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# Success Factors for Farming Collectives

Iris Pulfer and Markus Lips

## Abstract

In order to analyse the current state of farming collectives (FCs) in Switzerland we examined the influence of agro-economic and psychological factors on their success. The latter category was split up into interpersonal, economic and overall success and built up on the basis of a number of indicators. The influence of psychological factors on all three types of success was striking. In particular, trust in the cooperation partner played a decisive role in all types of success, something which is consistent with the findings of past studies. On the other hand, the influence of the agro-economic variables assessed was rather weak. While the variances in interpersonal and overall success can be explained to some extent, the existing variables have only a modest influence on economic success.

**Key words:** farming collective, economic satisfaction, interpersonal conflicts, success factors

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## 1. Introduction

The subject of agricultural cooperation initially came to the fore in the 1970s (Hülsermeyer 1970; Link 1978 & 1983; Werschnitzky 1979). As a topic of interest it faded into the background for some time before once more emerging as a subject for discussion around the millennium (Doluschitz 2001; Klischat et al. 2001). One of the factors responsible for this has been the enormous increase in cost pressures on individual farms. This applies in particular to Switzerland, a country subdivided into small agricultural plots where the growth of individual farms is kept in tight check. For this reason, methods of improving labour productivity - and consequently cost-effectiveness - are being sought (cf. Link 1995).

One option involves working together with a cooperation partner. This can be achieved by cooperating with another farmer (horizontal cooperation), as well as with up- or downstream enterprises (vertical cooperation). Recently, greater practical importance has come to be attributed to horizontal cooperation (Theuvsen 2003). The most intense form of horizontal cooperation is the farming collective (FC). In Switzerland, a farming collective (or "Betriebsgemeinschaft" as it is known in German) is a form of cooperation in which two or more farms are integrated into one organisational unit under joint management. „Cooperative farms' are defined as those which are not more than 15 km driving distance apart, must previously have been run for at least three years as independent farms, must feature a written contract and maintain common books of accounts. Ownership of livestock and moveable objects is ceded to the FC, as is the use of land and agricultural buildings necessary for the running of the farm.

In agro-economic literature it is assumed to be self-evident (Balling 1998; Krohmer 1999; Link 1983; Zickfeld 1995) that in addition to business factors (Link 1995) "soft" factors, i.e. psychological factors, also play a part in the success of a FC. However, which business and personal suitability criteria are essential for a FC to be successful has to date remained largely unexplained. Thus, the main purpose of the present investigation was to elucidate which psychological factors besides business factors influence the success of a FC.

Håkansson and Snehota (2006) point out in their approach 'network model for the organization-environment interface' that the protagonists involved in business organizations together build a web of relationships, i.e. a network, by continuously interacting with each other. The position of an organization in such a network and hence its strategic possibilities, depends on the successful establishment and preservation of the relationships upon which this network is based (Morath 1996). In contrast to the transaction costs approach, within the framework of the 'network model for the organization-environment interface' these relationships are characterized by cooperation rather than by competition. Following this approach, it may therefore be assumed that the (economic) success of an organization depends on cooperation relationships which, in turn, are based on interaction between cooperation partners.

Communication is one of the most frequent and important types of non-economic interaction. For this reason, based on the 'network model for the organization-environment interface' the present study has concerned itself with examining various aspects of communication within a FC and the influence of such means of communication on its success. Furthermore, selected aspects of the relationship between cooperation partners have been considered and assessed.

Within the framework of Ajzen's (1991) theory of planned behaviour, the attitude of the social environment towards a specific type of behaviour, e.g. cooperation with another farmer, may have a strong influence on that behaviour. For this reason in the present investigation the influence of the social environment on the success of a FC was also studied. This meant that the 'network model for the organization-environment interface' had to be extended to take into account the 'protagonists' external to the business interactions of an organization (e.g. social environment) that might be influencing it.

