

# THE FAMILY-FIRM LIFE CYCLE AS A TOOL IN ASSESSING REGIONAL DEVELOPMENT OF HORTICULTURE

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## Abstract

The last two years' average financial results in Dutch horticulture have been rather negative. In many regions authorities are concerned about the future of horticulture in their region and wonder how they could have a positive effect on the development of horticulture firms. Therefore, they need good insight into the actual position of the horticultural holdings and the perception of the entrepreneurs of their own situation. The possibilities to use the family-firm life cycle as a tool to develop this insight are analyzed. An inquiry was carried out among 52 horticultural family firms in a small region in the eastern part of the Netherlands. The stage of the firm in the cycle was chosen by the pollster based on her expertise from visiting all the firms and the results of the inquiry as to the age of the youngest entrepreneur, past investments, and investments plans. The distribution of holdings in different stages of the life cycle provided good insight into the position of different branches of horticulture in the investigated region and in the goals of the entrepreneurs. The use of the family firm life cycle was a suitable way to obtain quick insight into the situation and expected developments in the short run in a small region. Points for further research are the assessment of a stage to a firm and a distinction between family and firm life cycle.

## Key index words

Goals, Location, Firm structure, Structural development, Regional planning, Life cycle

## 1. Introduction

Authorities and growers' organizations are worried about the future of horticulture in many regions of the Netherlands. Authorities are involved in land use planning and rural development. Growers need possibilities for expansion in space and size to be able to implement new technological developments in a profitable way. Near the big cities, where the larger horticulture centers have been located historically, this space is not available. But distance related location factors stay important for the spatial distribution of horticulture (Hopman et al., 1994). Also in many small regions, expansion is not always allowed or profitable. Besides environmental problems, there are economic problems. A second reason for doubt about the survival of

horticulture at many locations is the rather low incomes in recent years. So in many regions authorities and growers organizations are discussing the future of horticulture at several locations. Is it necessary to assist in developing new locations or expansion in existing locations or will the horticulture disappear in the region? In many regions authorities are interested in land use policies that support a acceptable economic, but environmental friendly, development of horticulture.

A first step is a survey of the actual situation. This can be done in different ways. On the one hand, model calculations of the expected average economic results or bookkeeping studies to get insight into the economic performance of the past are two approaches. Objections to these methods are the long period necessary to develop model results and the fact that the existing tax bookkeeping at farms is not available for research, and there is not a fixed standard for this bookkeeping. Besides both are based on historical data. In practice there will be a great effect of the differences in behavior of the entrepreneurs who will choose different solution to perhaps the same (bad) financial situation.

Given these objections to the more traditional methods, we will analyze the possibilities of using the family-firm life cycle theory to gain insight into the existing situation in a horticulture location and possibilities for future development. This is a first step in designing policies to create adequate conditions as well as restrictions for horticulture holdings.

## **2. Materials and methods**

The research was carried out in a region called "Liemers" on behalf of growers' organizations related to an auction in the eastern part of the Netherlands. First we will present the research model and some theoretical aspects of the family-firm life cycle. Thereafter we will discuss the inquiry carried out and the processing of the data.

### **2.1 The research model**

Figure 1 gives a schematic representation of the research model. The development of a horticulture holding is dependent on the external and internal circumstances. They are responsible for the constraints and prospects in developing the firm. Besides this, the entrepreneur will have his personal goals about the development. Together they are responsible for the perception of the entrepreneur of the future development. The objective parts of the prospects for future development are the location factors and firm properties. The entrepreneurs' goals (and perception) are expected to change as the operator and the firm passes through different stages of the family-firm life cycle (Boehlje & Eidman, 1984). In this paper we will only discuss the internal circumstances and the life cycle.

