Determinants of entrepreneurial orientation in cooperatives: organizational resources and the double-edged sword of member participation

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Keywords: Entrepreneurial Orientation, Organizational Resources, Member Participation, Cooperatives

Abstract: Entrepreneurial Orientation (EO) is vital for the economic performance of cooperatives. However, research on cooperatives has yet to explore how EO depends on organizational factors. This study theoretically and empirically examines the relationship between organizational resources, the participative structure of cooperatives and EO. The survey results of 615 Swiss cooperatives (mainly SMEs) reveal that organizational resources explain some variance of EO, with the mobilization of internal- and external network resources being the most important determinants. Furthermore, it is shown that member participation is negatively related to EO. The results contribute to the research question of how cooperatives become more entrepreneurial by adapting organizational factors.

Determinanten der unternehmerischen Orientierung in Genossenschaften: Ressourcen und das zweischneidige Schwert der Mitgliederpartizipation

Stichworte: Unternehmerische Orientierung, Ressourcen, Mitgliederpartizipation, Genossenschaften

Zusammenfassung: Unternehmerische Orientierung (EO) ist für den wirtschaftlichen Erfolg von Genossenschaften von entscheidender Bedeutung. Bisher wurde in der Genossenschaftsforschung jedoch nicht untersucht, wie EO von organisationalen Faktoren abhängt. Die vorliegende Studie untersucht den Zusammenhang zwischen Ressourcen, partizipativer Struktur und EO von Genossenschaften. Die Ergebnisse einer Umfrage mit 615 Schweizer Genossenschaften (hauptsächlich KMU) zeigen, dass Ressourcen eine gewisse Varianz der EO erklären, wobei die Mobilisierung interner und externer Netzwerkressourcen den stärksten Einfluss hat. Darüber hinaus zeigt sich, dass die Mitgliederpartizipation in einem negativen Zusammenhang mit EO steht. Die Ergebnisse tragen zu der Forschungsfrage bei, wie Genossenschaften durch die Anpassung von organisationalen Faktoren unternehmerischer werden können.

1. Introduction

Cooperatives promote economic, social and community goals for their members and beyond, embedded within their unique democratic governance structure. They have a long history and are non-neglectable in different economic sectors. Worldwide, the 300 most important cooperatives had a turnover of 2.180 billion USD and 280 million jobs in 2019

(ICA, 2021). Swiss cooperatives play an equally important role, e.g., in the housing, retail, banking, and insurance industry and represented at least 2.7 % of the Swiss workforce (in full-time equivalent, FTE) in 2018 (FSO, 2019b). Next to economic importance, they are seen as a means for a sustainable economy and to reach the 2030 Sustainable Development Goals (SDGs) (UN, 2021), including improving living and working conditions and providing services and infrastructure in underdeveloped areas (ILO, 2021).

However, there has been a long-lasting debate on how cooperatives manage to be innovative and entrepreneurial and how they succeed in economic niches and direct competition with other organizational forms (Berti & Pitelis, 2022; Boone & Özcan, 2016; Mazzarol et al., 2018). An entrepreneurial orientation (EO) is seen as a vital feature in reaching the financial performance objectives of cooperatives (Guzmán et al., 2020; Kyriakopoulos et al., 2004). EO is used to transform the advantages of their business model into economic success (Guzmán et al., 2020) and gives a counterweight to a "conservative, defensive, operation-oriented corporate culture" (Cook, 1994, p. 46). Thereby, EO might help to overcome disadvantages alleged to the cooperative business model, such as incentive problems (Jensen & Meckling, 1979; Porter & Scully, 1987; Rey & Tirole, 2007), collective decision-making costs, and the incentive to free ride (Dilger et al., 2017; Hart & Moore, 1996).

There is a lack of research on the antecedents of EO in cooperatives. Prior research proposes various antecedents, such as organizational resources and competencies, organizational culture, and organizational structure influencing EO (Covin & Slevin, 1991). Several of these antecedents were empirically examined in the context of for-profit and, to a lesser extent, non-profit organizations, focusing on the explanatory effect of, e.g. team and management characteristics, human resource management, leadership, organizational features, and resources (Stock & Erpf, 2022; Wales et al., 2011). In the cooperative context, a contribution by Kyriakopoulos et al. (2004) examines the impact of EO and different structural elements of cooperatives on performance without assessing the antecedents of EO. Another contribution by Guzmán et al. (2020) investigates how cooperative values and governance principles relate to EO. However, there is a research gap on other determinants of EO in cooperatives.

Among the determinants, resources are vital for the EO of SMEs and, thus, for cooperatives (Covin & Slevin, 1991; Wiklund et al., 2009). Building an integrative model of small business growth, Wiklund et al. (2009) propose several resource types affecting EO, such as firm (financial and human capital) and network resources (internal and external network). Access to financial resources is a particular issue for cooperatives because, from a neoclassical point of view, the cooperative business model lacks economic incentives. At the investor level, heterogeneous member preferences and the lack of opportunity to trade cooperative shares freely result in fewer investments in future projects. The problem is exacerbated by free-riding, as members benefit from the investment, but even more so if they do not contribute, leading to insufficient investment (Dilger et al., 2017). Therefore, the availability of existing and future financial resources needs special attention. In addition, human resources have been identified as an essential antecedent of entrepreneurial outcomes because the capability and capacity of the workforce foster the level of innovativeness, risk-taking and proactiveness of cooperatives (Muñoz et al., 2020; Padilla-Meléndez et al., 2014).

In contrast to the neoclassical view, which focuses on the weaknesses of cooperatives, a strength of the collective and member-based business model is to create and leverage the internal and external network (Menzani & Zamagni, 2010), and members' solidarity and commitment can create a competitive advantage (Núñez-Nickel & Moyano-Fuentes, 2004). The external network allows access to valuable resources and information necessary to detect and exploit opportunities (Wiklund et al., 2009) and is thus an overarching resource related to innovation and EO of cooperatives (Guzmán et al., 2020; Rodríguez & Guzmán, 2013). Furthermore, the internal network is an organizational-level competency strongly associated with entrepreneurial behaviour because business opportunities can be detected through informal networks and exploited through employees' capabilities (Stevenson & Jarillo, 1990). Although previous work has examined the relationship between certain types of resources and EO, there is a gap in research regarding how the relevant resources affect cooperatives' EO. A complementary view is necessary to assess the relative importance of different resource types for cooperatives. With this paper, I close this gap and show that network-related resources are particularly important for cooperatives.

