



**HOME DELIVERY STUDY**  
**THE DEMAND SIDE - CONSUMER SURVEY REPORT**

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## **Introduction**

The Logistics Research Center of Heriot-Watt University conducted an Internet shopping (non-food sector) and home delivery consumer survey in Edinburgh in November 2004 and in June 2005. The purpose was to find out what standard of service people expected from Internet retailing and whether they were satisfied with the service they had received. The home delivery questionnaires were sent to a total of 3000 households in Edinburgh. These households had various social and economical background, providing an unbiased sample. Each mail package included a covering letter, a copy of the questionnaire and a stamped business return envelope addressed to the author. The mailout generated 372 usable responses altogether, making a usable response rate of 12.4%. Among these responses, 79% of people had shopped online before while 21% had not. This report discusses the findings of the consumer survey.

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## Respondent Demographic Data

### Gender

As Table 1 shows that there were more female respondents than male respondents, which is in accordance with the media that females have been the driving force for the growth of Internet shopping. But it is possible that females were more willing to take part and fill in the questionnaire.

Online Shopping Experience	Gender		Total
	Male	Female	
Yes	133 (35.8%)	160 (43.2%)	293 (79%)
No	30 (8.1%)	48 (12.9%)	78(21%)
<b>Total</b>	<b>163 (43.9%)</b>	<b>208 (56.1%)</b>	<b>371(100.0%)</b>

Table 1: Gender and Online Shopping Experience Relations

### Age

Of all the respondents who had shopped online before, the 40-54 and 25-39 age groups accounted for 70% altogether. The 55-65 age group represented 15%, followed by young people aged between 16 to 24 and elder people over 65.

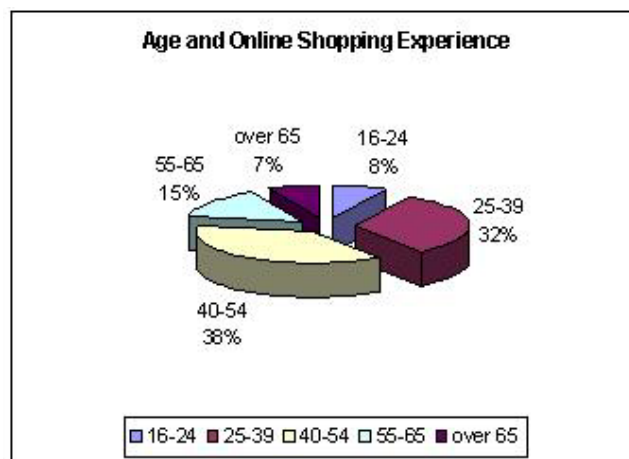


Figure 1: Age and Online Shopping Experience Relations

### Occupation

In terms of occupation, as many as 36% of respondents were professionals, who also accounted for the largest single segment of people with online shopping experience. Most respondents from senior managers and secretarial / public sector also had shopped online before. The majority of students and nearly half of retired people had online shopping experience.

Online Shopping Experience	Occupation									Total
	Senior Manager	Professional	Clerical/ Technical	Secretarial /Public Sector	Housewife	Plant & Machine operators	Retired	Student	Self-Employed	
Yes	40(11%)	123(34%)	19(5%)	39(11%)	14(4%)	1(0.3%)	33(9%)	16(4%)	1(0.3%)	289(79%)
No	3(1%)	9(2.5%)	11(3%)	7(2%)	5(1%)		37(10%)	3(0.8%)	1(0.3%)	77(21%)
Total	43(12%)	132(36%)	30(8%)	46(13%)	19(5%)	1(0.3%)	70(19.%)	19(5%)	2(0.5%)	366(100%)

Table 2: Occupation and Online Shopping Experience Relations

**Education**

Figure 2 shows a comparison of respondents’ online shopping experience across a range of education categories. The higher the respondents’ education level was, the more likely they were to have online shopping experience. For example, only 16 out of 120 respondents with degree, and 5 out of 64 respondents with post-graduate degree did not have online shopping experience. Half of respondents with secondary degree had not shopped online yet. However, the result may not be generalized as the people who responded to this survey had pre-selected themselves and the sample may not be representative of the whole population.

