user to make a quick decision that requires little deliberation or thought. However, there are a small number of firms using more complex constructs such as the must-opt or the un-selected opt-out for certain options, presumably in order to increase the likelihood of the user selecting the option. A more common tactic used to increase the likelihood of selection is the use of persuasion (almost half the constructs encountered used persuasion), whether through the use of an inherently persuasive construct (e.g. an opt-out) or explicit persuasion in the phrasing of the option. McKenzie et al (2006) found that users are less likely to accept the default option if they are educated about the issues in question. Perhaps, by using persuasion, companies are attempting to 'educate' users so that they will choose the option preferred by the firm.

It is likely firms will continue to behave inventively as they seek ways of attracting users attention to various ancillary products and services. The theory of cultural lag identified by Ogburn (1957) is a resilient one in this case, firms are using new technologies to shape user behaviour in their favour - researchers and regulators take note.

# 8 FURTHER RESEARCH

From this study, a number of issues emerged that will contribute to the analysis in the next phase of research. Some of the constructs were encountered infrequently, while others were more prevalent. Therefore, the number of websites examined will need to be expanded considerably in order to carry out statistical analysis on the results. The analysis will examine the following emergent issues:

- the prevalence of the different types of constructs,
- the clarity of the decision constructs,
- the clarity of the optionality of the decision,
- the level of persuasion,
- ease of reversing the decision,
- ease of use of the decision constructs,
- level of transparency,
- price visibility and clarity,
- how additional information is presented and how easy it is to comprehend.

All of the above will be analysed by industry type and construct type. Thus, a more elaborate study investigating how decision constructs are presented to users engaged in business-to-consumer (B2C) commercial transactions is planned. It will be framed with the decision constructs identified in this paper and the emergent issues specified here.

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