Next to resources, the collective mobilization of members, including member participation and engagement, is another characteristic of the cooperative business model and a highly debated research topic. On the one hand, problematic aspects of member participation are raised, highlighting collective decision-making and agency costs due to asymmetric information between members and the board (Österberg & Nilsson, 2009) increasing with member heterogeneity (Höhler & Kühl, 2018), and the optimal level of member participation (Pozzobon & Zylbersztajn, 2013). On the other hand, it is argued that a high level of member participation is associated with the success of cooperatives (Bhuyan, 2007), and several contributions claim close ties to members offer a competitive advantage (Mazzarol et al., 2022; Talonen et al., 2016). However, there is a research gap in the relationship between member participation and EO. The results of this paper provide evidence on the relationship between member participation and EO and close this gap.

The paper contributes to how cooperatives manage to act more entrepreneurially. It shows they can adjust internal variables to increase EO, which is vital for their performance (Guzmán et al., 2020; Kyriakopoulos et al., 2004). It expands existing knowledge on the antecedents of EO in cooperatives (Guzmán et al., 2020) by including member participation and resources and assessing them simultaneously.

2. Entrepreneurial orientation of cooperatives

EO captures the essence of an entrepreneurial firm. The initial unidimensional measure with strategic aspects, managerial practices, and firm behaviour contains the dimensions of *innovativeness, proactiveness, and risk-taking* (Miller, 1983). SMEs significantly benefit from EO (Rauch et al., 2009; Strobl et al., 2022). Mainly because, compared to large firms, they focus on a differentiation strategy and generate a comparative advantage with an EO, giving them a more dynamic, flexible posture (Wiklund, 1999). In competition, like SMEs, cooperatives need to rely on a differentiation strategy (Mazzarol et al., 2014); therefore, EO is equally beneficial. There are only two contributions on EO and the performance of cooperatives in the agricultural sector (Kyriakopoulos et al., 2004) and a cross-sectoral study on worker cooperatives (Guzmán et al., 2020), which both show a positive relation to financial performance. Research on the antecedents of EO in the

cooperative context does not exist except for the study of Guzmán et al. (2020), which finds a positive effect of the cooperative governance principles on EO.

EO is mainly used with the operationalization of Covin and Slevin (1989) (Rauch et al., 2009). Nevertheless, variations of the EO construct evolved (Anderson et al., 2015; Lumpkin & Dess, 1996), including adaptations of the scale to the NPO sector (Kraus et al., 2017; Lurtz & Kreutzer, 2017). The latter results from ongoing debates about the nature of social entrepreneurship and the implications for the EO scale. Although cooperatives are a subset of social enterprises (Defourny & Nyssens, 2008; Gonin & Gachet, 2014), they have unique features like member and market orientation (hybridity) and democratic governance. To date, there are no adaptations of the EO scale to cooperatives, and there are only two contributions which refer to the scales developed by Deshpandé et al. (1993) (Kyriakopoulos et al., 2004) as well as Covin and Slevin (1989) (Guzmán et al., 2020).

I believe different necessary adaptations must be made to apply the construct of Covin and Slevin (1989) to the cooperative context. The first is that the measure of EO on the top management level (Covin & Slevin, 1989; Lumpkin & Dess, 1996) does not fit the cooperative context because of the democratic decision-making mechanisms with small teams and horizontal hierarchies. I, therefore, asked for EO on the firm level rather than at the top management level. The second is the measure of proactivity. Lumpkin and Dess (1996) argue that a proactive organization takes the initiative, seizes market opportunities, and actively shapes the (external) field of activity. Although most cooperatives are oriented towards external markets and compete with other organizations, they are equally oriented towards their members. For some cooperatives (mainly in the infrastructure and housing sector), members are the most crucial reference point, and external markets or competitors are less critical.

In my view, the proactivity of cooperatives, particularly of self-help cooperatives (member-oriented and inward-looking), is demonstrated by the fact that they actively shape the external field of activity *and* the relationship with their members. They actively approach members, identify needs, and offer services and products before members demand them. In doing so, they create added value for members and gain market share indirectly through a good reputation and expanding services. Especially for self-help cooperatives, it is, therefore, not so important to be the first in the market but to offer good services to members before they actively demand it. This view aligns with Morris et al. (2011), who propose that the proactiveness of non-profit organizations additionally entails initiating change relative to stakeholders' expectations.

3. Hypotheses

3.1. Resources and EO

Resources, consisting of intangible (core competencies, knowledge, skills), financial (cash, equity), human resources and other tangible assets (equipment, business systems), are required to run cooperatives (Mazzarol et al., 2014) and are a prerequisite for EO (Covin & Slevin, 1991).

Networking resources, such as intra-personal relations, are essential at the management level because cohesion, shared leadership, and common vision shape the processes and abilities of the whole organization (Wiklund et al., 2009). The sharing of explicit and implicit knowledge has been identified as an essential firm-level antecedent of EO (De Clercq

et al., 2015). Intensive intra-firm exchange brings complementary knowledge together and increases the collective knowledge breadth and depth, resulting in entrepreneurial opportunities (De Clercq et al., 2013). Furthermore, different views on the strengths and weaknesses of opportunities result in better entrepreneurial outcomes (De Clercq et al., 2015).

Including the workforce in discussions and decisions related to entrepreneurial affairs strengthens the interdependence of individual tasks. Furthermore, economic participation through ownership is an additional driver for sharing knowledge and finding entrepreneurial solutions (De Clercq et al., 2015). Another amplifying factor is cooperatives' collective identity and inherent values, which lead to workforce engagement and commitment (Bastida et al., 2021) and increase EO (De Clercq et al., 2010).

In the cooperative context, the positive effect of the above-described collective action is confirmed by Muñoz et al. (2020), who find evidence in Chilean cooperatives that collective action of a skilled, motivated, and committed workforce leads to innovation if there is an innovation orientation and a suiting participatory leadership style. Furthermore, Guzmán et al. (2020) show that cooperative principles which are related to the above-described antecedents of collective activity, such as "education" and "economic and democratic participation", are related to EO. Therefore, I argue that the *collective entrepreneurial capacity,* defined as the workforce's collective engagement in discussions and decisions in entrepreneurial matters, positively relates to cooperatives' EO.

Hypothesis 1a: The collective entrepreneurial capacity is positively related to EO.