Finally, due to the different ways in which FCs are organized operationally, the criteria for evaluating their actual success cannot be narrowed down to economic indicators such as income or growth (Mann and Muziol 2001) exclusively, but rather to psychological indicators such as interpersonal satisfaction. Consequently, in the present investigation and in addition to economic success indicators, aspects of success have been studied that were additionally defined on the basis of the psychological characteristics (such as the amount of interpersonal conflicts) of a FC .

## **2. Methods**

### **2.1 Procedure**

In order to analyse the current state of FCs in Switzerland a questionnaire study was conducted (Pulfer et al. 2006). An eight-page questionnaire was sent to a randomly selected cooperation partner from each of 871 FCs. A total of N = 462 assessable questionnaires were returned, corresponding to a response rate of 53%.

By employing largely closed questions and pre-assigned answer categories, the questionnaire was designed in such a way as to make a quantitative evaluation possible. The response format for all items was a 5-point Likert-type scale. The sequence of questions was based on content-related criteria.

A pilot study involving three participants (concurrent think-aloud technique) was followed by a postal pre-test with 24 subjects. In addition to the questionnaire, participants in both pre-tests completed an evaluation sheet covering the comprehensibility of the questionnaire, time taken to complete it and the stress of doing so. For the sake of simplicity, the sample selected for the postal pre-test was restricted to German-speaking Switzerland .

It proved possible to increase the response rate by means of material incentives (a competition with 50 prizes) and by telephone follow-up. Data entry was accomplished by scanning in the questionnaires (TELE-Form program). Data cleansing and analyses were carried out using SPSS 14.2 for Windows.

## **2.2 Questionnaire**

### **2.2.1 Assessment of predictors of success**

The following "hard" factors, i.e. agro-economic variables, were assessed: Utilized agricultural area (ha), number of farm managers employed on the farm for more than three quarters of the time, investment in expansion at the time of set-up, educational level of the cooperation partners, extent of consultation by experts, duration of FC and how detailed the written agreement was. When it came to

assessing the latter, the farmers were asked to answer the following question, applying a 5-point scale (1=not at all; 5=very much): "To what extent were arrangements made that were different to or more detailed than the model contract?" In order to assess the degree of consultation, the farmers were asked to state, applying a 5-point scale (1=not at all; 5=very much), the extent to which they made use of consultants in conjunction with 12 topics, e.g. work organization or problems regarding communication, in the set-up phase and in the present. The score achieved by a FC in relation to the „degree of consultation’ variable was calculated as the average of the responses to these questions.

In order to investigate which "soft" or psychological factors influence the success of FCs the following four characteristics were assessed: relationship to the cooperation partner, the attitude of the social environment towards the FC during the set-up phase, quality of communication and the amount of working time spent on communication. The latter was derived by asking the subjects to indicate the percentage of their daily working time they were using for communication. The three remaining psychological factors are explained below.

As regards the relationship with the cooperation partner, four aspects were assessed. Three separate questions were put to the subjects, namely, whether their relationship with their cooperation partner was based exclusively on business, whether they felt that they were well matched with their cooperation partner (compatibility) and whether they felt that the relationship was based on equality. They were asked to rate their answers on a 5-point scale (1=not at all; 5=very much). In addition, in order to estimate the degree of kinship between the cooperation partners, participants were asked to indicate whether the cooperation partner was a relative or not.

In order to assess the attitude of the social environment towards the FC during the set-up phase, subjects were asked to rate, again on a 5-point scale (1=not at all; 5=very much), how positive the attitude of the husband/wife or male/female partner, parents or parents-in-law, employees or trainees and the rural environment was. An overall score representing the attitude of the social environment was calculated for each FC from the average of these four ratings.