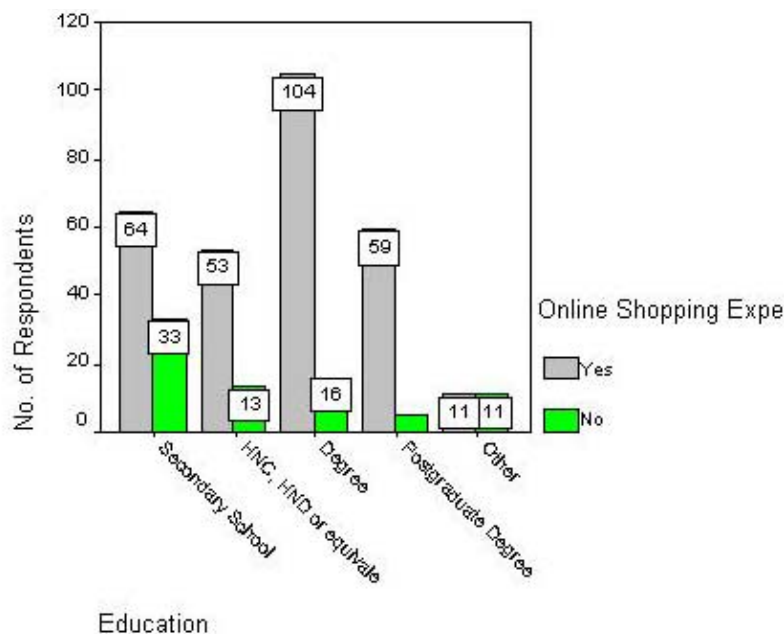


Figure 2: Education and Online Shopping Experience Relations

**Number of residents**

As high as 42% of respondents were from households with two residents. It is possible that a large number of two-resident households did not have children which explains why they were more likely to return the questionnaire and more likely to shop online. On the other hand, the majority of households with four or more than four residents tended to shop online.

Online Shopping Experience	No. of Residents						Total
	1	2	3	4	5	More than 5	
Yes	44(11.9%)	110(30%)	51(13.8%)	70(19%)	12(3.3%)	4(1.1%)	291(78.9%)
No	18(4.9%)	45(12%)	11(3%)	3(.8%)	0(0%)	1(.3%)	78(21.1%)
Total	62(16.8%)	155(42%)	62(16.8%)	73(19.8%)	12(3.3%)	5(1.4%)	369(100%)

Table 3: No. of Residents and Online Shopping Experience Relations

**Income**

As far as the income is concerned, it seems that the higher income people had, the more likely they would shop online. But the result may only apply to this consumer survey.

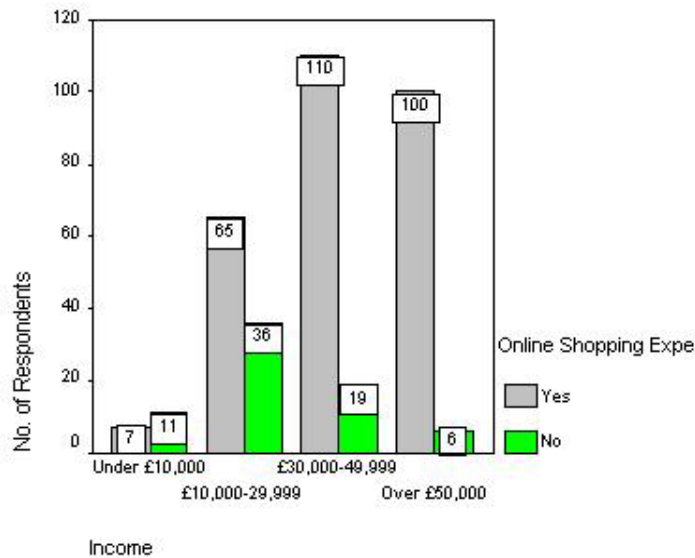


Figure 3: Income and Online Shopping Experience

**Reasons for choosing the particular retailer**

When answering the questions of the most recent online purchase of non-food products, the respondents were asked to specify the primary reason that made them choose the particular online retailer. 34% of respondents considered low price as the major reason, followed by choice of brand attraction (23%), availability (14%) and convenience (8%). Some e-retailers, especially pure players offer products that are not available in other channels. It is worth noting that ‘recommended by other people’ (4.7%) and ‘advertisement from other channels’ (3.6%) also stimulated people’s purchase desire. Cross-channel marketing is getting more important.

