Consumer Acceptability in Flower Chains: How Can We Determine What the Final Customers Really Want?

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Abstract
When we look at the ornamental supply chain in the Netherlands as a Value Chain (Porter, 1998) it strikes us that most actors in the chain are obsessed by the product and have no idea how the value of these products is developed throughout the entire production and supply chain. Any value chain starts with the value a group of consumers attributes to the product. So it all starts with finding out what consumers want and then finding the most cost effective way of delivering that product with the desired attributes to these consumers. In the USA the South American producers expected to be able to compete with the local production by offering the product (cut flowers) at a lower price (Reid, 2002). In the first instance this worked very well and the local production virtually disappeared. However the quality of the imported product was a dismal failure and while imports surged, total flower consumption plummeted in the 90s. In the UK the retail chains such as Sainsbury's and Tesco wanted to improve their ornamental categories. They invented the 'Vase Life Guarantee' and improved their quality considerably. This resulted in an increase in market share from 18 to 60% over 15 years, while the total flower consumption in the UK doubled in the past 15 years.
A research will be shown on the response of stakeholders in the ornamental industry and consumers on the question whether they would see the 'Vase Life Guarantee' as a value addition in the supply chain. This research was done in the UK and the Netherlands (where no vase life guarantee was used explicitly in the retail) at the turn of the millennium. It clearly shows the difference between the judgements of the stakeholders versus the opinions of the consumers.
If we want to create Value Added Chains in the ornamental industry it is about time to find out what the consumer really wants!

INTRODUCTION

On the continent of Europe the major outlet for cut-flowers are the florist shops and the outdoor vending stalls. This is in contrast to the USA and the UK where the supermarket is the major outlet for cut flowers. In the USA this has always been the case in the past 35 years. In the UK however the situation was similar to the continent in 1992 with a total market share for cut-flowers of around 15 to 20%, this is still the case to date for most continental Europe. However the present situation in the UK has changed dramatically. At present the market share of the supermarket for the sales of cut-flowers is close to 60%, while the total consumption counted both in number of flowers as well as in the total turnover has more than doubled since 1992. The big question is then: "How did they do it?" And the most eye-catching answer is the introduction of the concept of a 'Vase Life Guarantee'.
In the beginning of the 90s the supermarket chains Tesco and Sainsbury's decided to augment their ornamental categories. They changed their floor layout to make the in-house flower shop more appealing for the consumers. They trained their personal to handle the flowers professionally and tried to source their flowers from trustworthy

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wholesalers. But after having implemented all that their sales did not increase by the predicted amounts. Consumer research taught them that the average consumer did not think highly of the flowers being sold through supermarkets. In order to win the trust of the consumer the 7 days vase life guarantee was invented. Why 7 days and not 6 or 10, was mainly because most consumers with kids and double incomes only went shopping once a week and if the flowers lasted that long it was expected to fit in the expectations of the consumers. One wholesale company in the Netherlands was found willing to deliver the mixed bouquets and take responsibility for this vase life guarantee. From then on all flower straight lines and mixed bouquets carried a 2 inch sticker with "7 days vase life guarantee" printed on it. The result is defined above and the question that arises is whether this sticker did the job or whether something else influenced this major change in the flower market in the UK? When we looked at this situation in the start of the year 2000 we wanted to know whether the application of a vase life guarantee by the Dutch supermarket chains could illicit the same effect in our consumers market. By studying both stakeholders in the chain and consumers we found their responses to be rather different and the results show that the answer to what caused the major market change in the UK is not as direct and simple as was expected from the start.

MATERIALS AND METHODS

Stakeholder Interviews

On the level of wholesalers, retail category managers, the auctions and suppliers of vase life enhancing sachets open interviews were held to determine their opinion on the possibilities of introducing a "7 Days Vase Life Guarantee" in the Netherlands. Nine persons where interviewed and they were selected on the basis that they operated both in the Netherlands as well as in the UK and were expected to have a good overview of the present day market (around the millennium). They were interviewed in depth (the interview taking over 1.5 h) with open questions. For this report the main questions were: 1) Do you think a vase life guarantee on cut-flowers like the one in the UK, could be developed in the Dutch market? 2) Do you think the Dutch consumer will appreciate a vase life guarantee? 3) Do you think that a vase life guarantee will give added value to the cut-flowers sold with this certificate?