Human capital, the sum of the skills, knowledge and experience of the management and the workforce, is an essential resource for a firm's success and EO (Covin & Slevin, 1989; Wiklund et al., 2009). The skillset of the cooperative workforce is essential for technical, process, or managerial innovation (Rodríguez & Guzmán, 2013). Proactive screening of markets and finding opportunities is only possible with a trained and motivated workforce. Research also shows that an educated workforce can better deal with risks and, therefore, is more willing to take risks (Guzmán et al., 2020). EO is, therefore, higher with an educated and experienced workforce (Padilla-Meléndez et al., 2014) and the according management capabilities (Basterretxea & Martínez, 2012).

Hypothesis 1b: HR skills positively relate to EO.

The degree of *availability of a resource* is vital for entrepreneurial actions and behaviours because they are resource-intensive (Wiklund et al., 2009). *Financial resources* are essential because they can be easily converted into other types of resources. They allow cooperatives to explore different strategies and options, resulting in process innovations or creating new products and implementing them before others do (Wiklund et al., 2009). Investments in digital infrastructure or research and development foster innovativeness. Screening internal and external markets needs different support systems, which are costly. Furthermore, a precondition for engaging in uncertain projects and taking risks is the availability of resources, and several studies show a positive relationship between firms' financial resources and EO (Hughes et al., 2015; Wiklund et al., 2009).

Next to resources which are already available and could be reorganized if necessary, *access* to new resources is vital for SMEs (Wiklund & Shepherd, 2005). For cooperatives, this is of particular importance because they face difficulties raising enough capital (Ben-

Ner, 1988; Novkovic, 2007), especially for long-term investments (Li et al., 2015): the "common property" problem encourages members to free-ride on necessary investments, and the "horizon problem" that impatient members prefer short-term investments over long-term financing. Cooperatives who manage to attract enough financial capital thus have more entrepreneurial degrees of freedom and potentially higher EO:

Hypotheses 1c&d: The availability of existing financial resources (H1c) and access to new capital (H1d) positively relate to EO.

Cooperatives can use *inter-organizational cooperation* to share resources (Menzani & Zamagni, 2010) and for entrepreneurial actions. Cook and Plunkett (2006) argue that cooperatives use networks to share knowledge and information, encourage innovation, seek opportunities, and undertake risky projects under uncertainty (e.g., collectively investing in facilities or intangible assets such as brand names).

In the context of SMEs, results show a positive relationship between the network of small business managers and EO (Wiklund et al., 2009) and between cooperation with other organizations and EO (García-Villaverde et al., 2018; Kusa et al., 2019). In the context of cooperatives, Guzmán et al. (2020) similarly find that cooperation with other cooperatives is positively related to EO. Inter-organizational cooperation is also related to the subdimensions of EO: Novkovic (2007) proposes that cooperatives with high R&D intensity can compensate for their difficulties in attracting resources necessary for innovation by creating networks and transferring knowledge and technology within these networks. Empirically, this is partially confirmed by Basterretxea and Martínez (2012) results, that industrial cooperatives more often collaborate with technology centres and universities than investor-owned firms. Other evidence points to the positive effect of inter-organizational cooperation on innovation for cooperatives in the agricultural (Borgen & Aarset, 2016; Fiore et al., 2020) and the manufacturing sector, where knowledge spillover from partners is vital for managerial and technological innovations (Rodríguez & Guzmán, 2013).

Hypothesis 1e: Inter-organizational cooperation is positively related to EO.

3.2 Member participation and EO

Ben-Ner and Gui (2003) argue that non-profit organizations typically face lower monitoring costs because their interaction with members is based on trust and altruism. For cooperatives, Dilger et al. (2017) propose that personal ties between the management and members can prevent opportunistic behaviour because the management is "socially" punished and, therefore, reduces monitoring costs. Furthermore, an active member base decides faster and lowers collective bargaining costs. Both increase the possibility of making more courageous decisions and mobilizing resources to implement innovations. The close relationship between members and cooperatives can be a source of innovation as the flow of knowledge increases (Sánchez-Hernández & Castilla-Polo, 2021) and engaged members act as promotors of change, facilitating the implementation of innovations (Massimo & Nora, 2022). Strong relationships with members help to gain a knowledge advantage over competitors (Mazzarol et al., 2022; Talonen et al., 2016). Various qualitative studies confirm that close relationships with members increase cooperatives' innovativeness (Borgen

& Aarset, 2016; Fiore et al., 2020). Furthermore, member participation positively affects risk-taking by increasing relational trust (Kaasa, 2009).

Hypothesis 2: Member participation positively relates to EO.

3.3 Measures[1]

3.3.1 Entrepreneurial orientation (EO)

The Covin & Slevin scale translated into German, French, and Italian by slightly changing the wording to a cooperative context was used. Three EO experts double-checked the accuracy of the translations. Some adaptations to the cooperative context were necessary. In contrast to the initial scale, the items were related to the organizational level rather than the firm's top management, which better suited the less hierarchical cooperative context. Furthermore, I had to consider that some cooperatives operate in economic niches and are oriented toward members. Therefore, proactiveness cannot be related only to direct competitors. To solve this issue, I included three additional items referring to the proactiveness towards cooperative members rather than towards the leading competitors. This understanding of proactiveness embraces the definition of Lumpkin and Dess (1996) as being "active rather than passive." Furthermore, Morris et al. (2011) propose that proactiveness in the non-profit sector should be expanded with the relation towards main stakeholders. EO was measured as a second-order unidimensional (reflective) construct (Covin & Wales, 2012; George, 2011).

3.3.2 Organizational antecedents of EO

Collective entrepreneurial capacity was measured by a filter question followed by a Likert-scaled item battery which was developed to capture the *collective* aspect of entrepreneurship *(Diaz-Foncea & Marcuello, 2013; Stevenson & Jarillo, 1990)*, asking whether employee meetings were repeatedly held and essential questions were collectively discussed and decided. The personal expense per employee measured *HR skills*, standardized by the industry's median expenses. Although this is a rough proxy of education and workforce experience, it can be assumed that skilled people usually go for higher wages. *Availability of financial resources* was measured following Moreno and Casillas (2008) by *efficiency,* as the turnover of firms' assets (sales/total assets), where inefficient firms have more unused resources or slack. The measure was standardized by subtracting the sector's median turnover to control for industry differences (de Jong et al., 2021). The second indicator was *financial capital,* measured by the equity ratio (equity/total assets), which indicates the organization's available financial resources (Moreno & Casillas, 2008). *Access to (new) financial capital* was measured with one item, which assessed the perceived access to capital when needed. The tendency to *inter-organizational cooperation* was measured with a single opposed statement asking whether organizations manage challenges alone or seek cooperation with partners.