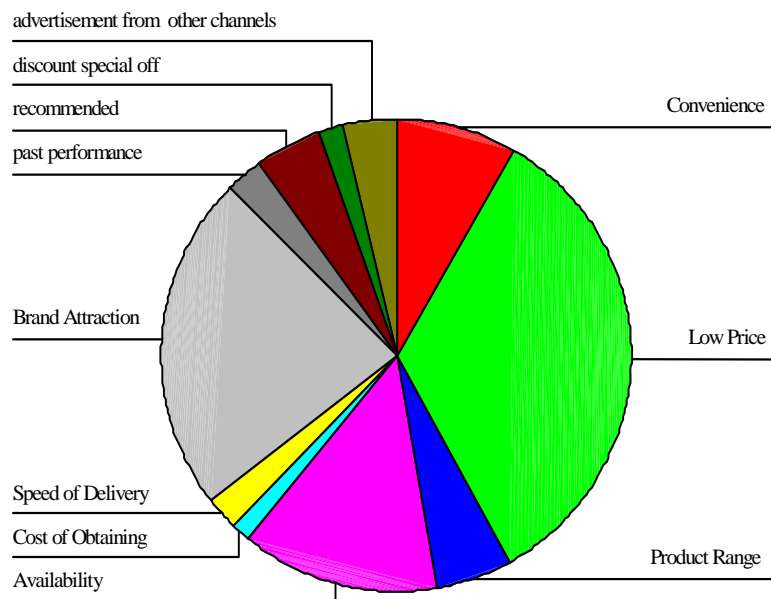


Figure 4: Respondents' Reasons for Choosing a Particular Retailer

### ***Catalogue Shopping Experience***

Consumers were asked of their catalogue shopping experience in order to find out whether there was any relationship between a person's catalogue and online shopping habits. No significant association between a respondent's catalogue shopping experience and online shopping experience was found. A frequent catalogue shopper may not necessarily be an online shopper.

### **Product Categories**

Figure 5 shows the frequency of products purchased through the Internet by respondent. Books and CDs were the most frequently purchased products, followed by computer products, flowers, gift or art, electronic products and photographic products. People were also buying clothes, toys, sports products, health and beauty, houseware and furniture online, though at a lower frequency. The least online purchased product category was furniture.

