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## **International Flower Networks: Transparency and Risks in Marketing Channel Choice**

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### **Abstract**

Two thirds of Kenyan cut flowers are marketed through Dutch flower auctions, while the remainder is marketed directly to retailers. Auctions do not restrict the volumes marketed; however price determination is based on a spot market. A Transaction Cost approach is used to investigate the differences in marketing costs between the channels. The results suggest that there are no differences between the channels in terms of uncertainty about prices, finding buyers or transparency of quality standards. Auction growers pay a higher marketing fee but they have significantly fewer office employees and flower varieties compared to growers who market directly.

**Key words:** *Transaction Costs; Auction; Flowers; Kenya; Netherlands*

### **1. Introduction and Objective**

The Netherlands is a renowned exporter of flowers, with a global market share of 45%. Table 1 shows that the largest producers of cut flowers do not play a significant role in the international flower trade. African growers export over 95% of their exports to Europe and the Netherlands has a share of over 75%. The Netherlands acts as a marketing and logistics centre within Europe, with domestic production and imports largely exported or re-exported to other markets. Approximately 25% of the turnover of the Dutch flower auctions comes from foreign suppliers.

**Table 1.** Top-5 producers, exporters and importers of cut flowers

Top-5 producers (ha, incl pot plants)	Top-5 world exporters (Million Euro)	Top-5 importers (Million Euro)
1. China(122.000)	1. Netherlands(2250)	1. Germany (870)
2. India(65.000)	2. Colombia(602)	2. UK (842)
3. USA(25.000)	3. Ecuador(260)	3. USA (615)
4. Mexico(21.000)	4. Kenya(200)	4. Netherlands (465)
5. Taiwan(12.000)	5. Israel(145)	5. France (386)
9. Netherlands(8000)		

Source: (AIPH, 2004)

In world shares the Kenyan flower production is modest. During a time span of over 20 years Kenya has an annual growth rate of 13% in flower production quantity and even 15% in production value. Kenya is a main foreign supplier to the Netherlands, with two-thirds of Kenyan production destined for the Netherlands. Despite the fact that roses represent 70% of Kenyan cut flower production, the industry is relatively diversified compared to other emerging flower producers. The Kenya Flower Council recognises the European market as of central importance to the Kenyan flower industry (Dubai, 2004). Kenya's flower industry is mature and has achieved a critical mass for technical learning, market information and supply of equipment, advisory services and logistics. However it largely depends on the Dutch marketing institutions (Wijnands, 2005)

The main features of the Dutch flower auctions include (Kambil and Heck, 1998):

- All major trading opportunities are found at a large scale in one location.
- Auctions are central hubs providing logistics for efficient transfer of products between buyers and sellers. Costs are shared among all sellers and buyers.
- The Dutch auctions are the largest marketplaces for flowers worldwide.
- They provide systems for order tracking, payments and settlements within one day.
- The auctions provide for various arbitration mechanisms and rules for resolving problems.

Almost all auctions are co-operatives with Dutch growers as members. Most of the costs of the auction are equal for member and non-members: e.g. lot charges, trolleys tariffs, costs of phytosanitary inspection. Members pay a contribution fee between 450 and 1350 euro and 2.9% commission, whereas non-members pay between 3.4 and 5.9% commission (Commercial leaflet of FloraHolland, 2004). The auction costs are transparent and directly measurable in monetary values. The trading of flowers on the auction can be based on direct price formation by the auction clock or on price discovery between buyers and sellers by the auction. The product will then flow directly from producer to buyer, reducing logistical costs. Both trading principles are indicated as **marketing by auction**.

The other marketing channels constitute **direct marketing**: mostly to supermarkets in the UK. Costs of direct marketing are less transparent and more difficult to measure in monetary values. Thoen et al. (1999) list the following transaction cost advantages of an auction compared to direct marketing:

1. Cost of direct marketing (e.g. office labour, travel expense, telephone or fax).
2. Payment on a weekly basis by the auctions in contrast to monthly payment.
3. No uncertainty about paying out by the auctions.
4. Transparent quality requirements, inspection and product rejection in auction sales.
5. Free market information provided by the auctions.