Member participation was assessed with an index of one item measuring the inclusion of the members beyond the mandatory general assembly and a second measure assessing

1 Measures are available in the appendix in Table 5A, descriptive statistics in Table 3A.

the share of active members in %. The two items were transformed into an index (α = 0.53), ranging from 0–1 with equal weights.

3.3.3 Control variables (CV)

A dummy for *urban areas* controlled the economic environment. Urban areas generally offer more entrepreneurial options (influencing EO). *Regional economic differences* were controlled by the regional GDP level (NUTS-3) (FSO, 2019a). The *cooperative density* (entities/m^2) controlled for the density of the cooperative network, facilitating cooperation with other organizations.

Environmental hostility, dynamism and munificence have been identified as essential influence factors in EO research and are included as CVs (Rosenbusch et al., 2013; Wiklund & Shepherd, 2005). *Environmental hostility* was measured by a combined measure of perceived industry rivalry (Slater & Narver, 2000) and the number of self-reported direct competitors to capture the quantitative aspect of competition (Rosenbusch et al., 2013). *Environmental dynamism* was measured by a reflective construct of three items capturing market dynamics and uncertainty (Miller & Friesen, 1983). *Environmental munificence* was measured with a single item, where respondents had to state whether their relevant markets were growing (Slater & Narver, 2000).

As organizational-specific controls, I included industry dummies and standard organizational control variables such as size (number of FTE) and age (in log. years since founding). Furthermore, I controlled the self-assessed relevance of the financial and social mission (compared to the member-oriented mission) in %. The number of third-party services (i.e. services to non-members) was assessed by their share at the yearly turnover in %. The share of dividend payment to members assessed the accumulation of reserves.

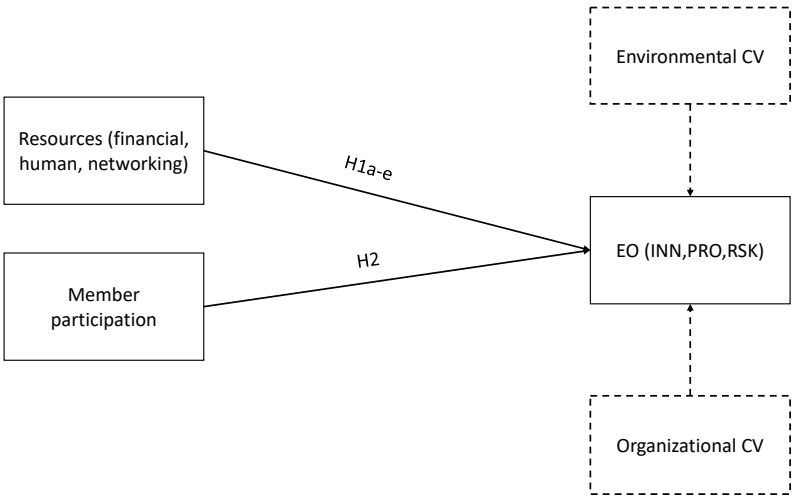

FIGURE 1: Research Model

4. Results

4.1 Data

In the summer of 2019, all 8154 Swiss cooperatives registered in the Swiss trade register at the end of 2017 were surveyed. A letter including the survey plus a short link to its online version was sent to the management/board. In a second step, I collected available emails from cooperatives which didn't answer and sent a reminder in the autumn of 2019. The survey was developed and carried out in partnership with CooperativeSuisse,[2] an interest group and platform for social entrepreneurship. Two entrepreneurship experts first validated the survey questions, and a pretest was carried out with eight cooperatives.

839 cooperatives completed the questionnaire (45 % paper and 55 % online). Excluding empty returns/high amount of missings and those not operating in markets (e.g., social and political interest representation and public cooperatives), the response rate amounts to 10 % (615 answers out of 6296), which is comparable to other studies in the field and considered as acceptable. I created six subgroups based on the General Classification of Economic Activities (NOGA) to assess the share of different economic industries. Production, housing, and service cooperatives had a lower response rate but only slightly below 10 %. The response rate is higher in the German-speaking part of Switzerland (13.1 %) and slightly lower in the Italian (11.6 %) and French-speaking parts (9.6 %) but still comparable. Cooperatives in the sample are relatively old, with variations between the sectors. 99.3 % are SMEs (less than 250 employees in FTE). Typically, cooperatives in infrastructure and housing have fewer paid employees because voluntary work dominates their business model.

Sector	Sample characteristics					Sample share	Sample	Population	Response rate
	Mean age (base-year 2018)	Size (FTE < 10)	Size (FTE 10–49)	Size (FTE 50–249)	Size (FTE > 250)				
Production	66.3	78.3 %	18.8 %	1.5 %	1.4 %	12 %	75	947	8 %
Infrastructure	59.7	97.5 %	2.5 %	0.0 %	0.0 %	21 %	134	1063	13 %
Housing	51.6	92.2 %	7.1 %	0.7 %	0.0 %	28 %	174	2399	7 %
Retail Trade	68	60.8 %	24.3 %	12.2 %	2.7 %	13 %	77	737	10 %
Finance/ Insurance	87.6	23.6 %	60.7 %	15.7 %	0.0 %	15 %	90	457	20 %
Services	45.4	59.7 %	24.2 %	14.5 %	0.6 %	11 %	65	693	9 %
TOTAL	62	72.8 %	20.4 %	6.1 %	0.7 %	100 %	615	6296	10 %

TABLE 1: Sample and response rate

I did a t-test within subgroups to test for a non-response bias for survey time and online-to-paper results. In comparing survey answers from summer 2019 to autumn 2019 and online to paper respondents, all pairwise differences of items in the sector groups were insignificant, suggesting a systematic non-response bias is very unlikely.

2 Today SENSSuisse.

4.2 Measurement model

Before applying hierarchical regression, I used structural equation modelling (SEM) to assess the measurement model. In a two-step approach, reliability, convergent, and discriminant validity were assessed (Anderson & Gerbing, 1988; Fornell & Larcker, 1981). Exploratory (EFA) and confirmatory factor analysis (CFA) show the dimensionality of the constructs. Because of low reliability, I had to delete two items (i.e., PRO3 and MPRO3). Both items emphasized competitive aggressiveness and did not load on the proactiveness dimension, which can be explained by the view that aggressiveness is not necessarily part of proactiveness but instead of competitive aggressiveness and not a necessary condition for EO (Lumpkin & Dess, 1996).