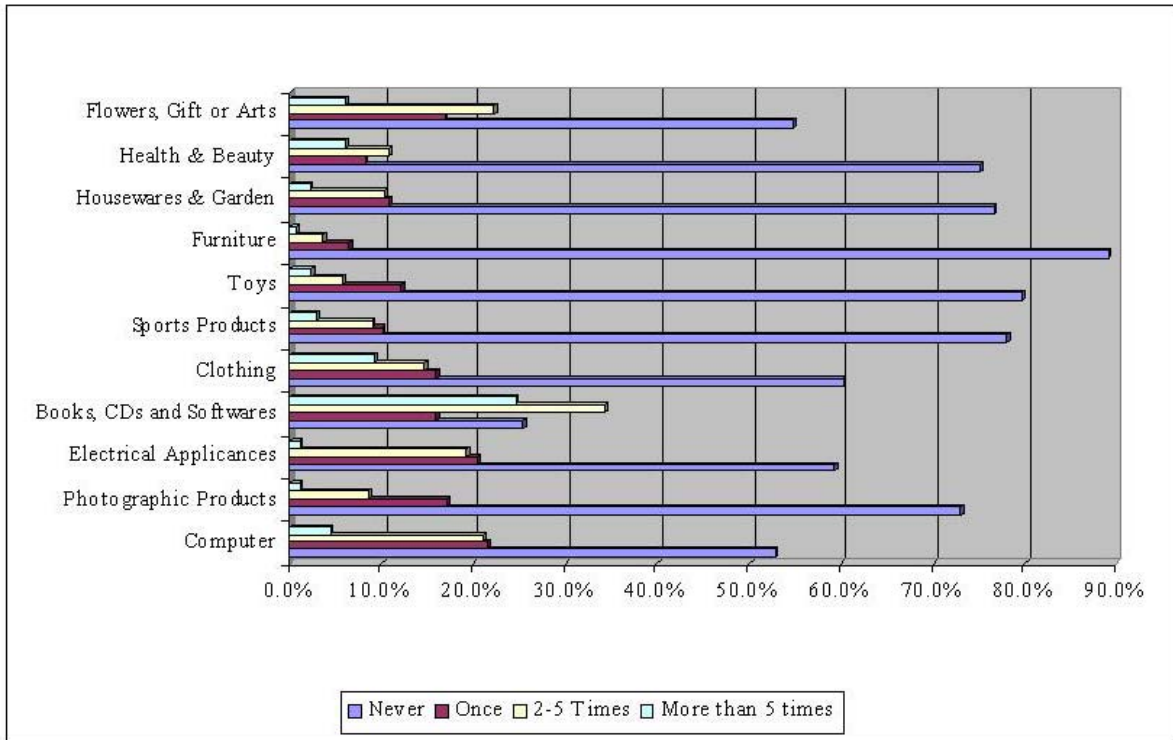


Figure 5: Frequency of purchase of different product categories

Amazon was the most popular e-retailer and its dominance was unquestionable. Other frequently listed pure players included ‘play.com’, ‘CDwow’, ‘7dayshop.com’ and ‘Dell’. Frequently mentioned multi-channel retailers included John Lewis, Comet, Argos, Currys, Marks & Spencer, HMV and Maplin etc.

Females bought more clothes, flowers, gift or art and health and beauty online than males. Males bought more electronic products. Housewives mainly shopped online for children’s clothes and toys. Retired people tended to buy books, CDs and housewares. Professional people or people work in secretarial / public sector were among the keenest groups to buy clothes online.

Respondents with higher income (more than £30,000) purchased a broader range of products, which almost covered every category; while respondents with lower income tended to limit their purchase to a few categories such as books, houseware and computer products.

**The importance of the home delivery variables**

The questionnaire listed fifteen home delivery variables belonging to four dimensions: availability (including order confirmation, alternative offer if out-of-stock, waiting time for out-of-stock product and order checking); timeliness (specify delivery date and time slot, delivery on the first

date and time slot arranged, quick delivery); condition (order accuracy, order undamaged and order completeness) and return (easy return, prompt collection and replacement of returned products). And respondents were asked to evaluate how important these variables were in the online shopping home delivery process by using a 5 point Likert scale from ‘unimportant’ (1) to ‘very important’ (5). Table 4 presents the comparison and ranking in the means across the fifteen variables. The respondents attached the highest scores to order undamaged and order accuracy, followed by easy return and order confirmation.

Variables	Total	Minimum	Maximum	Standard Deviation
<b>Order Undamaged / Order Condition</b>	4.93 (1)	3	5	0.273
<b>Order Accuracy</b>	4.87 (2)	3	5	0.353
<b>Easy Return</b>	4.59 (3)	2	5	0.602
<b>Order Confirmation</b>	4.59 (3)	1	5	0.670
<b>Prompt Replacement of Returned Product</b>	4.51 (5)	2	5	0.660
<b>Delivery on the First Date Arranged</b>	4.51 (5)	1	5	0.749
<b>Specify Delivery Date</b>	4.41 (7)	1	5	0.793
<b>Prompt Collection of Returned Product</b>	4.33 (8)	1	5	0.736
<b>Ability to Deliver Quickly</b>	4.30 (9)	1	5	0.779
<b>Delivery in Specified Time Slot</b>	4.28 (10)	1	5	0.883
<b>Waiting Time for out-of Stock Product</b>	4.27 (11)	1	5	0.864
<b>Specify Delivery Time Slot</b>	4.14 (12)	1	5	0.950
<b>Order Completeness</b>	4.12 (13)	1	5	0.923
<b>Order Checking / Tracing and Tracking System</b>	3.83 (14)	1	5	0.944
<b>Alternative Offer</b>	2.81 (15)	1	5	1.156

Table 4: Means Comparisons of the Fifteen Variables.