#### **2.1.1 The internal circumstances.**

Internal circumstances are different from firm to firm and under the control of the entrepreneur, at least in the long run. They are related to the firm and partly to the entrepreneur. Soomer & Slijkerman (1986) make a distinction between the financial, social, and technical properties of the internal circumstances related to the firm. The financial properties concern for example rentability, liquidity, financing, etc. In our study no bookkeeping results were available; therefore, we paid attention only to past and future investments and to the perception of the entrepreneur of income, costs, returns, and problems in paying bills. The social properties concern mainly dealing with personnel. The technical properties concern size, equipment, number of crops and modernity of the equipment, which is related to the past investments, sale system, etc.

Another part of the internal circumstances concerns the entrepreneur himself. Personal

properties are different between entrepreneurs and will have an effect on the perception of the future and the decisions made. Differences are due to demographic factors (Soomer & Slijkerman, 1986) like age and the presence of a successor, social factors (which will be discussed separately), and psychological factors, which are not important to our goal.

Two social factors require special attention: the goals of the entrepreneur and the acquisition of information by contacts with colleagues, extension services, periodicals, etc. There is a lot of literature about goals. Goals will find their origin in the important values of the entrepreneur. That is what he thinks is right or good in a certain situation and what has a high value for him to pursue. We did not use separate goals, but used a method developed by Ziggers (1992; 1994) who worked with four value orientations for agriculture:

- "Instrumental": income and related goals have the highest priority.
- "Social": the status obtained by personal relations in the work.
- "Expressive": the possibility for personal development in the job.
- "Intrinsic": enjoy the work, independence, self control in different situations.

On the basis of these value orientations the entrepreneur will give priority to different goals.

### 2.1.2 The family-firm life cycle

Goals will have an effect on the management of the firm and so on its future. In a family firm, the family of the entrepreneur will have a direct relation to the development of the firm and the decisions made (Frouws et al., 1991). So the firm frequently shows a life cycle that corresponds with the life cycle of the farmer-entrepreneur (Boehlje & Eidman, 1984). Edwards & Kay (1994) make a distinction in four stages. They use these stages in relation to the size of the firm and the form of business organization. Boehlje & Eidman (1984) combine stages 2 and 3 of Edwards & Kay into one stage and pay attention to the expected changes in goals and the expected efficiency during the different stages. We will use the four stages of Edwards & Kay (1994): "entry," "growth," "consolidation," and "exit" as follows:

In the **entry stage** somebody who has taken the decision to become a horticulture grower acquires capital and other resources, managerial abilities and starts farming. In many cases this start will be within the firm of his parents.

In the **growth stage** own capital has to be increasing and will be used to expand the firm by acquiring more resources. Debts play an important role in financing the investments.

In the **consolidation stage** expansion is not the first priority, but reduction of debts and improvement of the efficiency.

In the **exit stage** transferring property to the next generation is important. The behavior of the firm will be different if there is a successor for the firm. Then disinvestments of the old entrepreneur will coincide with investments of the new one. The firm will be taken over slowly by the young entrepreneur. If there is no successor, the firm will be sold or terminated.

In our research we will use the family-firm life cycle within the context of our research model to investigate the relations with internal circumstances like goals and management of the entrepreneur to get a better insight of the future development of horticulture.

### 2.1.3 Theoretical distribution of firms over the stages of the life cycle

For an opinion of the development of horticulture in a region, the distribution of firms over the stages of the life cycle seems important. In a steady state situation, each firm will have a successor and the number of firms in each stage will be equal if all the stages have identical lengths. Technical development is the driving force in the introduction of new techniques which require larger units. Given limited markets, however, the number of firms has been declining for years and

a lot of family firms will have no successor. In that situation the number of firms in the older stages will be larger in comparison with younger ones, if we assume that there are no "entries" or "exits" among middle-aged entrepreneurs.

The family life cycle will take about 40 years (25 till 65 years). For the firm life cycle, there is only a period of about 30 years if the old and new entrepreneur work together during the last and first stage (about ten years) of the family cycle. Then  $100 / 30 = 3.33\%$  of the entrepreneurs will retire each year. Suppose that the decline in the total number of firms, 1.7% as an average in the Netherlands for 1987-1993 (Bruchem et al., 1995), is realized by firms without successor, then the succession percentage will be  $(3.3 - 1.7) / 3.3 * 100 = 48$ . At lower percentages of succession, the percentage of firms in the exit stage will be higher and lower in the entry stage. This will also have its effect on the percentage decrease of firms in total.