So, Kenyan producers can choose between using the Dutch auction as an intermediary, and marketing directly to the -mainly British- retailers. Direct marketing and selling to the auction have different implications for transaction costs related to e.g. information gathering, uncertainty over prices, or finding buyers, transparency of quality standards, arbitration of quality disputes, or with payment conditions.

**The research question** is: ‘Do Kenyan cut flower growers face different transaction costs for auctions versus direct marketing channels?’

## 2. Theory of Transaction Cost Economics

Transaction Cost Economics (TCE) describes the firm as an efficiency-inducing administrative instrument that facilitates exchange between economic actors’ (Lieblein, 2003). According to Hobbs (1996a) transaction costs are the costs of carrying out any exchange between firms in a market place or a transfer between stages in a vertically integrated firm. Four key concepts, which lead to transactions costs, are important:

1. **Bounded rationality:** People intend to make rational decisions, but in situations of complexity or uncertainty the ability to make a fully rational decision is limited (Hobbs, 1996a). David and Han (2003) distinguish uncertainty about market conditions, technology and behavioural aspects.
2. **Opportunism:** Defined by Williamson (1979) as self-interest seeking with guile. Sometimes businesses or individuals will exploit situations to their own benefits. According to Hobbs (1996a) the fewer the number of alternative suppliers or buyers, the more likely that one will act opportunistically to alter the business terms to their own advantage. A large number of growers, wholesalers and retailers are involved in the flower industry, which diminish the risk of opportunism.
3. **Asset specificity:** Refers to the degree to which a transaction needs to be supported by transaction specific assets. ‘An asset is transaction specific if it cannot be redeployed to an alternative use without a significant reduction in the value of the asset’ (Douma and Schreuder, 1992). Asset specificity measures can be classified in 5 categories: human, physical, product, site and firm specificity (David and Han, 2004). Masten (2000) indicates that the nature of agricultural products and production means physical and human asset specificities likely play a less important role in agricultural transactions in comparison to the temporal and site specificities with production, processing and distributing of foodstuffs’
4. **Informational asymmetry:** In the neoclassical economics perfect competition is possible because information is perfect and costless. TCE recognizes that many transactions are characterized by incomplete, imperfect or asymmetrical information.

(Hobbs, 1996b) divides transaction costs in three main categories. **Information costs** arise in searching for information about products, prices, inputs or buyers and sellers. **Negotiation costs** arise from the physical act of the transaction such as negotiating and writing contracts. Auction commission costs, transportation costs, speed of payment and time spent on these activities are also negotiation costs. **Monitoring or enforcement costs** arise after an exchange has been negotiated. Quality controls, enforcement of codes of conduct, grade uncertainty (and hence lower than expected prices) or product damage can be seen as part of monitoring and enforcement costs. Unfortunately, monetary values cannot be assigned easily to many transaction costs, because they are often subsumed under managerial costs. The sources of transaction costs and the distinction between direct costs and opportunity costs is also relevant, see table 2 (Rindfleisch and Heide, 1997). The opportunity costs are very likely even more difficult to quantify in monetary values compared to several direct costs.

**Table 2.** Sources and types of transaction costs

		<b>Asset specificity</b>	<b>Environmental uncertainty</b>	<b>Behavioural</b>
<b>Source of Transaction costs</b>	Nature of governance problem	Safeguarding	Adaptation	Performance evaluation
<b>Type of transaction costs</b>	Direct costs	Costs of crafting safeguards	Communication, negotiation and coordination costs	Screening and selection costs (ex ante) Measurement costs (ex post)
	Opportunity costs	Failure to invest in productive assets	Maladaptation; Failure to adapt	Failure to identify appropriate partners (ex ante) Productivity losses through effort adjustments (ex post)

Source: (Rindfleisch and Heide, 1997)

### 3. Research questions

Using the framework in table 2 the vertical coordination of Kenyan cut flower marketing will be categorized according to the three sources of transaction costs.

