

Effects of Teleshopping on the Use of Time and Space

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Developments in teleshopping offer many possible uses. As a supplement and alternative to transportation, teleshopping may have effects on traffic and physical planning. The use of time (both by point in time and by time budget) and the use of space (location and infrastructure) will change. These ideas have been elaborated in an investigation into a teleshopping service that examined the effects of teleshopping on the use of time and space. A sample of teleshoppers noted shopping trips during a number of days. With the aid of these diaries and the answers to a number of background questions, insight was obtained into the group, their motives, their shopping behavior, and the changes that occurred in the use of time and space. Teleshopping saved time, but most people did not mention any new activity. There was a change in shopping times. Some shopping trips could be scheduled to avoid the rush hour. Teleshopping also had effects on the use of space. A change in travel behavior occurred. Telecommunication was substituted for some consumer trips, and the modal split of some trips changed.

Teleshopping most directly affects an area's physical planning and traffic systems. These consequences, however, may become evident only in the long term. In 1988 Keyzers and Wagenaar (1) investigated the effects of teleshopping on the use of time and space by teleshoppers. They chose the following definition of teleshopping:

Teleshopping is a personal exchange of information between a supplier and a consumer via electronic communication in which a transaction of shopping goods comes about.

In the teleshopping research project described here, attention was directed toward the consumer. Consumer shopping can be divided into (a) functional shopping (errands to provide oneself and the household with necessary articles) and (b) recreational shopping (visiting stores as a recreational activity, a means of social interaction and acquiring general product information without necessarily purchasing).

It is clear that teleshopping above all offers facilities for the functional form of shopping and the gathering of specific information about products.

The type of product is important to the decisions involved in the shopping process. Degree of freshness and uniqueness of the article are relevant characteristics.

In addition to the nature of the product, the following factors will be particularly important in the decision to teleshop: the accessibility of the shopping facilities, the available time,

and how and when the ordered articles can be received. Here the elements of time and space come to the fore.

Sometimes different target groups are mentioned. On the basis of the characteristics of teleshopping, people who have too little time or are less mobile may be counted among the group of potential teleshoppers.

There will be a direct effect on traffic because of the disappearance of shopping trips and their replacement by fewer retailer delivery trips.

To obtain more insight into these assumptions, a pilot study was undertaken with an existing teleshopping business and its clientele. This project was directed toward the qualitative aspects of motivation and the kinds of changes people make when teleshopping rather than on the quantity of changes.

RESEARCH APPROACH

The central question of the survey project was as follows (1):

What changes in expenditure of time and in the use of space of stores and infrastructure occur among consumers by the use of teleshopping?

To answer this question a postal survey of the clientele of James Telesuper was taken. This teleshopping service has been operating since 1983 and has the same range of articles as supermarkets. It has a clientele of approximately 10,000 households in a part of Holland (out of an approximate total of 170,000 households). Customers can choose items from a catalog or a screen and can state their order and the desired delivery time by telephone or microcomputer. Only a small group uses a microcomputer.

For this research project insight into the use of space was an important objective. The choice therefore fell on a town in which the relation to the existing shopping system could best be examined. Amstelveen, the town chosen, has a large central shopping area and a small shopping center in every district for the daily necessities.

A questionnaire and a request to note all shopping trips was sent in 1988 to all 429 customers of James Telesuper in the selected area. During 1 week, 34 percent of them noted all shopping trips on a prestructured list and answered the questions on background and pattern of activities. A nonresponse rate of 66 percent is high, but there was no indication that this sample was not representative. The main purpose of the questionnaire was to discover the characteristics of the users, their motivation in teleshopping, and the behavioral effects brought about by teleshopping.

TELESHOPPERS AND THEIR MOTIVES

Eighty-five percent of the women completed the questionnaires. That fits the traditional pattern in which the woman attends to shopping. Patterns of background characteristics gathered through the survey indicate several recognizable categories of users:

1. Older persons living on their own who largely do not work any longer and
2. Young couples (married or living together) up to the age of 40, both of whom work and many of whom have young children.

The following categories were present to a lesser extent:

3. Young working single persons and
4. Traditional households (usually with children and with husband working and wife not working).

The educational level was fairly high, as was the job category. This confirmed the image of the teleshopper, which differs somewhat from that of the mail-order buyer, who is generally less well educated. Despite the profile of the teleshopper, one-third of the customers did not have a car, especially the elderly and the working singles.

On the basis of the characteristics of tele shoppers mentioned earlier, it can be assumed that young working people often have to contend with a lack of time for shopping, a problem compounded by the limited hours during which stores are open. Among the elderly the absence of a car and poor health play a part. Tele shoppers do not all hate shopping (though 40 percent do). The social aspects of shopping—"having a chat"—are only attractive for 17 percent. What was found most attractive was the ability to avoid dragging shopping home (75 percent). The saving of time (47 percent), one's physical condition (29 percent), and convenient transportation (29 percent) also played a role. There were clear differences in motives between the categories of users:

- Young working people chose to teleshop for the saving in time (82 percent of two-earner couples and 71 percent of single persons).
- Elderly people had their physical condition as the principal motive (74 percent).
- Transportation was a factor among young singles (57 percent) and in traditional households (50 percent).

A disadvantage of tele shopping mentioned was the inability to see the goods for oneself before delivery (24 percent). This was considered particularly important for fresh products.

SHOPPING BEHAVIOR IN TIME AND SPACE

This research project was performed after the tele shopping service had been functioning for some time. That meant that the users had to look back at their earlier shopping behavior, something which was done too carelessly for a precise comparison of behavior before and after the use of tele shopping.