The communication quality of the FCs was assessed by means of the 26 item "Questionnaire for the Assessment of Communication in

Organizations” (KomminO, Sperka, 2000). This is a validated questionnaire that measures various aspects of communication. Subjects are asked to respond on a 5-point Likert-type scale (1 = not at all, 5 = very much) to statements of the following type: “I receive sufficient feedback from my cooperation partners on the results of my work.” The KomminO measures the following seven scales: Importance, Usability (information overload), Trust, Feedback, Transmission–Extent (summarizing own information), Channel Openness (gatekeeping of own information) and Information Quality. The latter scale was assessed by specifically measuring categories such as accessibility of information, extent and accuracy of information and satisfaction with communication. The scales are derived from organisational psychology and are outlined in Table 1. Scale scores were calculated based on the average scores for the individual categories deployed.

Table 1: Aspects of Communication measured by the KomminO Instrument (Sperka, 2000)

<b>KomminO Concept</b>	<b>Explanation</b>
Quality of Information	How is the quality of communication (accuracy, accessibility of information , lack of information channelled through others, general satisfaction with communication) with others judged?
Importance of Communication	How important is communication with others when it comes to dealing with one's own work?
Information Overload	Is the survey participant swamped with more information than he can utilize?
Trust in the Communication Partner	Is there any cause for concern that certain communication partners do not treat information confidentially or use it against their partner?
Feedback	Does the survey participant receive sufficient feedback on his own conduct in the organisation?
Summarisation of own Information	Can information be given to others comprehensively or only briefly?
Gatekeeping of own Information	Can one's own information be given to others easily or are obstacles experienced?



### 2.2.2 Indicators of success

In order to assess the various aspects of a FC's success, the following six indicators were assessed: (A) 'Potential for interpersonal conflicts' as quantified by the "Questionnaire on Work-Related Conflicts in Teams" (see next paragraph), (B) economic satisfaction, (C) interpersonal satisfaction and (D) future prospects of the FC. Both types of satisfaction (B and C) as well as the future prospects (D) were each measured individually on a 5-point Likert-type scale (1=not at all; 5=very much). Regarding satisfaction, subjects were asked how satisfied they were with the economic and interpersonal situation within the FC. On the other hand, in order to assess future prospects, we asked whether disbanding the FC was under consideration. Furthermore, the (E) extent of advantages of a FC was assessed by reference to eight items representing possible advantages, e.g. more leisure time. All of the advantages assessed were related to working time, i.e. subjects were asked to assess the extent to which they were able to avail themselves of any one of the eight advantages because of the working time saved. This success indicator was calculated for each subject as the average of the responses to the eight items. In addition, an across-the-board average of the extent of the advantages was taken for all cooperation partners. A final success indicator (F) was measured, deploying the twin categories of "working time effectively saved" and "savings in manpower". The response format was a 5-point scale for both of these, ranging from 'no time saved' to 'more than ten hours saved per week' and, in the case of savings in manpower, ranging from 'none' to 'more than two units of manpower saved'. The success indicator calculated for each subject represented the average of these two categories.

Based on the six indicators, three standards for success were calculated: Economic success (B and F), interpersonal success (A and C) and overall success (A to F; see Fig. 1). These measures are in accordance with the economic and social objectives of a FC as described by Mann and Muziol (2001). After normalizing all single indicators to give a maximum value of 1, the scores of each FC as regards the three types of success were calculated as the average of the indicators representing the individual types of success.

Since the indicator for future prospects (D) makes no sense for FCs where one of the partners is soon to retire, we have excluded 46 farms from the analysis of the overall success indicator.