**Assets and product specificities** are recognized as important by David and Han (2004). Assets, like land (site specificity), greenhouses, cool store and other equipment (asset specificity) are not specific: these assets can be used for other crops. Much of the advanced knowledge of flower growing is already known by the managers, the majority of which non-Kenyans. These managers can use their human skills in many other parts of the world. Even investments in rootstock of roses which take up to 40 % of the cost at the farm level can't be seen as asset specific. (Thoen et al., 1999). All flowers of each variety meeting the trade quality standards can always be marketed and thus having a value.

**Environmental uncertainty** has two dimensions: the adaptation of growers to the market requirements and the uncertainty over information and negotiation costs. Marketing channel choice will influence the product selection. Direct marketing demands a larger range of flower varieties or even bouquets. On the other hand, an auction can easily handle large volumes of one variety. A large range of varieties increases the opportunity to select a marketing channel.

A resulting **hypothesis** is that: direct marketing requires a larger range of varieties on the farm. In addition, larger farms have more possibilities to grow more varieties. So the number of varieties is also linked with the farm size.

Direct coordination costs are involved in communication and negotiation. It will be rather difficult to separate these costs as is done by Hobbs (1996a). The same individuals are usually responsible for gathering market intelligence, as well as negotiating prices and volumes. As the auctions accept each volume of flowers and the price is determined by the clock fewer marketing personnel are required than in the case of direct marketing. The growers have to pay the auction fees for these services. A second **hypothesis** is that: direct marketing requires more marketing personnel (resources) compared to using the auction channel.

Hobbs (1996a) assumes several types of uncertainty. Growers face uncertainty about the cost of gathering information on logistics, prices or the quality and quantity at required by buyers level. In the auction system, the uncertainty lies mainly in the price formation and to a lesser extent quality classification. Little information is available on the coordination between growers and direct marketing channels. The **research question** is: To what extent does uncertainty with respect to price, payment, volume and quality, finding buyers and risk of non-sale differ between the marketing channels?

**Behavioral transaction costs** deal with monitoring costs, losses and selection of trade partners, which are closely related to the aforementioned communication and negotiation activities. These items are therefore also strongly related to the number of marketing personnel. Losses can be measured by product rejections, choosing another marketing channel or receiving lower prices. Applying a code of conduct lowers the transaction costs for buyers and it ensures the application of standards.. Finally one third of the Kenyan farmers are European. Due to the familiarity with the auction system, it is possible that they would prefer the auction as marketing channel. The **research questions** address these issues.

#### 4. Data and farm characteristics

Data on farm characteristics and transaction costs from Kenyan flower growers were collected through on-farm interviews in first months of 2005. The research population is based on lists of flower growers provided by MPS (the Dutch organisation of the Code of Conduct in Floriculture), KFC (Kenyan Flower Council) and the Dutch flower auction, FloraHolland. A Kenyan flower industry expert evaluated and corrected this list. This list counts 90 Kenyan export cut flower farms, from which 45 farmers are selected randomly. A 56% response rate was achieved, giving a sample of 25 farms. Non-responses were due to inaccurate contact information (31%), while a further 13% of the original sample declined to participate in the interview, and 2 farms with missing data for marketing channel are not included in the analyses. The 25 interviewed farms corresponded to 28 % of all farms (van der Lans, 2005).

Comparing the final sample population with the total population reveals an under-representation of small farms, due to incorrect contact information, and some regions with a small number of farms. The main regions are well represented. Van der Lans (2005) provides the full questionnaire and sample justification. The farms in the survey cultivate approximately 30 % of the total Kenyan area of cut flowers and have on average 23 hectare cut flowers. On 80

% of the farms only roses are grown and on 12 % a mix of roses and other flowers. The management is almost equally divided between European, Kenyan and Indian nationality. All had at least 3 years experience in the industry, while half of the managers had more than 10 years experience. The auction is the main marketing channel, with a share of 70 % compared to 30% for direct marketing. This means that the survey has a slightly higher auction share than indicated in other sources. Two groups are distinguished for testing the differences between marketing methods:

- 1 **Auction growers:** 11 farms send 100% and 1 farm 95% of their cut flowers to the auction. The average farms size is 13 ha, with 25 employees per hectare.
- 2 **Mixed channel growers:** the other 11 farms have an average size of 33 ha and 26 employees per hectare. These farms market the following shares of their cut flowers directly: 3 farms carry out 100 % direct marketing; 3 farms between 70 and 85% direct marketing; 3 farms between 30 and 40% and 2 farms between 15 and 25%.

## 5. Empirical findings

### *Environmental uncertainty and information costs*

Price formation depends on the marketing system and differs between the two channels. Auction prices are always obtained afterwards: the price is available on clock at the moment the deal is cut between seller and buyer at the auction. The answers of the respondents consistently confirmed this. The prices in the mixed channel are frequently known in advance. Most farmers in this channel indicate however that they have no power to influence the prices. Six out of these 11 farmers, mostly smaller farmers, consider their lack of bargaining power to be a significant problem. The price uncertainty experienced by the two groups does not differ, with the majority having no opinion or only perceiving this as a minor problem. Uncertainty about meeting the quantity and quality requirements, finding buyers and the risk of not making a sale (non-sale) are also not distinctive between the two market channels. The farmers in the mixed market channel experience no problems or only minor problems in finding buyers. Whether the buyers pay satisfactory prices is not stated. Surplus production is generally sold at lower prices by the auction or to their regular buyers.

The delay between the time the flowers are sold and when payment is received is also part of the negotiation cost. The respondents in the auction channel indicated that they receive payment seven to ten days after the sale. Several growers selling by the auction stated that quick payment is an important reason for their decision to use the auction channel. They assume that the delay in payment for direct marketing is much longer, sometimes up to 30 days. However the survey did not reveal significant differences between mixed marketing and auction growers.

Secondly marketing by auction should result in lower negotiation costs in terms of the time spent on marketing activities. Table 3 summarizes three types of transaction costs in the field of marketing. The results indicate that marketing by auctions costs less time. Mixed marketing sellers spent significantly more time on communication. Over 6 hours is spent weekly on

administration tasks by 7 out of the 11 of the farms who do not market solely through the auction. Four of these 11 mention that they spent more than 6 hours on communication. A large number auction growers has no opinion on this subject.

**Table 3.** Time spent weekly on marketing flowers by chosen marketing channel (% of farmers)

Time spent hour(s)	Gathering price information		Administration tasks		Communication with buyer	
	Auction	Mixed	Auction	Mixed	Auction	Mixed
No opinion	8	10	58	27	92	18
1 hour or less	75	45	17		8	27
1 till 4 hours	8	36	8	9		18
Over 4 hour	8	9	17	64		36
Total	100	100	100	100	100	100

The first hypothesis is: the range of varieties has to be larger on farms using the mixed marketing channel, and larger farms will have more varieties. The range of varieties is between 3 and 15 on the 'auction' farms and between 3 and 24 on the growers with 'mixed marketing channels'. Table 4 summarizes a simple linear regression of this relationship. The hypothesis 'higher direct sales require a large range of varieties' is supported at a significance level of 99 % and farm size at 90 %.

**Table 4.** Estimates of number of varieties and level of direct sales

Variable	Coefficient	Std Error	t-value	P-value
Dependent: Number of varieties				
Independent: Constant	8.0884	1.487	5.438	0.000
% direct sales	0.087	0.028	3.113	0.005
Farm size (ha)	0.064	0.034	1.899	0.072
N=23				
R <sup>2</sup> =0.421				

The second hypothesis is directly linked to transaction costs: the share of office employees increases with the percentage direct sales. The growers using the auction system have on average 2.1 % office employees of the total employees on the farm, whereas the growers with mixed market channels have 4.4 %. As is shown in Table 5 the hypothesis 'higher direct sales require a higher share of office employees' is supported at a significance level of 99 %. Farm size has no significant influence on the '% office employees' and is not included in the estimation shown in Table 5.