Consumer Interviews

One hundred four consumers in both countries were asked to take part in a conjoint analysis test for their preference for different cut flowers. A special room at a shopping mall in the UK and in the Netherlands was equipped for this. Consumers that agreed to take part in the test were given a questionnaire to fill out their demographic constituency and answer questions on their knowledge and expectations regarding quality in cut flowers.

Conjoint Analysis

In a special room at a shopping mall different flower bouquets were on display. For the research 4 varying attributes where chosen, price, colour, exclusivity and guarantee as can be seen in Table 1. Each attribute has two levels except the attribute price that had 4 levels. These 4 levels were chosen at the time from very cheap to reasonably dear. The interaction price × guarantee was studied explicitly to see whether the price itself would hinder or stimulate the buy of a guaranteed bouquet. In each room 20 real bouquets have been placed on long tables along the walls of the room. As an example the 20 different bouquets used in the Dutch analysis are shown in Table 2. Of all bouquets only 16 were used for the analysis and 4 were kept apart as hold-outs. After the analysis was done with the 16 bouquets then the model predicted certain results for these 4 bouquets and they were compared with the actual values found. This is standard procedure in conjoint analysis to ensure that the model and the data are consistent. On the flower bouquets that were endowed with a vase life guarantee the following massage was

placed in clear view (in the Netherlands a similar sign was placed in Dutch).

<div style="border:1px solid black; padding:10px; text-align:center;">

Guaranteed for 7 days

These flowers have a guaranteed vase life of 7 days after purchase. If the flowers are not conform to this guarantee, we will replace your purchase.

</div>

RESULTS

Stakeholder Interviews

All stakeholders held quite equal views on the questions pertaining to the present report. They were all convinced that it would be technically possible to introduce a 7 days vase life guarantee in the Netherlands. However they all agreed upon the idea that the Dutch consumer would not be interested. The consumer wouldn't be averse to the idea, but it would not be acceptable to raise the price. It would influence the overall quality level of the flowers in the outlets, but the costs would also go up. It would not enhance sales and if the price remained constant then it would turn out to be a useless investment. The fact that it did work out in the UK market was explained mainly by the cultural differences between Dutch and UK citizens. The British were said to be prepared to pay more for quality, while the Dutch were more prone to go for a lower price.

Consumer Interviews

The 102 citizens that were randomly asked to participate in each country, while they walked around a mall, were first asked to answer a range of questions. These were closed questions where they were only allowed to answer yes or no or answer on a Likert scale. The most important question pertaining to this report was if the person had ever heard of a vase life guarantee before (Fig. 2). The fact that only 11% of the Dutch had ever heard of it was not astonishing as there was only a vase life guarantee at the Shell gas stations at that time (delivered by the same wholesaler as the one delivering to the UK retailers). However it was astonishing to find out that only 28% of the UK citizens had heard of a vase life guarantee before, implying that 78% had not heard of it while they had been buying these flowers for at least 6 years by then. And each bouquet (nearly all UK retailers had copied the guarantee by then) had a 2 inches sticker on its sleeve stating "7 DAYS VASE LIFE GUARANTEE".

Conjoint Analysis

One hundred two persons per country were asked to determine which flower bouquet they preferred and put the 20 bouquets in order of their preference. The results of 16 bouquets were used for the development of a conjoint analysis model. This led to the following model for the Netherlands (for the meaning of the attribute subscripts see Table 1):

$$Y = -0.336317 - 0.408989\,X_{12} - 0.636069\,X_{13} - 0.698082\,X_{14} + 1.344359\,X_3 + 0.108116\,X_4 + 0.271318\,X_{12}\,X_2 + 0.232601\,X_{13}\,X_2 - 0.137004\,X_{14}\,X_2$$

where Y is the use of the function and the first constant is a base factor that has no physical meaning. In Figure 3 we can see what the outcome of this model means for the use people attribute to the different bouquets when comparing no vase life guarantee with the presence of a vase life guarantee. It is clear that the Dutch consumers give a much higher use to the presence of a vase life guarantee in the two intermediate price classes (normally the price classes found in supermarket stores) compared to the absence of a

vase life guarantee. It is also clear from the coefficient $\alpha_3 = 1.3$ of the exclusivity attribute (X_3), that Dutch citizens attribute much use to the exclusivity of a bouquet.