CFA indicates a good fit with the data (Chi-square = 377.187, df = 128, CFI = 0.938, SRMR = 0.051). EO is defined by innovativeness (INN) ($\beta = 0.95$, $p < 0.01$), risk-taking (RSK) ($\beta = 0.77$, $p < 0.01$), the additional dimension of member proactiveness (MPRO) ($\beta = 0.66$, $p < 0.01$), and proactiveness (PRO) ($\beta = 0.53$, $p < 0.01$) (see Table 5A).

The composite reliability of the latent constructs is acceptable (EO: CR = 0.86; CEC: CR = 0.93, Dyn = 0.71)) according to Hair Jr et al. (2014). The reliability of the subdimensions of EO is acceptable for INN (CR = 0.77), PRO (CR = 0.63), MPRO (CR = 0.65), and RSK (CR = 0.67). EO was modelled as a second-order reflective construct (George, 2011); therefore, cross-loadings between the sub-dimensions are expected to influence the sublevel's reliability.

Convergent validity (AVE ≥ 0.5) was given except for risk-taking and environmental dynamism (Fornell & Larcker, 1981). Because all reliability levels are above 0.60, this is still regarded as acceptable. Discriminant validity with the HTMT procedure was given (HTMT < I0.85I) (Henseler et al., 2015) (see Table 4A).

A test for a common method bias where a model with all items loaded on one common factor (Podsakoff et al., 2003) revealed a poor fit (Chi-sq. = 2341.701, df = 151, CFI = 0.592, SRMR = 0.155). Therefore, I conclude that a common method bias is unlikely.

4.3 Hypothesis testing

To assess the influence of the variables of interest and compare them with organizational and environmental influence factors, I used hierarchical ordinary least squares (OLS) resgression in SPSS 26, which allows for assessing multilevel influences on EO. Because of missing data, I used the pairwise option for missings[3].

Table 2 shows the regression of the independent and control variables on EO (as an index of the four dimensions, INN, PRO, MPRO, RSK). The variance inflation factors (VIF) showed no indication of multicollinearity (VIF < 4).

The control variables (Model 1) together explained the most considerable variance (adj R^2 = 23.9 %). From the environmental CVs, environmental hostility ($\beta = 0.20$, $p < 0.001$) and dynamism ($\beta = 0.13$, $p < 0.01$) had a significant effect on EO. The organization-specific CV size ($\beta = 0.28$, $p < 0.001$) positively affected EO. Other CVs remained insignificant, suggesting regional economic differences, location, sector, and age did not influence EO.

In Model 2, the variables of interest were included. The CVs, hostility, dynamism, and size remained significant, although the latter's importance decreased. Other CVs did not

3 In average less than 4 % are missing and less than 10 % for each single variable.

change significantly. The included variables significantly increased the explained variance in EO (F-Change = 7.584***) to 30.6 %. Among the variables, *collective entrepreneurial capacity* (β = 0.13, p < 0.01), *access to capital* (β = 0.09, p < 0.05), and *inter-organizational cooperation* (β = 0.20, p < 0.001) had a positive and significant effect on EO. In contrast, the other financial resource variables were not significant. Therefore, hypothesis *H1a*, *H1d*, *H1e* are supported and *H1b*, *H1c* are rejected. *Member participation* was negatively related to EO (β = – 0.10, p < 0.05), and hypothesis *H2* is therefore rejected.

	Model 1				Model 2		
	Std- β	t – value	VIF		Std- β	t – value	VIF
urban	.05	1.06	1.30		.03	.62	1.35
cooperative density	.00	.02	1.05		.02	.43	1.07
GDP p. cap.	.02	.44	1.17		.02	.40	1.18
hostility	.20***	4.21	1.52		.18***	3.77	1.54
dynamism	.13**	3.12	1.18		.13**	3.06	1.22
munificence	.08+	1.84	1.26		.07+	1.70	1.30
housing	-.03	-.46	3.04		-.05	-.69	3.60
infrastructure	.09	1.35	2.57		-.01	-.15	2.86
retail	.08	1.51	1.91		.05	.94	1.98
finance / insurance	.00	-.08	2.32		-.03	-.53	2.67
services	.08	1.49	1.92		.08	1.52	1.93
age	-.03	-.66	1.28		-.05	-1.25	1.33
size	.28***	4.97	2.10		.18**	3.06	2.42
financial mission	.05	1.06	1.58		.07	1.50	1.61
social mission	.09+	1.81	1.55		.09+	1.86	1.57
third party services	-.05	-1.03	1.29		-.01	-.27	1.37
dividend share to members	-.04	-.87	1.05		-.04	-1.10	1.07
collective entr. capacity					.13**	2.96	1.31
HR skills					.06	1.54	1.10
availability of existing resources (efficiency)					-.04	-.94	1.14
availability of existing resources (financial reserves)					.04	.82	1.60
availability of new resources (easy access to capital)					.09*	2.22	1.21
inter-organizational cooperation					.20***	4.95	1.19

	Model 1				Model 2		
	Std- β	t – value	VIF		Std- β	t – value	VIF
member participation					-.10*	-2.47	1.23
F-value	10.014***				9.998***		
F-change	10.014***				7.584***		
R^2	.265				.340		
Adj. R^2	.239				.306		
+ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001							

TABLE 2: Main model (N = 615) (DV = Entrepreneurial orientation)

5. Discussion

5.1 Contribution to theory

This paper investigates the impact of resources on cooperatives' EO using an EO measure adapted to the cooperative context. The additional dimension of member proactiveness well fitted Covin and Slevin's (1989) (slightly adapted) measurement instrument. The higher loading of member proactiveness compared to the original proactiveness measure suggests that proactivity towards stakeholders is essential for cooperatives. The finding is consistent with Morris et al. (2011), who suggested adapting the EO construct to non-profit organizations, which opens up further research possibilities.

The results on the resource-EO relationship show that networking resources are crucial for the entrepreneurial activities of cooperatives. The workforce's *collective entrepreneurial capacity* is positively related to EO *(support of H1a)*. The result compares to findings by Muñoz et al. (2020) that collective engagement of the cooperative workforce leads to higher levels of innovation and that cooperative principles are related to EO (Guzmán et al., 2020). Cooperatives could take advantage of this finding because their culture with horizontal leadership styles, participation, commitment, and workforce engagement is a good breeding ground for entrepreneurial outcomes (De Clercq et al., 2010; Muñoz et al., 2020; Strobl et al., 2022). Surprisingly, the *workforce's quality* was less critical for the EO than the collective mobilization of the workforce *(rejection of H1b)*. The positive (although not significant) relationship aligns with the proposition that the quality of the cooperative workforce is critical for innovativeness (Muñoz et al., 2020; Rodríguez & Guzmán, 2013), proactiveness and risk-taking and thus for an EO (Guzmán et al., 2020) but the small effect suggests workforce quality is not that an issue for Swiss cooperatives.