### Consumers’ perception of the overall service quality by e-retailers

Consumers were also asked of their recent Internet purchases and how they felt of the services they received from the e-retailers. E-retailers were classified into six categories: multiple retailers (retailers who not only sell from high-street stores but also from Internet, thus selling through multiple channels); pure players (retailers who have no physical presence and sell from the Internet only); independent stores (small retailer chains who have fewer than ten physical stores); primarily pure players (retailers who sell from the Internet mainly but have one or two physical stores or show rooms; or have also catalogue operation); and manufacturer, wholesaler or distributor.

Respondents were asked to evaluate retailers’ home delivery service quality by using a 5 point likert scale from 1 (very poor service) to 5 (excellent service). Table 5 shows that multiple retailers scored lower than pure players.

Type	Mean	Number	Std. Deviation	Minimum	Maximum
Multiple retailers	4.18	140	1.034	Very poor	Excellent
Pure players	4.43	413	.793	Very Poor	Excellent
Independent stores	4.29	21	1.007	Poor	Excellent
Primarily pure player (Internet+store)	4.55	31	.675	Poor	Excellent
Primarily pure players (Internet+catalog)	4.50	42	.834	Poor	Excellent
Manufacturer, wholesaler or distributor	4.45	29	1.021	Very poor	Excellent
Total	4.41	612	.846	Very poor	Excellent

Table 5: Comparisons of Overall Service Quality

When people were asked how their assessment of the actual service quality compared with their expectations, as many as 69% of respondents' thought the service met the expectation. 18% and 10% of respondents considered the service exceeded expectation or far exceeded expectation respectively. Only 3% of respondents regarded the service below expectation or far below expectation. Online home delivery service in general was satisfactory with only 12 out of 167 services were considered to be poor or medium.

Overall Service Quality	Expectations vs. Perceptions					Total
	Far below expectation	Below expectation	Within expectation	Exceed expectation	Far exceed expectation	
Poor	1 (.6%)	2 (1.2%)	0	0	0	3 (1.8%)
Medium	1 (.6%)	0	8 (4.8%)	0	0	9 (5.4%)
Good	0	1 (.6%)	46 (27.5%)	5 (3.0%)	1 (0.6%)	53 (31.7%)
Excellent	0	0	61 (36.5%)	26 (15.6%)	15 (9.0%)	102 (61.1%)
Total	2 (1.2%)	3 (1.8%)	115 (68.8%)	31 (18.6%)	16 (9.6%)	167 (100%)

Table 6: Respondents' Expectations vs Their Perceptions

### Order value and order delivery charge

Figure 5 shows that 67% of orders were worth under £50 and 18% were worth more than £200. Books and CDs, flower and gift, health and beauty products were normally of low-value. Most computer products, furniture and art products were worth more than £200. Products from the rest of the categories were less predictable: they could be either expensive or inexpensive.