## 2.2 Collection of data

Nearly all horticulture firms are members of an auction. Out of this source, only the firms with more than about 20% of their total income coming from horticulture were used for the research. This restricted the study to professional horticulture. There remained 67 firms, 52 full time firms, and 15 part time firms of which 56 (82%) took part in the inquiry. The first part of the inquiry was sent to the growers. They could fill in some general information about their firm. The firms were visited by the pollster to collect the answers to the questions about the internal circumstances, external circumstances, perception of the grower, and his value orientation. As much as possible a five-point Likert scale was used for the answers. The inquiry resulted in 234 variables which were processed in SPSS. The correlation coefficients between the variables were calculated, and a t-test was used to trace significant correlations.

We made a distinction on the basis of the main source of income in four branches of firms: ornamental growers (10), fruit growers (12), vegetable growers (32), and the remaining firms (2). The first three were analyzed separately.

The stage of the firm in the cycle was subjectively chosen by the pollster based on her expertise from visiting all the firms and the results of the inquiry as to the age of the youngest entrepreneur, past investments, and investment plans. The result was treated as a new variable to perform some correlation calculations, discussed later on.

## 3. Results

The results of all variables were discussed separately for each branch (Verstappen, 1995). This paper will discuss only those aspects important for the use of the life cycle.

### 3.1 The family-firm life cycle of the branches

Figure 2 shows the percentage of firms in the different stages of the family-firm life cycle. The distribution over the four stages is quite different for the individual branches of horticulture in the Liemers.

The fruit growers have a more or less balanced distribution. There are a remarkable number of firms in the entry and growth stage. They want possibilities for expansion of their firms. Some of the older entrepreneurs without a successor will finish their firms.

The ornamental growers are nearly all in the growth and consolidation stage. A lot of firms must have been founded in about the same period. Few firms are in the exit stage, and no firms in the entry one. In due course of time more firms will enter the exit stage if there are no successors.

The picture of the vegetable growers is typical for a shrinking branch. There are a lot of firms

in the consolidation and exit stage without successors. A small percentage is in the entry stage. Still they will need the possibilities for developing a viable firm for the future.

### 3.2 Relations between stage and other variables

The correlation coefficients between stage and some other variables are given in Table 1. First, however, some remarks about the exit stage will be made. There might be differences in the goals of entrepreneurs in the exit stage due to perceptions of the future of their firms. If the entrepreneur thinks that continuity of his firm is important after his retirement, he will try to maintain a viable firm and to keep efficiency up to certain standards. This will be the case if there is a successor, but also if he thinks that he will get a higher price at selling a modern and viable firm to another grower (Baker, 1973). Only two out of fourteen vegetable firms in the exit stage made substantial investments during the last years. One of them had a potential successor. On the other hand, there will be entrepreneurs without a successor and no plans to sell the firm, because they want to stay in the house after retirement. This is a quite common situation among the vegetable firms in the exit stage in our region. These entrepreneurs will have a lot of experience and a safe financial position. Long-term planning is less important for them, and their energy is declining. They invest less and their efficiency will go down. Also the income and the value of the depreciable assets at selling will be lower. Only in the fruit firms there is a correlation between the stage and financial problems with paying bills.

Another result of the correlation calculations shows that also in our region efficiency will be lower in the latter stages. Turnover in vegetable and fruit growing has a negative correlation with stage. The reason for this lower turnover might be a shrinking of the firm, but it might also be possible that these firms have always been smaller. Smaller firms with the same production plan in general are less efficient than larger firms, because they are not able to produce at lower costs due to economics of scale. This was confirmed in the inquiry. Older and smaller firms complained about the high cost of transportation and selling by the auction. It is not surprising that the correlations in the vegetable growing show that growers in latter stages are more pessimistic about costs and their financial situation. In all branches growers, in later stages are more pessimistic about product prices than younger ones.