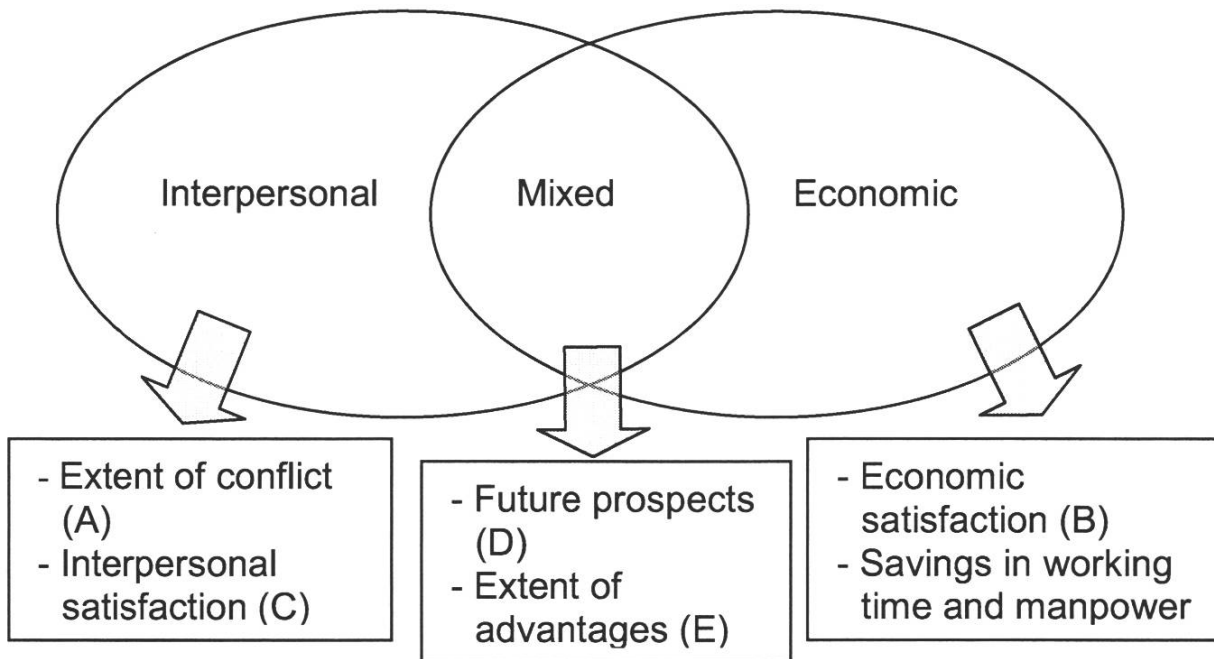


Fig. 1: The three Types of Success Indicators for Farming Collectives

### Conflict Level Measurement

The potential for interpersonal conflict in a FC was assessed by recourse to 27 items from the “Questionnaire on Work-Related Conflicts in Teams” (FAKT; Windel et al. 1999). This is a validated instrument that measures the potential for conflict in relation to external coordination problems, internal regulation problems and social incompatibility. For purposes of the present study, only those items for the assessment of conflicts which were relevant to cooperation in a FC were used. For all potential conflicts, we assessed how intensely the conflicts were experienced. This was accomplished by asking the subjects to indicate on a 5-point scale (1=not at all; 5=very much) how strongly they agreed with statements of the following type: “In my farming cooperative, working morale is present to very varying degrees”. For subsequent analyses, an estimate for the conflict potential of a FC was arrived at by taking an average of all the items .

### **2.2.3 Statistical procedure**

An analysis of principal components taking into account all items representing possible success factors did not yield any nameable factors. In terms of content, they were not sufficiently consistent. For this reason, the questionnaire items (some of which were consolidated) have been treated directly as predictors of success.

Multiple linear regression analyses were performed to examine which of the above-mentioned "hard" and "soft" factors were predictors for the three types of success. Three separate analyses were performed using all relevant "hard" and "soft" factors as predictor variables and one of the success measures as an independent variable. In order to arrive at three final models including only variables that are relevant (as shown in Tables 2-4), redundant predictor variables were excluded by using the SPSS standard procedure of stepwise exclusion. In this procedure a variable was included in the model when the significance level associated with the F-value of its partial regression coefficient fell below 5%. The significance level for the exclusion of a predictor was set at 10%. With the stepwise regression procedure, SPSS automatically accounts for the concomitants of multicollinearity (cf. Bortz 2005, p. 461). All variables which were excluded are reported in the Appendix. The few missing values were replaced by the average for the respective variable.