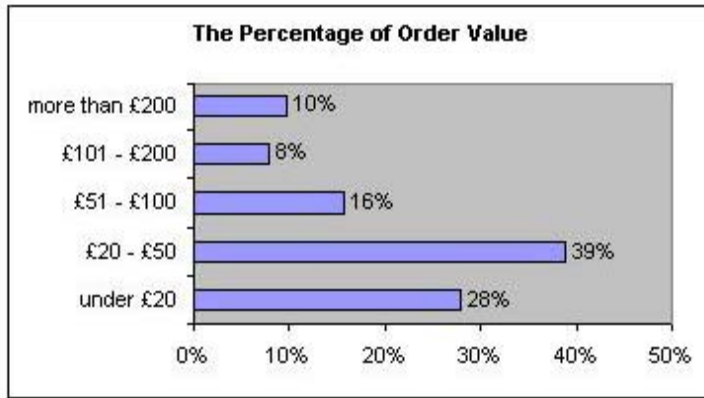


Figure 5: The Percentage of Order Value

Figure 6 shows the percentage of order delivery charge. More than half of deliveries were free. A small number of deliveries were charged more than seven pounds. There was no strong evidence suggesting that delivery charge was directly associated with either product category or order value. However, some companies may have hidden delivery charge, which is included in the product price. While others may distinguish between these two. In reality, people expect retailers charging high delivery charge to provide superb performance.

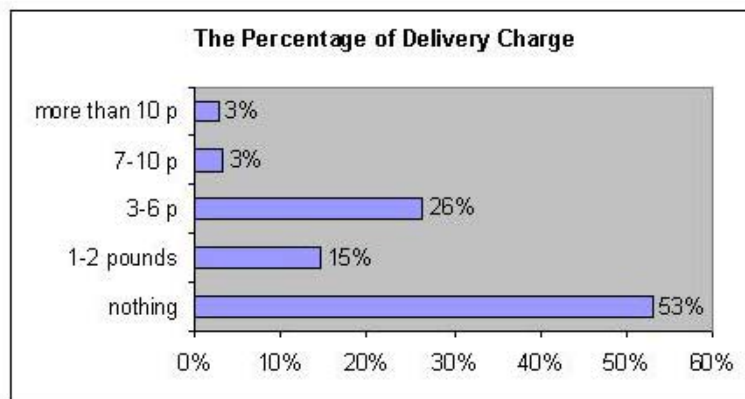


Figure 6: The Percentage of Delivery Charge

### The performance of the fifteen variables

Respondents were asked how they would evaluate the performance of the e-retailer with whom they made their most recent online purchase in terms of the fifteen home delivery variables. Table 7 represents the results in comparison between multi-channel retailers and pure players. Statistical analysis suggests that multi-channel retailers did better in order confirmation, while pure players did better in order tracing and order accuracy.

Variables	Multi-channel retailers			Pure players		
	Number	Mean	Standard Deviation	Number	Mean	Standard Deviation
Order confirmation	31	4.71	.529	193	4.57	.768
Alternative offer	20	3.50	.827	83	3.53	1.141
How long to wait if out-of-stock	12	4.08	.793	51	3.94	1.085
Specify delivery date	29	3.90	1.145	178	4.05	.999
Specify time slot	15	3.13	1.187	67	3.13	1.413
Order checking	26	3.27	1.43	162	4.01	1.009
Delivery on the first date arranged	27	3.96	1.224	148	4.37	.942
Delivery in time slot	23	3.35	1.191	102	3.88	1.171
Quick delivery	16	3.81	1.223	117	4.21	1.055
Order accuracy	32	4.47	.983	193	4.85	.471
Order condition	32	4.72	.581	190	4.82	.527
Order completeness	21	4.24	1.261	110	4.50	.936
Easy return	17	3.82	1.131	59	4.10	.885
Prompt collection	8	3.38	1.188	21	3.38	.669
Prompt return	6	3.33	1.366	23	3.26	.915

Table 7: Comparison of Means of Fifteen Variables between Multi-channel and Pure Players

**On-time delivery**

The respondents were asked how long it took for the order to arrive and whether the order arrived on time as promised by the retailer. 93% of orders arrived on time and only 7% failed to arrive within the promised lead time by the retailers. Figure 7 shows the frequency of order lead time. 34.8% of order arrived within 3-4 days. Only 7.9% of the orders were delivered next day. Crosstabulation was conducted between product categories and order lead time. It was found that retailers varied a lot from one to another in order lead time for the same product category. Also, there was no proof that delivery charge was associated with order lead time. The next day deliveries were not necessarily the most expensive ones. On the contrary, all orders with more £10 took at least more than 3 days to arrive.