Only for fruit firms is there a relation with the value orientation. The entrepreneurs in the later stages pay less attention to income and more to relations. Growers in later stages pay less attention to collecting knowledge on cultivation techniques, especially vegetable growers who have fewer contacts with other growers and the extension service. In the fruit and ornamental firms there is a negative correlation of the stage with the viability concerning modernity in the view of the entrepreneur. In the fruit firms, this is the case with the viability of the size.

## 4. Discussion

Insight into the family-firm life cycle contributed substantially to a better view on the actual situation and potential development of horticulture in the investigated region. There seems to be a relationship between the cycle and the developments in horticulture in the different branches.

The results are based on the subjective views of the entrepreneurs and the subjective view of the pollster. The financial position could be traced better by studying bookkeeping results. But these records are not available, and the data might be too old to use in making predictions for the future. So this inquiry gave an actual and quick, but subjective view on today's opinion of the entrepreneur. The value orientation might be related to this temporary aspect. We think that in our

case this view is too pessimistic. First, there had been a hail storm with a lot of damage on fruit firms shortly before the inquiry. Second, the research was carried out in spring when costs are high and yields are low, and there have been bad results in horticulture in general: low prices, rather restrictive environmental regulations, and high labor costs. The low score on social values might be the result of this mood. Growers become more instrumental in worse situations (Ziggers, 1992).

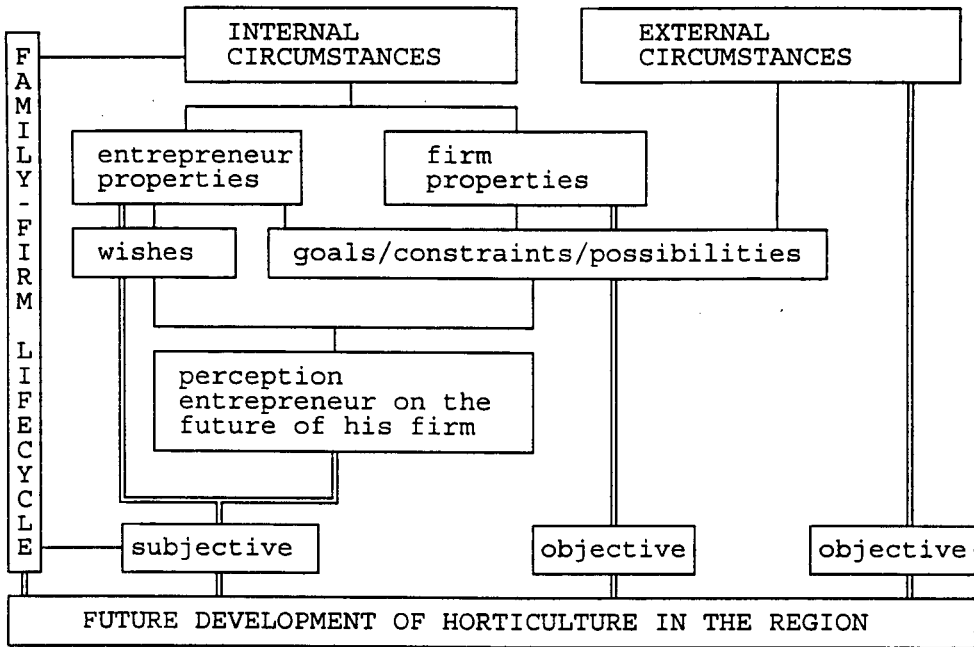
Whereas there is not a uniform distribution about the stages, it is difficult to find significant correlation coefficients, especially ornamental firms, where there are nearly only firms in two stages. Also, there might be a quadratic relationship in stead of a linear one so that no significant correlation will be detected.

As to the family-firm life cycle, it seemed that the speed with which the stages are passed through is related to developments in horticulture. In a situation with pessimistic views, this speed might be faster, and firms might enter earlier into the consolidation and exit stage. A distinction between family and firm's cycle might be useful then. We based the stage on the subjective view of our expert, the pollster. An objective procedure to define the actual stage is a point for further research.