The actual situation and the perception of the past by those surveyed will therefore have to be compared.

Expenditure of Time

Frequency, the point in time, and duration are all relevant to a picture of expenditure of time. Only a small majority (51 percent) ordered from the tele shopping service with a frequency of once a week or once in 2 weeks. Others (49 percent) did so once a month or less. In addition the customers still visited stores. Most visits were made in the morning (35 percent) (not during the rush hour) and at lunchtime (19 percent). Orders with the tele shopping service were also placed at these times (35 percent) and also in the evening (33 percent).

In nearly half the cases shopping was delivered in the evening (6 to 9 p.m.) and then mostly among young people. The other half of the orders were delivered during the day, more so among the elderly.

The differences in duration were determined by comparing the time that was formerly spent on shopping with the time that was still spent on shopping (ordering via tele shopping and receiving the orders). Ordering from James Telesuper took less than 10 min for most (64 percent) and about half an hour for another 30 percent. However, in addition to the time for ordering, shopping errands were also done. The time required for the errands varied considerably: 38 percent spent less than 1 hr on them, including the trip to the store, and 43 percent devoted more than 1 hr/week. Because it is extremely difficult to state the exact time devoted to certain visits to stores after the event, the respondents were asked to make the comparison with the past themselves and on the strength of this to indicate whether more or less time was spent on shopping. More than 20 percent indicated that this takes as much time as before the introduction of tele shopping. However, 70 percent indicated that they had more time at their disposal than before tele shopping. The gain in time was divided as follows:

<i>Respondents (%)</i>	<i>Time Gained (hr/week)</i>
18	less than ½
24	½ to 1
26	1 to 2
15	more than 2

In the eyes of the users, therefore, tele shopping offered some gain in time. But there was no clear picture of what happened to that time: 80 percent gave no answer to the question about the use of the time that became available. Possibly privacy played a part, but the extra time may not have been devoted to new activities but to more time for existing activities, including sleeping in.

Use of Space

Two aspects of the use of space call for attention: the choice of places where the tele shopper still goes shopping and the nature and frequency of shopping trips.

Not all shopping errands were done at James Telesuper. More than half did not buy fruit or vegetables (49 percent), meat (58 percent), or bread (69 percent) via tele shopping.

These fresh articles in particular were bought in neighborhood stores, which acted as complements to teleshopping.

Change in Store Visits

The respondents were asked where the articles in question were formerly purchased. To a large extent most articles (e.g., 67 percent of the vegetables and 80 percent of the groceries) were formerly bought in a supermarket. Teleshoppers visited more specialized businesses for fresh articles. This means that part of the turnover of supermarkets, in particular, would be lost. In the longer term that may have unfortunate consequences for the survival of this kind of enterprise and thus its accessibility.

No clear indications were found that people have turned to teleshopping because of the poor accessibility of shopping facilities. The distances in the research area were not extreme enough to warrant that.

Frequency of Shopping Trips

Another spatial consequence of teleshopping concerns the nature and frequency of shopping trips. In the week examined the respondents who visited food stores visited 3.7 stores on the average, for which 2.6 trips were made. Thus a number of store visits were chained together. This total number of trips means that during the research period the respondents, on the average, made 0.4 shopping trips each weekday for food products. A summary of the figures of a national sample (2) mentions 1.0 as the mean number of shopping trips on each weekday for all kinds of stores. The difference of 0.6 shopping trips is probably not fully explained by shopping trips for nonfood products. This means that the respondents made fewer shopping trips than other people.

The most additional shopping trips were made by traditional households (3.2) and young two-earner couples (2.5), compared with 1.7 trips made by young working singles and the elderly. The number of trips and visits appears to be dependent on the number of household members.

Changed Modal Split for Shopping Trips

A direct comparison with the past on the basis of figures was impossible. Respondents were unable to describe their former behavior exactly. They were, however, asked to compare themselves with regard to the use of means of transportation and with regard to distance.

It is striking that 28 percent said that they travel less by car, 23 percent walk more often, and 14 percent travel more often by bicycle. The shift cannot be ascribed to a decrease in car availability. The explanation of the shift from car to a slower form of transportation may be found in teleshopping.

Because the larger quantities of shopping were ordered and delivered through teleshopping, the transportation of heavy or bulky orders was not necessary. A result was that transportation on foot or by bicycle was more attractive and feasible.

In general the distance from the stores visited was not great. Most respondents appeared to travel from their homes to stores near home. Even workers first went home after work before doing their errands (3).

SUMMARY AND CONCLUSIONS

An investigation of the users of teleshopping indicates that there were effects on the use of time and space. Specific user categories were observed. Teleshopping can save time, which is the principal reason why young two-earner families participate. Teleshopping can also increase the accessibility of facilities; physical transportation is not necessary for the consumer. That is the most important reason for participation by the elderly who no longer work and who are less mobile because of their age or the absence of a car.

Effects on the use of time and space were identified. Effects on the use of space were demonstrated by the changed travel behavior. There is an indication of a certain substitution of consumer trips and a change in modal split. More teleshoppers did their remaining shopping errands by bicycle or on foot. At the same time, new trips for delivery were evoked. Through better logistics and a different supply system, the total effect could be a reduction of trips.

Effects on the use of time were more difficult to substantiate. The expenditure of the time that teleshopping saved was difficult to specify. Most people did not mention any new activity that required travel. Clearly, however, there was a change in shopping times. Teleshopping is not dependent on hours that stores are open, and ordering and delivery take place partly during evening hours. As a result, trips can be moved from the rush hour.

In summary there is sufficient reason to believe that a number of developments will follow expectations.

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