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The psychological ownership in financial cooperatives: Do formal ownership rights matter?

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Summary

This study analyses the relationships between the perceived members' formal ownership rights (right to control, surplus share, access to information and to services) and the psychological ownership in savings and credit cooperatives (SACCOs). Data were collected on 1004 members from 12 SACCOs in Kivu region, the Democratic Republic of Congo (DRC). Data was proceeded by resorting to exploratory and confirmatory factor and structural equations modeling. Results reveal that the members' perceived control, surplus shares and service quality positively influence members' psychological ownership. Results also confirm that there is a positive relationship between psychological ownership and member commitment. These results highlight that SACCOs have to value the members' ownership rights by adopting member-driven governance mechanisms where members are involved in the decisions making of their SACCOs and benefit from their ownership in terms of surplus shares and service quality.

Keywords: financial cooperatives, ownership, psychological ownership, member, governance.



1. Introduction

The psychological ownership (PO) is generally defined as a state in which individuals feel as though the target of ownership (such as an organization) is theirs (Pierce *et al.*; 2003). It is proposed to be one of the Positive Organizational Behavior¹ constructs (Avey *et al.*, 2009). As such, the PO can be measured, invested in, developed, and managed for performance impact and competitive advantage of an organization (Liu *et al.*, 2012; Avey *et al.*, 2009). Indeed, the ownership feeling creates strong relationships and regular interactions between an organization and its members (Pierce *et al.*, 2003). These relationships that arise from PO can lead members to act with more solidarity and to be particularly attached to their organization (Ozler *et al.*, 2008). Therefore, the members' sense of ownership for an organization can make a difference in their attitudes and behavior towards that organization (Vandewalle *et al.*, 1995).

The feeling of ownership is of an utmost importance in cooperatives given their unique member-based ownership structure (Jussila and Tuominen, 2010). Being both clients and owners, members have the main rights to claim and the main roles to play for the success of their saving and credit cooperatives (SACCOs) (Murhula *et al.*, 2019; Chaves *et al.*, 2008). As owners, members are expected to participate in the cooperative governance by voting, giving feedback, spending time and energy for their cooperatives (Buang and Samah, 2021; Byrne and McCarthy, 2005). However, there is no control, no sanction, and no direct and personal reward or prize linked to members' effort to participate for the success of their cooperatives (Barraud-Didier, 2012). Such an effort without any enforceable obligation or individual reward can probably be led by a personal sense of ownership (Jussila and Tuominen, 2010). Indeed, when individuals feel psychologically attached to their organizations, they seem to be more concerned with the outcomes of those organizations and might be committed to them (Liu *et al.*, 2012; Pierce *et al.*, 2003; Peirce *et al.*, 1991).

The members' feeling of ownership is thus hypothesized to present various positive attitudinal and behavioral consequences in cooperatives and should therefore be reinforced within them (Jussila *et al.*, 2012a; Jussila and Tuominen, 2010). Formal ownership rights seem to be among the main variables that may reinforce the feeling of psychological ownership (Peirce *et al.*, 1991 ; Chi and Han, 2008; Wagner *et al.*, 2003). In cooperatives, formal ownership

¹ Positive Organizational Behavior (POB) is defined as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace" (Luthans, 2002a, p. 59)



encompasses four main rights: control and participation in decision-making, share of surplus, access to information and access to services (Puusa *et al.*, 2013, Murhula *et al.*, 2021). Some previous studies have confirmed that the formal ownership of an organization would enhance the emergence of ownership feeling (Jussila and Tuominen, 2010; Pierce *et al.*, 1991; 2018; Chi and Han, 2008). Indeed, members who truly enjoy their ownership rights may probably feel being the owners of their cooperatives and get invested in their organizational roles (Talonon *et al.*, 2018).

Previous studies that analyze these relationships between formal and psychological ownership are scarce and have relied only on employee samples (Chi and Han, 2008; Wagner *et al.*, 2003). Unlike other firms, SACCOs are characterized by an opened membership where people can join freely and less costly as customer-owners (Murhula, 2021). Such an opened ownership feature can push some members to become formal owners without having ownership feelings towards cooperatives (Jussila *et al.*, 2012b). Therefore, this study aims at testing the links between formal ownership and psychological ownership in savings and credit cooperatives. It will set up a model that assesses how the perceived participative governance, the members' access to information, the perceived quality of service and surplus sharing mechanisms affect the psychological ownership.