## **3. Results**

### **3.1 Factors influencing interpersonal success**

By way of an initial step, the predictors of interpersonal success (see Fig. 1) were estimated. Five predictor variables together explained 44% of the variance in interpersonal success ( $R^2 = 0.44$ ,  $p = 0.001$ ,  $F = 71.95$ ,  $df = 5/456$ ,  $N = 462$ ). Compatibility with the cooperation partner was the factor that had the greatest influence on the criterion variable. Trust in the communication partner and quality of information were also important influencing factors for interpersonal success. These three predictor variables were all highly significant. The positive attitude of the social environment towards the FC during the preparation period had a slightly negative influence on interpersonal success. If the cooperation

partners are not relatives, the FC operates better at an interpersonal level.

Table 2: Multiple Regression of Interpersonal Success applied to possible Success Factors (Indicators A and C)

	Beta	T-Value	p
Constant	1.16	5.55	.00
Compatibility with cooperation partner	.28	10.41	.00
KomminO: Trust	.26	5.01	.00
KomminO: Quality of Information	.23	4.47	.00
Positive attitude of social environment during set-up phase	-.07	-2.46	.01
Cooperation partner's degree of kinship	-.04	-2.02	.04

Remarks:  $N=462$ ,  $R=0.66$ ,  $R^2=0.44$ ,  $F=71.95$ ,  $df=5/456$ ,  $P=0.001$

### 3.2 Factors influencing economic success

The predictor variables measured did not appear to offer an adequate explanation for the variance of the economic success (see Fig. 1) variable ( $R^2 = 0.11$ ,  $p = 0.001$ ,  $F = 11.38$ ,  $df = 5/456$ ,  $N = 462$ ). Even so, it was also possible to an extent to explain economic success by means of five predictors (see Table 3). Trust in one's communication partner from the KomminO was the factor that had the greatest effect on the economic success variable. In addition, as with interpersonal success, the compatibility of the cooperation partners also significantly influenced economic success.

The amount of working time spent on communication has an influence on economic success but not on interpersonal success. This variable indicates the percentage of daily working hours spent absorbing and passing on information. Further explanatory variables included the degree of kinship and the extent of equality. The more the partners perceive their cooperation as one in which all members have equal rights and the less close the connection between the partners was prior

to setting up the FC, the more favourable the effect on economic success is likely to be.

Table 3: Multiple Regression of Economic Success applied to possible Success Factors (Indicators B and F)

	Beta	T-Value	p
Constant	2.28	8.83	.00
Compatibility with cooperation partner	.11	3.06	.00
KomminO: Trust	.17	2.98	.00
Amount of working time spent on communication	.02	3.21	.00
Cooperation partner's degree of kinship	-.06	-2.54	.01
Degree of equality between cooperation partners	.06	2.07	.04

Remarks:  $N=462$ ,  $R=0.33$ ,  $R^2=0.11$ ,  $F=11.38$ ,  $df=5/456$ ,  $P=0.001$

### 3.3 Factors influencing the overall success of a farming collective

The indicator for the overall success of a FC (see Subsection 2.2.2) has been defined as being made up of economic success, interpersonal success, future prospects and the existing extent of advantages in terms of working time. Multiple regression yielded 6 predictors that account for 34 % of the variance in overall success ( $R^2 = 0.34$ ,  $p = 0.001$ ,  $F = 35.62$ ,  $df = 6/409$ ,  $N = 416$ ). The greatest effect derived from mutual compatibility of the cooperation partners. The more compatible the cooperation partners were, the greater the overall success of the FC. Again, trust exerts a positive influence whereas the cooperation partner's degree of kinship has a negative influence. A further element when it comes to predicting the success of a FC is that the more farm managers spend most of their working hours on the farm, the greater the overall success is. Previously, this variable was not regarded as a contributory factor in the prediction of economic or interpersonal success. Another positive influence on overall success is quality of information.