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Figure 1. The research model



=: The relation between future development and basis factors investigated by the inquiry.

-.: Other relations.

Table 1. Correlation coefficients between the family-firm life cycle and other variables for different branches.

Variable	Fruit	Ornamental	Vegetable
Use extension service	-	-.046*	-.033**
Use growers' organizations	-	-	-.036**
Knowledge exchange colleagues region	-	-	-.035**
Knowledge exchange colleagues elsewhere	-	-	-.042***
Viability as to size	-0.57**	-	-
Viability as to modernity	-0.56**	-0.72***	-
Viability as to yield	0.56***	0.57**	0.49***
Viability as to costs	-	-	0.44**
Viability in general	-	-	-0.44***
Turnover	-0.64**	0.45*	-0.31**
Problems with paying bills	0.55**	-	-
Instrumental value orientation	-0.74**	-	-
Social value orientation	0.61**	-	-

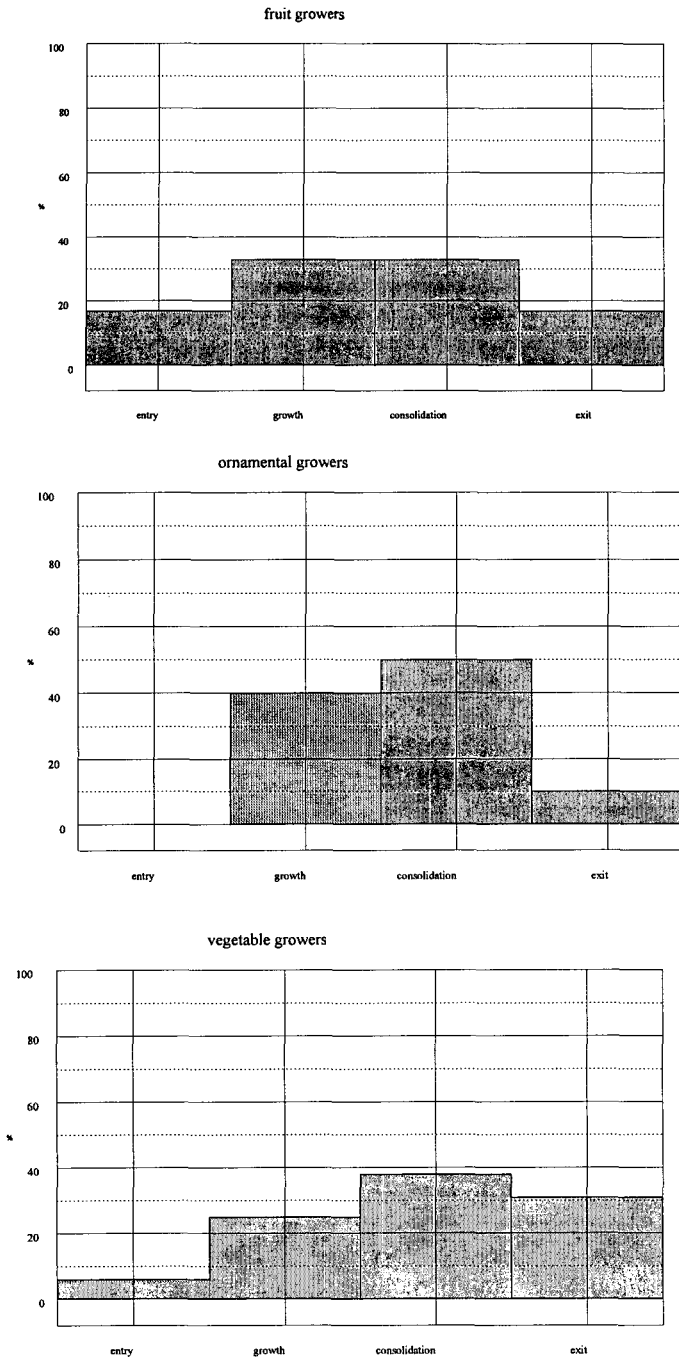


Figure 2. The percentage of firms in the stages of the family-firm life cycle.