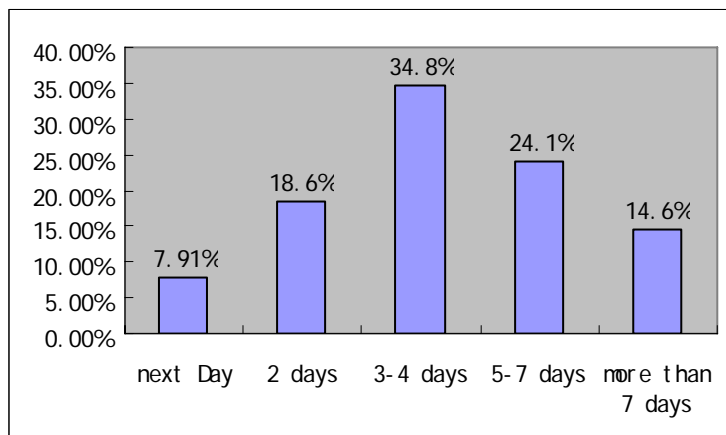


Figure 7: Order Lead Time Frequency

Figure 9 shows the frequencies of delivery time window. 80.5% orders did not have a delivery time window at all. 17.2% had a morning or afternoon time window. A very small number of deliveries were made within a 2 hours or 1 hour slot. And all these short-time window deliveries were considered to have excellent or good service quality.

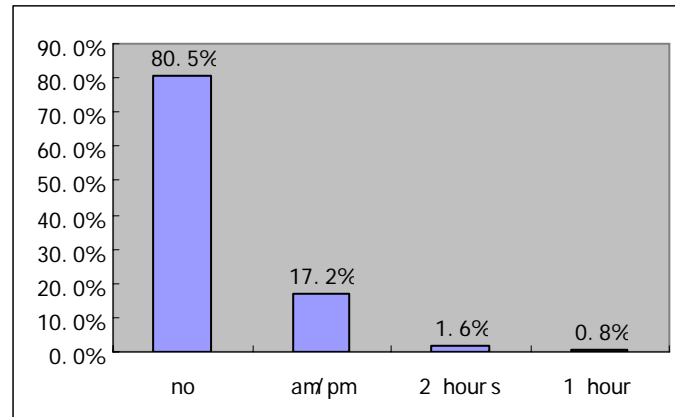


Figure 9: Delivery Time Window

### Returns and order completeness

Only 3% of products were returned and they were mostly clothing products. Data suggested that if returns were handled well, consumers could still have high evaluation of the service quality. 62% of orders consisted of only one item and 38% multiple items. No significant relations were found between returns and order completeness.

### Unattended Delivery

42% respondents said that there was normally someone at home during the day to receive a delivery. And 58% respondents said that normally no one was at home for the daytime delivery. When those who said that normally nobody was at home for the delivery were asked whether somebody had to take time off work to receive the delivery, two thirds said no. These figures suggest that more than half of the day time deliveries will either not be delivered or leave with other options unless people take time off to stay at home for the delivery. And as many as one third of daytime deliveries have be delivered for a second time because some people can not or would not take time off.

When asked about delivery time, 29.9% preferred delivery by arrangement. 23% of respondents preferred morning delivery, i.e. 8 am –12 noon. Early morning delivery before 8 am or late evening delivery after 6 pm were also popular options. Few people seemed to like late evening delivery after 8pm. Afternoon delivery and weekend delivery were not as popular as morning and evening delivery (see Figure 10).