Cooperation with other organizations when challenges arise was most important for cooperatives' EO *(support of H1e)*, which supports the proposition that the external network is crucial for cooperatives' entrepreneurship (Mazzarol et al., 2014). The findings are comparable to empirical findings of a positive effect of external collaboration and EO or subdimensions for SMEs (García-Villaverde et al., 2018; Kusa et al., 2019) and cooperatives (Guzmán et al., 2020).

The *availability of financial resources (H1c)* was not significantly related to EO, which could be explained by the fact that equity mainly serves the purpose of cooperatives rather than being used for risky entrepreneurial investments. An alternative explanation would

be that some cooperatives already invested in infrastructure in the past and have fewer available financial resources but are well-positioned and entrepreneurial.

In contrast, cooperatives with perceived *easy access to new capital* have higher EO levels *(support of H1d)*, suggesting the importance of venture capital. Because EO is costly and needs resources (Wiklund & Shepherd, 2005), the availability of new capital gives degrees of freedom for investments in innovation, market screening activities, and entrepreneurial endeavours.

Member participation and engagement can bear costs for cooperatives. Although there is the view that keeping members close and including them in decisions can result in knowledge advantages compared to competitors (Talonen et al., 2016) and increased knowledge flow from members (Sánchez-Hernández & Castilla-Polo, 2021), the results suggest the costs of member participation override the benefits *(rejection of H2)*. The result aligns with the literature claiming member engagement comes at certain costs (Österberg & Nilsson, 2009; Pozzobon & Zylbersztajn, 2013). Consequently, cooperatives might overcome potential costs of collective action, such as slow decision-making and the choice of half-hearted and risk-averse decisions (Van der Krogt et al., 2007) by keeping the member base at a certain distance. An alternative explanation for the result would be that I did not control for the degree of member heterogeneity, which is an essential factor in explaining the costs of member participation and offers opportunities for future research.

Next to the above-discussed antecedents of EO, the importance of the external environment for EO is crucial. That hostility had a positive rather than negative effect on EO could be explained by the fact that I measured hostility by industry rivalry and that cooperatives in competitive markets react by increasing EO. The finding aligns with the proposition that competition forces SMEs to invest in EO to gain a competitive advantage (Wiklund, 1999), and EO is higher in a hostile environment (Covin & Slevin, 1991; Laskovaia et al., 2019). The second finding suggests that cooperatives, like SMEs, react to an uncertain, unpredictable, and dynamic environment with an EO. The results are comparable to other findings on SMEs (Ruiz-Ortega et al., 2013; Strobl et al., 2022) and indicate that cooperatives may also benefit from EO in a dynamic environment.

5.2 Contribution to practice

The findings are interesting for practitioners because they might adjust resources or member participation to increase EO, positively affecting economic performance (Guzmán et al., 2020). Cooperatives with more financial and human resources have more freedom for entrepreneurial actions because EO is resource and time-consuming. The good news for cooperatives is that the collective mobilization of the workforce and the network is more important than the availability of financial and human resources: the inclusion of workers (paid and unpaid) into actions related to entrepreneurial activities and the use of collective skills of the workforce is positively related to EO. Research from related literature suggests that outcomes of collective action are highest with a skilled, motivated, and engaged workforce, which demands cooperative leadership styles and the building of mutual trust. Using internal resources and cooperation with other cooperatives or organizations when challenges arise can be an important driver to save costs, exchange ideas and information, and launch joint projects. Cooperatives could, therefore, focus on building collaborations with different stakeholders.

In contrast, the participation and engagement of members are a double-edged sword. From a long-term perspective, the member base must be active and included. Strong ties with members result in a loyal clientele and create a competitive advantage. At the same time, an involved member base might slow down entrepreneurial decisions and prevent necessary long-term investments. Therefore, the management must create transparency and persuade members of necessary changes. This demands high communication skills and knowledge of the member base.

5.3 Limitations and future research

The discussed relationships must be considered under the limitations imposed by the study design. Although cooperatives are similar among countries, the analyzed business model is shaped by Swiss regulations. The degree of freedom for cooperative business types differs among countries. Therefore, applying the research question to cooperatives with different legal preconditions would be interesting.

The study also has methodological limitations. First, the questionnaire relies on single respondents. Although this is quite common for this kind of research, it would be interesting to replicate the study with a multidimensional view. Next to the increased robustness of the results, this could give more insights into the functioning of a cooperative. Second, like many studies in this research field, reverse causality cannot be ruled out with the study design. Longitudinal studies or including some historical data could solve this problem and help to answer how EO varies over time and in different environmental settings.

6. Conclusions

With my work, I expand existing research on the antecedents of EO in cooperatives. This is relevant because EO is discussed as a factor explaining their economic success (Guzmán et al., 2020; Kyriakopoulos et al., 2004). By researching antecedents of EO, I give answers to the question of how cooperatives manage to be more entrepreneurial and potentially more successful.

Similar to Wiklund et al. (2009), the findings of this study suggest that different types of resources are positively related to EO. In contrast to the latter, I find evidence that networking resources are more critical for the EO of cooperatives than financial or human resources. The results are interesting because they could shift the orthodox economic view of the imperfection of the cooperative business model with difficulties attracting enough financial resources towards the advantages through collective mobilization of the internal and external network. A closer look at networking resources could help explain the puzzle that despite the disadvantages, the cooperative business model persists in competition with corporations (Boone & Özcan, 2016) and that hybrid organizational forms have an advantage under certain conditions (Berti & Pitelis, 2022). Examining the relationship between member participation and EO, I add evidence to the ambiguity of member participation for EO. Further research could dig deeper into whether member heterogeneity plays a role in this relationship and how cooperatives could manage their members to reap the potential benefits for entrepreneurial actions.

Although the EO of cooperatives depends on factors such as resources and member participation, which the management can directly or indirectly influence, I show that environmental variables such as hostility and dynamism are significant factors to consider. In

this respect, cooperatives are no different from other SMEs, but this offers opportunities for further research along the interaction between environment, EO and performance of cooperatives.