Table 4: Multiple Regression of overall Success applied to possible Success Factors (Indicators A to F)

	Beta	T-Value	p
Constant	1.67	8.05	.00
Compatibility with cooperation partner	.23	8.84	.00
KomminO: Trust	.17	3.39	.00
Cooperation partner's degree of kinship	-.06	-3.67	.00
Amount of working time spent on communication	.01	3.02	.00
KomminO: Information quality	.12	2.48	.01
No. of farm managers employed over three quarters of the time on the farm	.05	2.39	.02

Remarks:  $N=416$ ,  $R=0.59$ ,  $R^2=0.34$ ,  $F=35.62$ ,  $df=6/409$ ,  $P=0.001$

## 4. Discussion and conclusions

### 4.1 "Soft" success factors and their Impact

As anticipated, as far as interpersonal success was concerned it was mainly "soft" factors that were important. Interpersonal success is partially influenced by the following five variables: "compatibility with cooperation partner", "trust", "quality of information", "attitude of (the social) environment", and "degree of kinship with cooperation partner" (see Subsection 2.2.1 for definitions). The success factors identified in the course of a qualitative study conducted by Mann and Muziol (2001) and derived from one by Doluschitz (2006) are only partially consistent with those of this study (see last Subsection). However, these studies and the present study do correspond when it comes to the critical importance of trust. In the present study "trust in the communication partner" (KomminO) plays a decisive role for all three types of success. Similarly, Mann and Muziol (2001) found that knowing each other and shared work experience were important factors. Doluschitz (2006) pointed out that trust is important. Balling (1998) also highlights mutual trust as a basis for cooperation: a friendly relationship is not essential,

but trust saves checking costs. Furthermore, he refers to various studies (Håkansson 1989; Haury 1989; Moss Kanter 1994; Steffenhagen 1975).

As also noted by Schaude (1991), compatibility of the cooperation partners has proved to be an important factor, not only for interpersonal success, but also as regards the other two types of success. It may be assumed that subjects understood compatibility as existing on the human level as well as on the structural or business level. Hence, compatibility of the cooperation partners has also proved to be an important factor for economic success. Doluschitz (2006) confirms this finding, as farms setting up a FC also need to be compatible on a structural level (with similar capacities and production structures).

The variable “equality in the relationship” had similar effects to the “compatibility” variable: The fact that cooperation partners feel equal has a positive impact on economic success. The influence of relationship level and role consensus on success also appears to be of slight significance. On the one hand this is evident because of the “cooperation partner’s degree of kinship” variable. The closer the individuals involved (e.g. relatives) are to each other, the lower the degree of success is at all three success levels. At an interpersonal level, this could mean that there are more conflicts or that the cooperation partners are less satisfied with the interpersonal situation when they are closely related.

The attitude of the social environment towards the FC has an effect on the interpersonal success of the FC. The more negative the attitude, the more successful the FC is rated in interpersonal terms. This result is not easy to interpret. On one hand, the farmers might not be open to social influences and thus could have a low self-monitoring tendency (Snyder 1987). Another possible explanation could be that the motivational structure is adapted to the social reference frame. The purely psychological features of the farm manager interact with the ideas and modes of behaviour of the environment (Fürstenberg, 1970). Put simply, the way to interpret this is that external pressure binds individuals together.

In literature, authors agree that communication is one essential feature that is of crucial importance if a FC is to work well. A direct relationship between the quality of communication and the conflict level has been discerned by virtue of a number of different manifestations (Klischat et al. 2001). Steffenhagen (1975) postulated that, with decreasing formal,

temporal and content-related restriction of operative communication, the likelihood of conflict increases. A relationship between communication and conflict has also been described by Ehlerding (1995) and Habermann (2000). In the present study, quality of information was found to predict interpersonal success, and hence, according to literature probably the frequency of conflict. Apart from this, the proportion of working time spent on communication had an effect on overall success. What was striking was that it also had a positive effect on economic success. It may therefore be assumed that, in addition to the quality of ‚information exchange‘, ‚meeting frequency‘ also has an effect. This has been repeatedly stated in literature, e.g. by Ohmae (1989, p.154): “Success calls for frequent meetings at [different] organisational levels in order to build rapport” (author’s translation).