For the UK the following model was found:

$$Y = -0.084766 - 0.133863\,X_{12} - 0.556161\,X_{13} - 1.154572\,X_{14} + 0.226272\,X_2 + 0.908335\,X_3 + 0.082796\,X_4 - 0.184096\,X_{12}\,X_2 - 0.318195\,X_{13}\,X_2$$

Here the emphasis on exclusivity is less than in the Dutch case, however the high price (X_{14}) has much more negative impact than in the Dutch case. When we look at the comparison between with and without guarantee related to price (Fig. 4) we see that in the intermediate price range there is not much difference. However in the lowest and highest price the British do prefer a vase life guarantee.

In Figure 5 the hold-out bouquets are compared to the model for the Dutch (NL) and the British (UK) case. The comparison appears to be quite accurate giving us confidence that the model is not caused by arbitrary correlations.

CONCLUSIONS

If we compare the results from the interviews with the conjoint analysis models we can come to the following conclusions: The Dutch are more prepared to buy flowers with a high price than the British, i.e. the α_{14} is less negative in the Dutch case than in the UK case. The British consumers prefer a vase life guarantee either when the flowers are expensive or when they are very cheap. With the Dutch it is the other way around. They probably expect an implicit vase life guarantee when the flowers are very expensive, or they consider it to be a sign of weakness of the shop. And they don't want to bother with it when the flowers are very cheap. However in the intermediate price category they do appreciate the presence of a vase life guarantee. This is in contrast with the stakeholder interview outcomes. Where all stakeholders were of the opinion that Dutch consumers are more price oriented than British consumers and were not prepared to pay more for the presence of a vase life guarantee. It appears that Dutch consumers were prepared to pay more for a vase life guarantee when looking for flowers in the average price classes.

But the main question remains why the flower consumption increased so much in the UK while it stayed more or less the same on the continent? Especially now that we know that the majority of the British were not aware of the vase life guarantee despite the fact that this was strongly advertised. Apart from the vase life guarantee the wholesaler actually succeeded in creating flower bouquets that would last at least 7 days once they reached the consumer homes. This was the case for more than 99% of the flowers sold in British supermarket stores. This in itself was a major change of quality in the market as a significant percentage of flower bouquets did not reach the 7 days vase life previously. Thus if the consumer was not aware of the vase life guarantee, he or she would still have the repeated experience of a discernable quality attribute of the flowers bought at the supermarket outlet.

As far as I can see the US flower market has been more or less destroyed by continuous input of bad quality flowers (see Fig. 1), while the UK market has doubled its consumption in 15 years by a continuous input of high quality product over a prolonged period of time. In the US case it was believed that price was the driving factor and quality was not really an issue. In the UK case the quality was brought up to an unprecedented level and the consumer's expectations were satisfied or exceeded without fail.

It is about time we start thinking of the consumer and not just cater to the wishes of the next customer downstream the supply chain.

ACKNOWLEDGEMENTS

Literature Cited

Porter, M.E. 1998. Harvard Business Review. Nov/Dec, 76:6.

Reid, M.S. 2002. How can we sell more flowers? In: U.C. Cooperative Extension, Davis, California.

Tables

Table 1. Four attributes have different levels in the Netherlands as compared to the UK due to the currency difference but also the type of bouquets where optimised to the local consumer preferences (see pictures).

Attribute	Level NL	Guarantee×price	Level UK	Guarantee×price
Guarantee	Without X_2=0		Without X_2=0	
	With X_2=1		With X_2=1	
Price	€ 3.50 X_{11}=1/0	$X_2 \times X_{11}$	£ 1.99 X_{11}=1/0	$X_2 \times X_{11}$
	€ 4.50 X_{12}=1/0	$X_2 \times X_{12}$	£ 2.99 X_{12}=1/0	$X_2 \times X_{12}$
	€ 6.75 X_{13}=1/0	$X_2 \times X_{13}$	£ 4.99 X_{13}=1/0	$X_2 \times X_{13}$
	€ 9.00 X_{14}=1/0	$X_2 \times X_{14}$	£ 6.99 X_{14}=1/0	$X_2 \times X_{14}$
Exclusivity	Not excl. X_3=0		Not excl. X_3=0	
	Exclusive X_3=1		Exclusive X_3=1	
Colour	Single X_4=0		Single X_4=0	
	Multiple X_4=1		Multiple X_4=1	