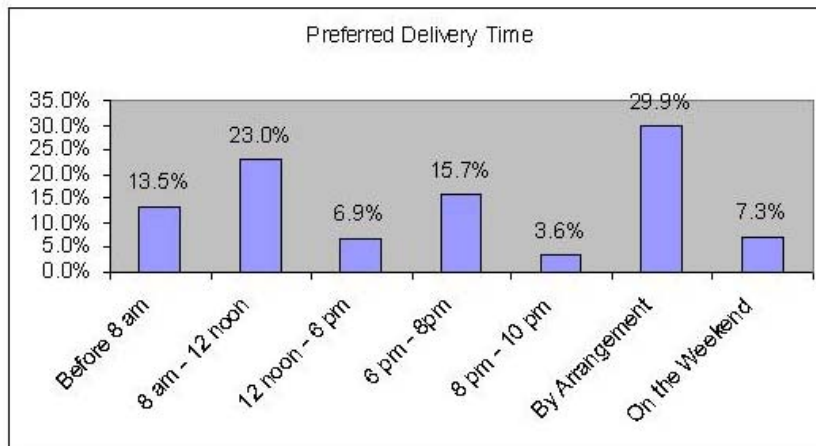


Figure 10: Preferred Delivery Times

People then were told that weekend and evening delivery normally involved a surcharge and they were asked how much they were willing to pay for it. Figure 11 shows a similarity of attitudes people held towards weekend and evening delivery. More than half of the respondents were unwilling to pay anything either for weekend or evening delivery. Some 28% were willing to pay 1-2 pounds for weekend delivery and 30% for evening delivery. Slightly more people were happy to pay a premium for weekend delivery than for evening delivery. People’s attitudes may help explain why relatively few companies provide weekend and evening delivery. There is not enough demand to achieve economy of scale and companies have to charge premium to cover high operating costs.

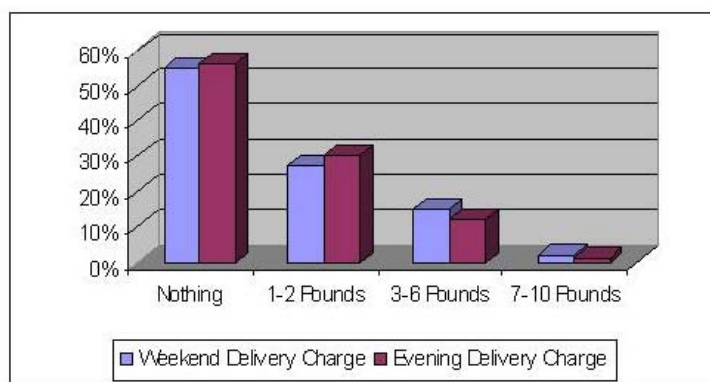


Figure 11: Preferred Weekend and Evening Delivery Surcharge

Then people were asked what would be their alternative choice if there was no-one at home to receive the delivery. Almost half respondents chose to leave the goods with a neighbor. Then 22% of respondents asked the goods to be delivered to a local pick-up point such as a post office,

convenience store and petrol station etc. 21% were happy to receive the goods in work place and 8.4% would like to arrange another delivery (see Figure 12).

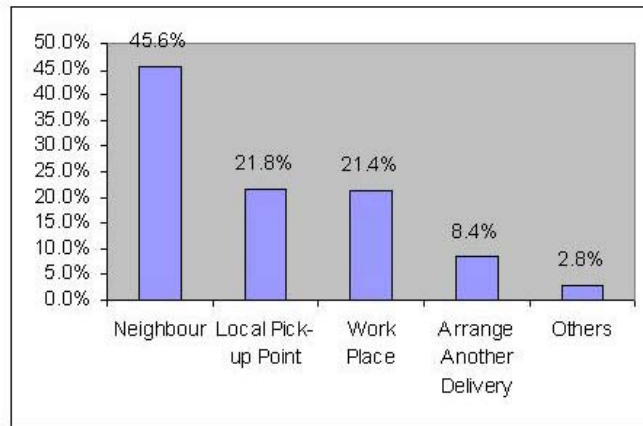


Figure 12: Alternative Delivery Place

In conclusion, daytime delivery is getting very difficult as more and more people are not at home to receive the goods. But not everybody is happy about evening or weekend delivery, let alone pay a premium surcharge for that. Many people prefer delivery by arrangement so they can be better prepared. As far as unattended delivery is concerned, most people's priority is to leave the goods to a neighbour. Work place and local pick-up points as alternative delivery places are getting more popular. A quarter of respondents with household income over £50,000 preferred delivery to the work place, which may be further proof that 'cash-rich time-poor' people, who are likely to shop online, are unlikely to stay at home for the delivery. Thus how to achieve unattended delivery to consumers' satisfaction will become a huge challenge for retailers.