## 4.2 The role of “hard” factors

“Hard” factors, such as duration of FC, extent of expansion investments, education of the cooperation partners or size of utilized agricultural area have not contributed to explaining economic success.

Only the predictor variable “number of farm managers intensively occupied on the farm” has made any contribution at all to predicting overall success. The more farm managers are intensively involved on the farm, the greater the degree of success will be. This is primarily because the advantages related to working time are better defined for those farms that have a large number of hard-working farm managers. Contrary to statements made in literature, the presence of more people on the farm does not give rise to more conflict (Balling, 1998; Habermann, 2000).

The role of the written agreement is consistently viewed as important in literature (Ehlerding 1995; Schaude 1991; Schmitt and Hoffmann 1999). In the present study, the degree of detail of the agreement has been assessed. However, this has contributed neither to economic nor to interpersonal success, although the effect of this variable on overall success was almost of significance ( $b = 0.55$ ,  $T=1.4$ ,  $p = 0.172$ ). Bowersox (1990) viewed *ex ante* arrangements as prevention of a negative development of a FC. Likewise, Balling (1998) writes that power imbalances and any possible dysfunctional effects on weaker participants can be kept in check if the agreement is good and tailored



to the individual farm and if barriers to withdrawal are pointed out. However, the present study has shown that the effectiveness of agreements must not be overestimated.

Just like a good written agreement, a good, in-depth consultation is regarded in several instances as a success factor. Spandau (1998) writes as follows on this topic: "The essential factor for successful cooperation is proper consultation" (p. 25; author's translation). The extent of consultation in the set-up phase and in the present was assessed, but it did not disclose an effect on any of the three success measures. Klischat et al. (2001) showed that in Germany advice is primarily given for economic success factors, whereas human aspects are often neglected. In order to take account of the high requirements of a FC consultation, maybe agricultural consultancy should be optimized in Switzerland. This type of consultation is a highly complex matter in which interpersonal aspects need to be addressed in addition to a purely objective consultation (Klischat et al. 2005).

Doluschitz (2006) specified fairly large investments and a comparable level of education as success factors (see also Balling 1998; Lechner and Gesing 2006). Correspondingly, Mann and Muziol (2001) identified 'similar knowledge' and 'skills' as being important. In the present study neither of these aspects has emerged as a success factor. The level of 'expansion investments at the time of set-up' did not significantly explain economic success.

### **4.3 Outlook**

The present study focused on "soft" success factors. Dealing more specifically with "hard" factors might have allowed us to account for more than the 11% of the variance in economic success. Further success factors described in literature could be used for predicting economic success, e.g. the possibility of tapping additional income potential, possible income-efficient uses for remaining residual capacities (building and work), spatial proximity, economic efficiency of each cooperation partner, developmental capacity, defined criteria for goal prospect, goal achievement and profit distribution as well as the flexibility to adapt quantitatively and qualitatively to changes in competitive conditions (Balling 1998; Doluschitz 2006; Mann and Muziol 2001). This list is clearly not complete. Nevertheless, the indications are

that it would be promising to conduct investigations that focus on economic and structural factors. Furthermore, future studies should take into consideration the fact that legal, societal and natural (e.g. climate, topography) conditions might also play a role.

It should also be mentioned that different operationalization of the economic success indicator might lead to more accurate results. However, we are still faced with the problem that income in a FC is not easy to measure, since the manner in which it is distributed is governed differently from farm to farm and, in some cases, earnings from the part-time activities of different family members are also included.

Doluschitz (2006) viewed the ability to deal with conflict, a willingness to compromise, mutual respect and similar value orientations as important. These aspects have not been measured directly in the present study. Another important aspect for future studies might be personality traits, which are beneficial for cooperation. For example, an "entrepreneurial personality" or a "cooperative personality" (Dorenkamp 1968; Schiebel 2005) might be advantageous when it comes to quality of cooperation. Additional important personality traits and skills such as sociability, assertiveness, negotiating skills and the ability to view things objectively from a distance are regarded as important (Endress 1991).