Table 2. List of attributes and levels used in the Dutch conjoint analysis experiment. The hold-outs where not used in the analysis, but used later to test the validity of the model.

| Number	Profile description				Type of profile
	Price (€)	Guarantee	Exclusivity	Colour	
1	3.20	Without	Exclusive	Yellow-red	Hold-out
2	6.75	Without	Not excl.	Yellow	Normal
3	6.75	With	Exclusive	Yellow	Hold-out
4	9.00	With	Not excl.	Yellow	Normal
5	9.00	With	Exclusive	Yellow-red	Normal
6	9.00	Without	Exclusive	Yellow	Normal
7	4.50	Without	Not excl.	Yellow	Normal
8	9.00	Without	Not excl.	Yellow-red	Normal
9	6.75	Without	Exclusive	Yellow-red	Normal
10	3.20	Without	Not excl.	Yellow-red	Normal
11	4.50	Without	Not excl.	Yellow-red	Hold-out
12	6.75	With	Not excl.	Yellow-red	Normal
13	9.95	With	Exclusive	Yellow	Normal
14	6.75	With	Exclusive	Yellow	Normal
15	4.50	Without	Exclusive	Yellow-red	Normal
16	9.00	With	Not excl.	Yellow	Hold-out
17	4.50	With	Not excl.	Yellow-red	Normal
18	3.20	Without	Exclusive	Yellow	Normal
19	3.20	With	Not excl.	Yellow	Normal
20	3.20	With	Exclusive	Yellow-red	Normal