**Table 5.** Estimates of share of office employees and level of direct sales

Variable	Coefficient	Std Error	t-value	P-value
Dependent: % offices employees				
Independent: Constant	1.981	0.680	2.912	0.008
% direct sales	0.042	0.014	2.916	0.008
N = 23				
R <sup>2</sup> = 0.288				



These higher costs of office employees are partly offset by lower marketing fees. Auction fees are highly transparent and common knowledge within the industry: 80 % of the respondents from both marketing channels indicated that auction fees were 7 %. This fee is less than the 10 to 12 % fee mentioned by Thoen et al. (1999) for the Kenyan cut flower sector. Survey respondents indicated that the fee for direct sales is round 4 %. The auction and direct sales fees differ significantly from each other. The regression analysis (Table 5) suggest that a full shift from marketing by auction to direct marketing will increased the number of employees by 4.2 %. Combined with the average labour force on the farm of 25 to 26 employees per hectare in the survey it means approximately one additional employee per hectare. The confidence interval is between 1.2 and 7.1 % or between 0.3 and 1.8 additional employees. Insufficient economic data prevent a full comparative analysis of the relative costs and benefits of the two marketing channels.

### *Behavioural transaction costs*

Applying a code of conduct (Good Agricultural Practice), increasingly compulsory in the chain, lowers inspection costs and gives some guarantees on complying with environmental and sometimes social standards, lowering monitoring costs. Almost 80 % of the growers apply a code of conduct, primarily following the guidelines of the Kenyan flower council, and second the Dutch MPS. Two thirds of mixed channels growers apply at least 2 different codes. More than one third of the auction growers do not apply a code of conduct, which is unrelated to the farm size. This is quite remarkable: the rejection rate for auction growers is 2.6 % and for the mixed marketing channel growers is 4.4 %. A significant relation between the variables ‘% rejections’ and ‘% direct marketing’ was not found. Finally, do European managers prefer auctions? The survey reveals that the nationality of all managers is equally distributed among the marketing channels; there was no relationship between nationality and preference for marketing channel. A closer look at the European shows that most Dutch managers prefer auctions.

## **6. Conclusions**

Table 6 summarizes the main findings of the differences in transaction costs between auction and mixed marketing channels.

**Table 6.** Main findings on transaction costs between the action and mixed marketing channel.

Transaction Costs Characteristic	Findings
Bounded rationality	Environmental uncertainty did not differ between the auction and mixed marketing channel. Not knowing the prices in advance or having to find buyers is indicated as 'not a problem' or only 'a minor problem. Bargaining power seems to be absent. The differences between the two channels include: commission fees, time spent on marketing activities (more office employees with higher share direct marketing) and more flower varieties with a higher share of direct marketing.
Opportunism	Flowers are marketed daily or at least 2-3 times a week, which prohibits opportunism. The reject level seems higher in the mixed channel, reasons are not identified. Auction sellers are less likely to apply a code of conduct.
Asset and product specificity	No specificity could be identified. All assets have opportunity value. Products can always be sold at the auction.
Information asymmetry	The survey did not identify whether the marketing channel choice is based on a cost benefit analyses. No relationship is revealed between nationality and marketing channel choice. Mixed channel growers apply more codes of conduct.

In conclusion, it is clear that direct marketing requires more internal marketing resources within the firm and a larger number of flower varieties. However, farms in the mixed marketing do not perceive themselves to be at a bargaining power advantage. The governance type of the global flower chain can be classified as spot market, according to the governance type of Gereffi et al. (2003). The complexity of transactions is low. Second, the capacity of the supply base is high, with relatively low rejection rates and production and exports increasing annually. The transparency in the market channel is rather high and the risks are low. This research provides insights into the choice of marketing channel choice at the farm level. Detailed analysis of costs and benefits at a farm level is hampered by data constraints but is a topic for future research.

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