7. Appendix

	Construct/ Indicator	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
1	EO	1.00																							
2	INN	.83*	1.00																						
3	PRO	.60*	.32*	1.00																					
4	PROM	.76*	.44*	.27**	1.00																				
5	RSK	.73*	.55*	.30*	.34*	1.00																			
6	collective entrepreneurial capacity	.32*	.30*	.17*	.22*	.18*	1.00																		
7	HR skills	.37*	.29*	.18*	.37*	.17*	.34*	1.00																	
8	available resources (efficiency)	.01	.00	-.07	.03	.02	.11*	.16*	1.00																
9	available resources (financial reserves)	-.09*	-.12*	.00	-.09*	.02	-.16*	-.26*	.10*	1.00															
10	easy access to credit	.11*	.09*	.12*	.09*	.05	.10*	.03	-.05	-.13*	1.00														
11	inter-organizational cooperation	.32*	.28*	.14*	.21*	.23*	.22*	.28*	.03	.00	.01	1.00													
12	member participation	-.08*	.03	.03	-.29*	.06	.08	-.05	.04	.04	-.02	.02	1.00												
13	urban	.09*	.10*	.02	.09*	.01	.12*	.14*	.03	-.20*	.17*	-.03	-.02	1.00											
14	cooperative density	-.02	.01	.01	.00	-.04	-.07	-.07	-.11*	.04	.00	-.09*	-.02	-.06	1.00										
15	GDP p. cap.	.00	-.01	-.03	-.01	.01	.00	-.05	.01	-.03	.05	-.04	-.01	.31*	-.05	1.00									
16	hostility	.38*	.33*	.18*	.35*	.18*	.27*	.41*	-.01	-.22*	.05	.15*	-.06	.07	-.04	-.04	1.00								
17	dynamism	.21*	.22*	.12*	.12*	.16*	.18*	.16*	.02	0.01	-.17*	.09*	.07	-.15*	-.02	-.16*	.22*	1.00							
18	munificence	.14*	.12*	.09	.14*	.04	.06	.11*	-.02	-.23*	.17*	.02	-.10*	.17*	.09*	.10*	.11*	-.12*	1.00						
19	age (log)	.06	.04	.02	.14*	-.04	.03	.30*	-.01	-.07	.13*	.12*	-.12*	.00	-.08	-.02	.15*	.00	-.04	1.00					
20	size (log FTE)	.42*	.34*	.19*	.39*	.22*	.34*	.67*	.12*	-.28*	.10*	.29*	-.03	.16*	-.10*	-.04	.49*	.14*	.16*	.31*	1.00				
21	financial mission	.13*	.08*	.04	.17*	.02	.08	.29*	.00	-.17*	.03	.00	-.03	-.01	-.05	-.09*	.26*	.06	.06	.22*	.28*	1.00			
22	social mission	.05	.02	.06	.01	.04	.00	-.15*	.01	.07	-.06	-.03	-.06	.04	.11*	.06	-.05	.00	.11*	-.26*	-.11*	-.50*	1.00		
23	third party services	.11*	.04	.11	.17*	.01	.03	.21*	.17*	.13*	-.12*	-.04	-.07	-.04	.01	-.09*	.11*	.13*	.01	-.06	.18*	.09*	.19*	1.00	

	Construct/ Indicator	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*	*21*	*22*	*23*	*24*
24	Share of dividends to members	-.03	-.02	-.08	-.03	.00	.07	.08*	.00	-.02	.05	-.01	.05	.04	-.03	-.08	.06	.06	-.06	.01	.05	.11*	-.10*	-.04	1.0
25	housing	-.22*	-.16*	-.14*	-.19*	-.16*	-.22*	-.23*	-.07	-.33*	.22*	-.18*	-.05	.25*	.01	.18*	-.18*	-.28*	.14*	-.06	-.30*	-.11*	.06	-.26*	.03
26	infrastructure	-.09*	-.10*	-.06	-.05	-.02	-.06	-.32*	.05	.41*	-.08	.04	-.17*	-.23*	.09*	-.07	-.24*	-.03	.00	-.07	-.33*	-.20*	.16*	.09*	-.09*
27	production	-.04	-.05	-.02	-.07	.04	-.01	.04	.04	.16*	-.06	-.03	.24*	-.18*	-.08	-.08*	-.01	.16*	-.20*	.03	-.01	.13*	-.13*	.03	.10*
28	retail	.16*	.11*	.17*	.11*	.10*	.12*	.24*	-.11*	.03	-.01	.06	.06	-.06	.06	-.01	.22*	.08*	-.14*	.01	.21*	.14*	-.07	.15*	-.02
29	finance / insurance	.18*	.16*	-.02	.26*	.02	.19*	.30*	-.06	-.27*	-.07	.16*	-.18*	.07	-.05	-.10*	.35*	.09*	.18*	.27*	.43*	.19*	-.15*	-.12*	.06
30	services	.10*	.12*	.11*	.01	.11*	.04	.10*	.17*	.06	-.06	.00	.17*	.10*	-.05	.05	-.05	.09*	-.05	-.17*	.14*	-.09*	.09*	.22*	-.08
	Mean	3.73	3.73	4.10	4.28	3.15	2.33	4.92	0.13	0.36	3.24	4.08	0.27	0.47	0.06	4.89	7.32	2.60	2.50	1.66	0.50	47.86	21.21	35.11	14.35
	SD	1.12	1.65	1.10	1.64	1.23	1.27	34.2	0.78	0.30	1.50	1.80	0.29	0.50	0.04	0.11	8.96	0.92	0.98	0.40	0.67	31.12	22.94	38.85	26.24
	Min.	1.00	1.00	1.00	1.00	1.00	1.00	-50	-2.08	0.00	0.00	1.00	0.00	0.00	0.00	4.73	0.00	1.00	1.00	0.48	0.00	0.00	0.00	0.00	0.0
	Max.	6.50	7.00	7.00	7.00	7.00	5.00	70	4.12	1.00	5.00	7.00	1.00	1.00	0.32	5.31	42.0	5.00	4.00	2.18	3.89	100	100	100	100

TABLE 3A: Descriptive statistics and correlations of the constructs/indicators

	EO	INN	PRO	MPRO	RSK	CEC	Dyn
Innovativeness (INN)	-	**0.73**	(0.47)	(0.61)	(0.74)	(0.31)	(0.30)
Proactiveness (PRO)	-	0.48	**0.75**	(0.44)	(0.46)	(0.22)	(0.15)
Proactiveness 2 (MPRO)	-	0.63	0.40	**0.70**	(0.44)	(0.22)	(0.15)
Risk-taking (RSK)	-	0.74	0.47	0.50	**0.65**	(0.16)	(0.23)
Collective entr. capacity (CEC)	0.33	0.33	0.24	0.25	0.18	**0.88**	(0.20)
Env. Dynamism (Dyn)	0.32	0.32	0.19	0.15	0.24	0.19	**0.66**
AVE		0.53	0.56	0.50	0.42	0.77	0.45
CR	0.86	0.77	0.63	0.65	0.67	0.93	0.71

Diagonal elements are the square root of the average extracted variance of the construct (AVE). Off-diagonal elements (below) are the correlations between the constructs. Above the diagonal in brackets are the HTMT values.