Figures
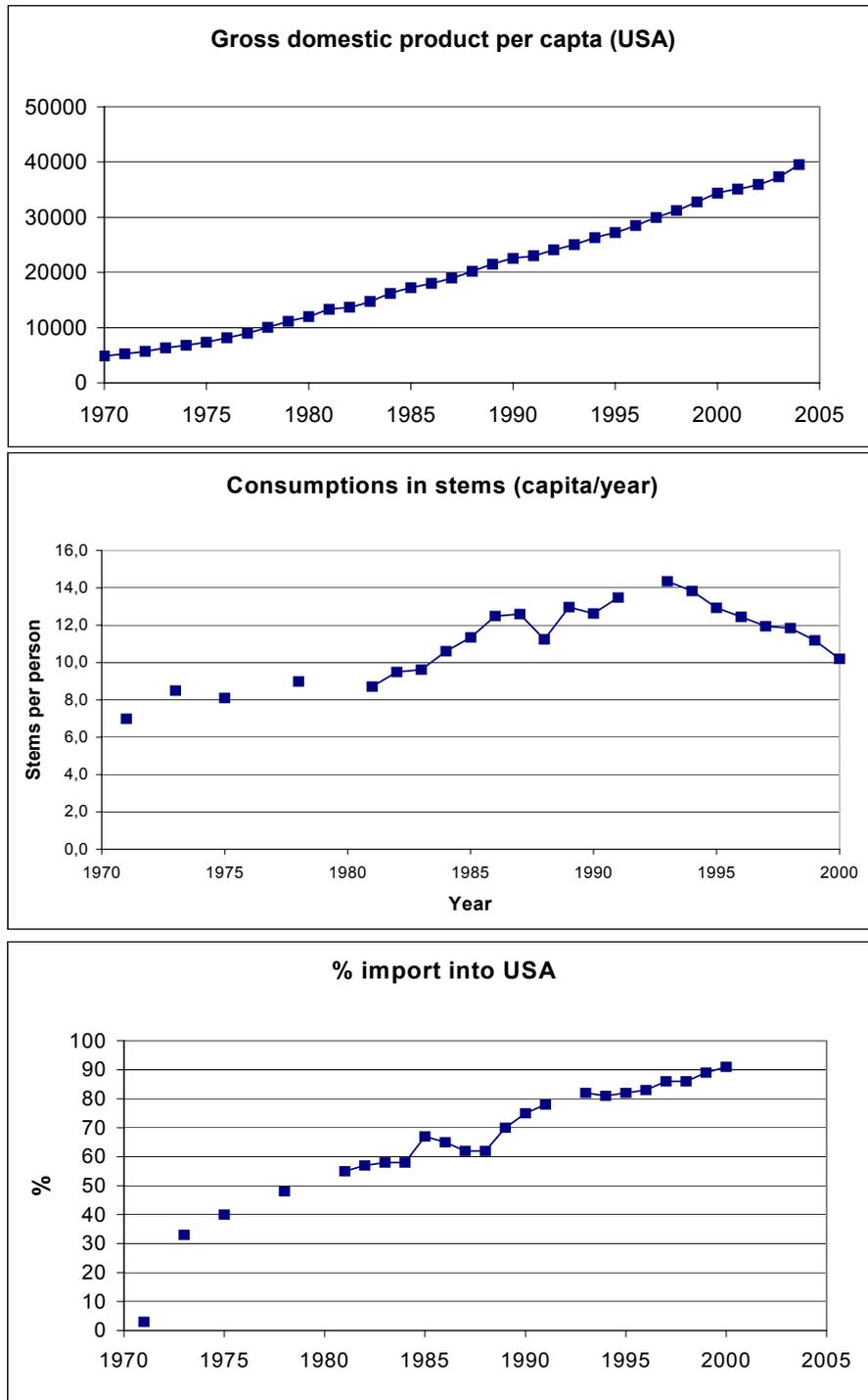
Fig. 1. A The gross domestic product per capita in the USA from 1970 till 2004 showing
an eight-fold increase in income over that period. B The consumption of cut
flowers per capita per year in the USA from 1970 till 2002 showing two-fold rise
in consumption between 1970 and 1990 and a 50% decrease from 1993 till 2002.
C The percentage of cut flowers that have been imported into the USA compared
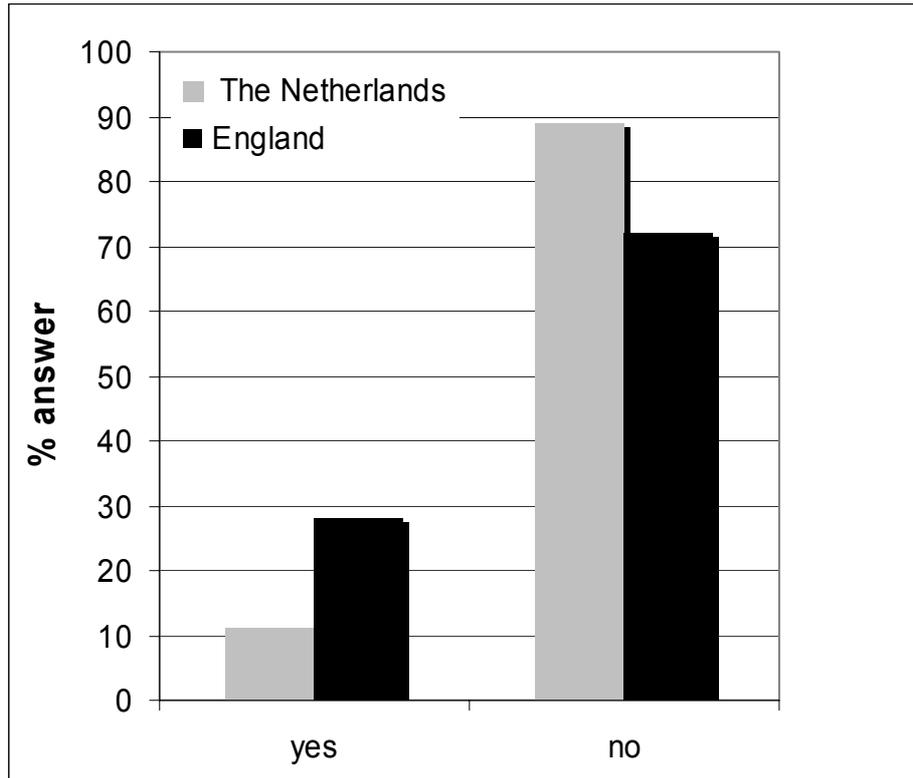to the total sales from 1970 (virtually nil) to more than 90% nowadays.