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## Appendix

Table 5: Excluded Variables which do not explain Interpersonal Success in Multiple Regression

	Beta	T-Value	p
Duration of farming collective	-.019	-.530	.596
Length of preparation period	.044	1.216	.225
Expansion investments at time of set-up	-.010	-.285	.776
Co-operative experience before FC	.026	.741	.459
Education of co-operation partners	.040	1.108	.268
Age difference between co-operation partners	-.001	-.017	.987
Business relationship with co-operation partner	-.070	-1.866	.063
Relationship with co-operation partner – equality	-.008	-.199	.842
Proportion of working time spent on communication	.069	1.931	.054
KomminO: Feedback	.052	1.290	.198
KomminO: Importance	.016	.427	.670
KomminO: Usability	-.068	-1.576	.116
KomminO: Transmission – Extent	-.030	-.807	.420
KomminO: Trans. - Channel Openness	.016	.375	.708
Extent of consultation	-.044	-1.199	.231
Overall difficulties in the preparation period	-.045	-1.240	.216
Degree to which other people are involved in decision-making	.027	.736	.462
Exchanging experiences with other FCs	.000	-.007	.994
Utilized agricultural area (ha)	-.016	-.462	.644
No. of farm managers employed over three-quarters of the time on the farm	.003	.084	.933
Degree of detail of the written agreement	.004	.100	.921

Table 6: Excluded Variables which do not explain Economic Success in Multiple Regression

	Beta	T-Wert	p
Duration of farming collective	.070	1.575	.116
Length of preparation period	-.025	-.551	.582
Expansion investments at time of set-up	.013	.289	.773
Co-operative experience before FC	.021	.476	.634
Education of co-operation partners	.048	1.063	.288
Age difference between co-operation partners	.012	.271	.787
Business relationship with co-operation partner	.075	1.587	.113
KomminO: Communication quality	.049	.832	.406
KomminO: Feedback	-.015	-.316	.752
KomminO: Importance	.019	.387	.699
KomminO: Usability	.052	.971	.332
KomminO: Transmission – Extent	-.015	-.320	.749
KomminO: Trans. – Channel Openness	-.002	-.047	.963
Extent of consultation	.037	.793	.428
Positive attitude of social environment during set-up phase	.000	.007	.994
Overall difficulties in the preparation period	-.040	-.889	.374
Degree to which other people are involved in decision-making	.014	.319	.750
Exchanging experiences with other FCs	.007	.162	.871
Utilized agricultural area (ha)	.051	1.119	.264
No. of farm managers employed over three-quarters of the time on the farm	.046	1.039	.299
Degree of detail of the written agreement	.082	1.843	.066

Table 7: Excluded Variables which do not explain Overall Success in Multiple Regression

	Beta	T-Value	p
Duration of farming collective	.036	.877	.381
Length of preparation period	.015	.374	.709
Expansion investments at time of set-up	.043	1.065	.288
Co-operative experience before FC	.037	.921	.358
Education of co-operation partners	.058	1.411	.159
Age difference between co-operation partners	-.070	-1.711	.088
Business relationship with co-operation partner	.047	1.093	.275
Relationship with co-operation partner – equality	.064	1.500	.134
KomminO: Feedback	-.050	-1.095	.274
KomminO: Importance	.055	1.258	.209
KomminO: Usability	.004	.085	.932
KomminO: Transmission – Extent	.006	.148	.883
KomminO: Trans. – Channel Openness	-.004	-.078	.938
Extent of consultation	.023	.551	.582
Positive attitude of social environment during set-up phase	.002	.036	.971
Overall difficulties in the preparation period	-.037	-.876	.382
Degree to which other people are involved in decision-making	.005	.121	.904
Exchanging experiences with other FCs	.044	1.062	.289
Utilized agricultural area (ha)	.058	1.392	.165
Degree of detail of the written agreement	.055	1.369	.172



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