TABLE 4A: Reliability, convergent, and discriminant validity of the measurement model

Dependent and independent variables[1]	Loadings[3]	z-value
Entrepreneurial orientation (EO)[2] (CR = 0.86) (Covin & Slevin, 1989)		
Innovativeness (1 -7 opposing statements) (CR= 0.77, AVE= 0.53)	**0.953**	
We place particular emphasis on proven products/services / We place particular emphasis on new or further development in our products/services. (INN1)	0.652	
We have not changed anything in our products/services in the last five years. / Over the past five years, we have made many changes to our products/services. (INN2)	0.772	10.596
There have been only minor changes in our products/services over the last five years. / There have been fundamental and far-reaching changes in our products/services over the past five years. (INN3)	0.761	13.723
Proactiveness (1 -7 opposing statements) (CR= 0.63, AVE = 0.56)	**0.531**	**3.488**
Typically, we respond to the activities of our competitors. / Typically, we launch activities to which our competitors then respond. (PRO1)	0.567	
It hardly ever happens that we are the first to appear on the market with new products/services or ways of working. / It happens very often that we are the first to appear on the market with new products/services or ways of working. (PRO2)	0.836	4.864
In dealing with our competitors, we follow the principle of "live and let live". / We are challenging and combative towards our competitors.		
Member Proactiveness (1 -7 opposing statements) (CR= 0.65, AVE = 0.50) (Morris et al., 2011)	**0.662**	**5.603**

Dependent and independent variables[1]	Loadings[3]	z-value
Typically, we respond to the concerns of our members. / Typically, we launch activities with which we then approach our members. (MPRO1)	0.635	
We do not change our range of services without a mandate from our members. / Even without a mandate from our members, we often make suggestions for new or changed services. (MPRO2)	0.767	8.583
In negotiations, we look first and foremost at ourselves and our strengths. / In negotiations, we behave in a combative and assertive manner. (MPRO3)		
Risk-taking (1 -7 opposing statements) (CR= 0.67, AVE = 0.42)	**0.773**	**8.232**
We prefer projects with a decent return but low risks. / We prefer projects with particularly high returns, even if they involve major risks. (RSK1)	0.568	
We are convinced that in our industry, it is better to act cautiously and move forward in small steps. / We are convinced that in our industry, it is necessary to pursue one's goals courageously and in big steps. (RSK2)	0.672	9.902
In an uncertain decision-making situation, we tend to wait so that we can avoid expensive wrong decisions. / In an uncertain decision-making situation, we dare to act so that we can achieve great success afterwards. (RSK3)	0.664	8.915
Organizational resources		
Collective entrepreneurial capacity (CEC) (CR= 0.93, AVE = 0.77) Do staff meetings always take place in your organization where important issues are discussed and decided collectively? If yes, these meetings take place primarily to ensure that... (1 – "strongly disagree" 5- "strongly agree")		
… we can realize important innovations in our products and services. (CEC1)	0.871	
… we identify and meet future expectations of our members. (CEC2)	0.902	30.795
…we encourage each other to take greater risks. (CEC3)	0.685	19.085
… our employees can get new impulses and start initiatives. (CEC4)	0.885	31.508
... we are combative and assertive in our environment. (CEC5)	0.928	31.746
HR-skills Measured by personal cost/FTE in CHF	n/a	
Available financial resources Measured as (in)efficiency by the asset turnover rate (turnover/total assets) Measured as financial resources by the equity ratio (equity/assets) Access to capital: If we needed additional capital, we could get it immediately. (1- "not true, 5 "strongly agree")	n/a	

Dependent and independent variables[1]	Loadings[3]	z-value
Inter-organizational cooperation (1–7 opposing statements)		
We master challenges alone / We cooperate with partners (to master challenges) (EC)	n/a	
Member participation (0–1) Index of: ▪ Share of active members in %. ▪ Participation (Does the membership base participate in important decisions (outside the general assembly)? (1 "no" to 4 "always")		
External control variables		
▪ Urban location (DEGRUBA) compared to non-urban (0–1) ▪ Cooperative density (cooperative entities/m^2) (FSO, 2019b) ▪ Cantonal GDP per cap. (FSO, 2019a)		
Environmental hostility Index of: ▪ Number of competitors (Rosenbusch et al., 2013) ▪ Perceived competition (In our industry, competitors leave each other alone. /Competition is generally fierce in our industry (1–7) (Slater & Narver, 2000)		
Environmental dynamism (CR= 0.71, AVE = 0.45) (1- "not true" – 5 "very true") (Miller & Friesen, 1983)		
▪ The (market) development for our important services and offers is extremely difficult to estimate.	0.688	
▪ The (market) development for our important services and offers is characterised by strong fluctuations in demand.	0.694	9.514
▪ The market development for our important services and offerings offers many opportunities, but they are difficult to oversee.	0.623	9.619
Environmental munificence (Slater & Narver, 2000) In recent years, the markets relevant to us have... (1 – «rather shrunken» – 5 «grown significantly»		
Organizational control variables		
Size (log FTE), age (log age since foundation), financial mission (compared to non-financial) in %, social mission (compared to non-social mission) in %, the share of third party services (to non-members) in % of yearly turnover, the share of dividends paid to members (compared to retained) in %		

[1]All items are translated from German/French/Italian

[2] The retranslated items are based on the Miller/Covin and Slevin (1989) EO scale, which was first translated to German and slightly adapted to the cooperative context. **N/a** indicates single-item measure/non-reflective construct

[3] The loadings refer to the measurement model after the exclusion of items (PRO3, MPRO3)

TABLE 5A: Measures

8. Literature

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