Fig. 2. Response to the question: Do you know what is implied by a 7 days vase life guarantee? The positive response is higher in the UK than in the Netherlands, which is to be expected. However the fact that 72% of the British citizens did not know was astonishing, as they had been buying these flowers with a sticker on them for the past 6 years at least!
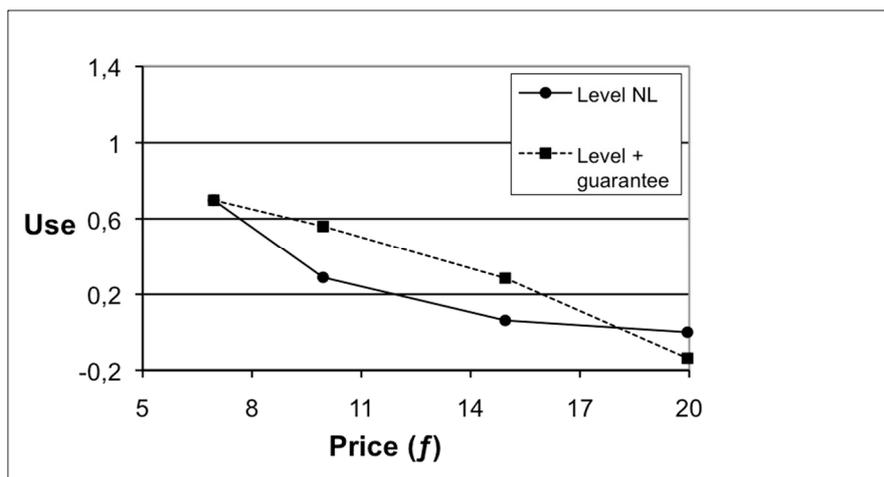

Fig. 3. Comparison of the model with (dotted line) and without (continuous line) guarantee at different price levels in the Netherlands (NL). Both at low and at high prices the differences are small or even negative for the guarantee. At intermediate prices (expected in the supermarket outlets) the Dutch consumer does attribute a positive use to the addition of a vase life guarantee.
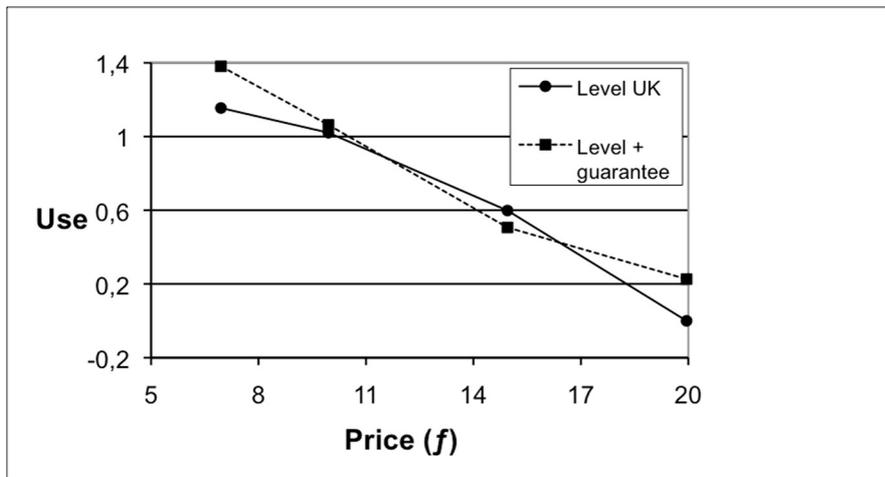
Fig. 4. Comparison of the model with (dotted line) and without (continuous line) guarantee at different price levels in the United Kingdom (UK). Both at low and at high prices the differences are significant. At intermediate prices the British consumer does not attribute a positive use to the addition of a vase life guarantee.
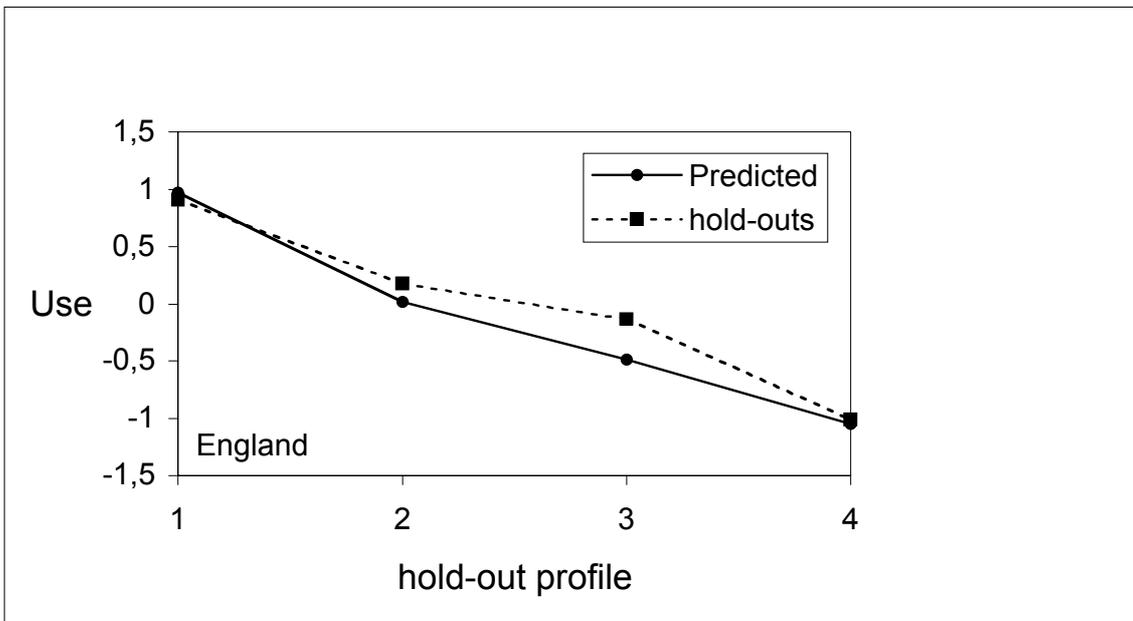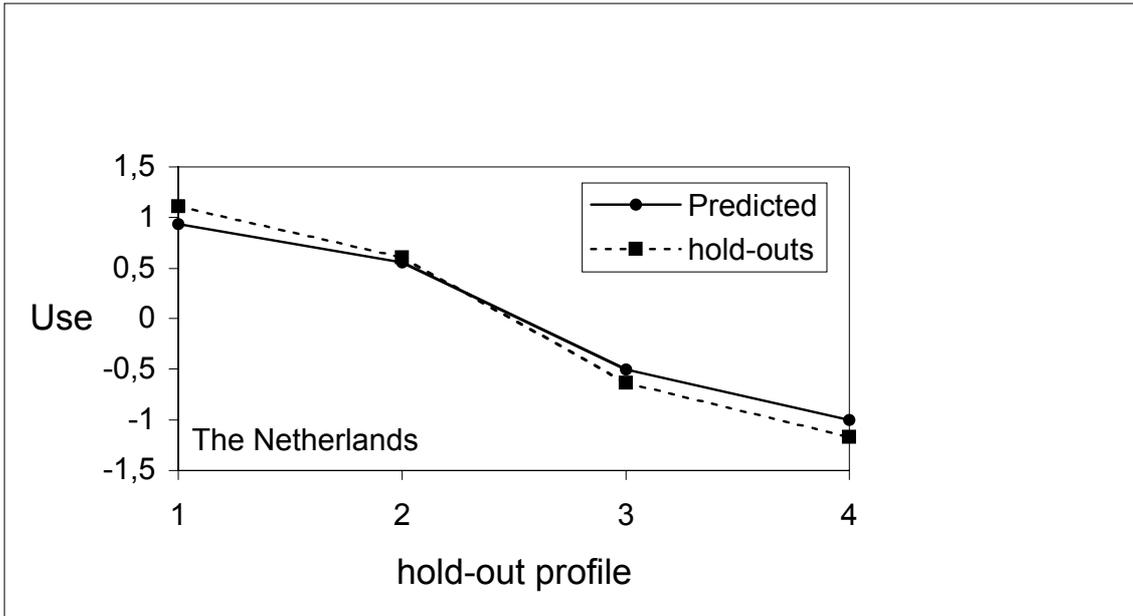
Fig. 5. Comparison of the hold-out use levels found with the levels predicted by the model both in the Netherlands (upper panel) and in the UK (lower panel). The found values do not differ significantly from the values predicted by the model, indicating the reliability of the model.