The present study is conducted on customers from savings and credit cooperatives in South-Kivu, DR CONGO. SACCOs represent almost 75% of the DRC's microfinance sector and the Kivu region per se has more than 50% of these SACCOs (BCC, 2019). In the ten last years, the DRC's financial cooperatives have simultaneously experienced huge growth and huge failure. Although mismanagement has been cited as the main cause of SACCOs' bankruptcy, it seems that a weak formal ownership and a lack of psychological ownership are the main problem that SACCOs are affording in DRC. Indeed, while customers are supposed to be the owners of more SACCOs, they are less interested by the real life of their institutions since they are still accessing to financial services. Although members are expected to get involved in SACCO's governance, it can be observed that a large number of members do not participate in SACCOs' meetings in Kivu². Therefore, the miss of members' sense of ownership could probably be one of the reasons of SACCOs' bankruptcies in Kivu region. Identifying the drivers and outcomes of member's PO within Kivu's SACCOs present thus an utmost importance.

² This statement is derived from some reports of general meetings of SACCOs where the members' participation rate does not exceed 3%.



The next section presents first the literature review and develops the hypotheses. It discusses the theoretical background of both formal and psychological ownership. In addition, it shows how each formal ownership feature can be related to psychological ownership and how the last can induce some attitudinal consequences in SACCOs. The second section presents the methodological approach by highlighting techniques which are used to collect and analyze data. The third section presents and discusses the main findings. The last section raises conclusions, practical and theoretical implications and also presents limits and perspectives for future research.

2. Literature review and hypotheses

2.1. Psychological ownership : definition, dimensions, antecedents and consequences.

The PO is a cognitive-affective state reflecting the individual's awareness, thoughts, and beliefs that the "target" of ownership (or a piece of that target) is theirs (Pierce et al., 2003). It reflects a relationship between an individual and specific target to which he is tied (Olckers, 2013). The PO is a concept that was originally defined outside of the management literature with various targets, both material and immaterial, such as house, ideas, workplace, tools, etc. (Furby, 1978). Since the work of Pierce et al. (2001), the concept of PO has been extensively applied in management studies.

Management research has demonstrated several antecedents (participative decision making, stock ownership, organizational climate, organizational justice; etc.) and reveal some attitudinal (commitment, intention to stay, organization-based self-esteem, etc.) and behavioral (organizational citizenship behavior, in-role and extra-role behavior, voice behavior; knowledge sharing behaviors, organizational performance, job performance, etc.) consequences of both job and organization-based PO (Zhang et al., 2021; Mayhew et al., 2007; Van Dyne and Pierce; 2004, Vandewalle et al., 1995). However, the organization-based PO has been typically found to be a stronger predictor of key employee attitudes and behavior than job-based PO (Van Dyne and Pierce; 2004). This calls for a particular focus on organizational PO at different levels and this study focuses on this particular type of PO.

In their psychological ownership framework, Peirce et al. (2001, 2003) proposed three routes of PO: (1) the self-efficacy (2) the self-identity and (3) sense of belongingness referred as having a "home" or to feel at home. Each of these routes facilitates the development of the



state of PO, as opposed to being the direct cause of its occurrence (Pierce et al., 2009). Setting a multidimensional construct of PO, Olckers (2013) sustains that these routes are the main dimensions of PO. As suggested by Jussila and Tuominen (2010), the tree routes are also the main PO dimensions within cooperatives.

Indeed, the psychological ownership directed at a target is considered to be a sense of possession whereby the target is affectively and cognitively linked to the individual's identity (Pierce et al., 2001). The connection between a member and his or her cooperative is a characteristic that distinguishes cooperatives from investor-owned firms (Fulton, 1999). A cooperative is autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise" (Novkovic, 2008); therefore, a close relationship between a cooperative and its members can lead to the identification of the member with the cooperative (Byrne and McCarthy, 2005).

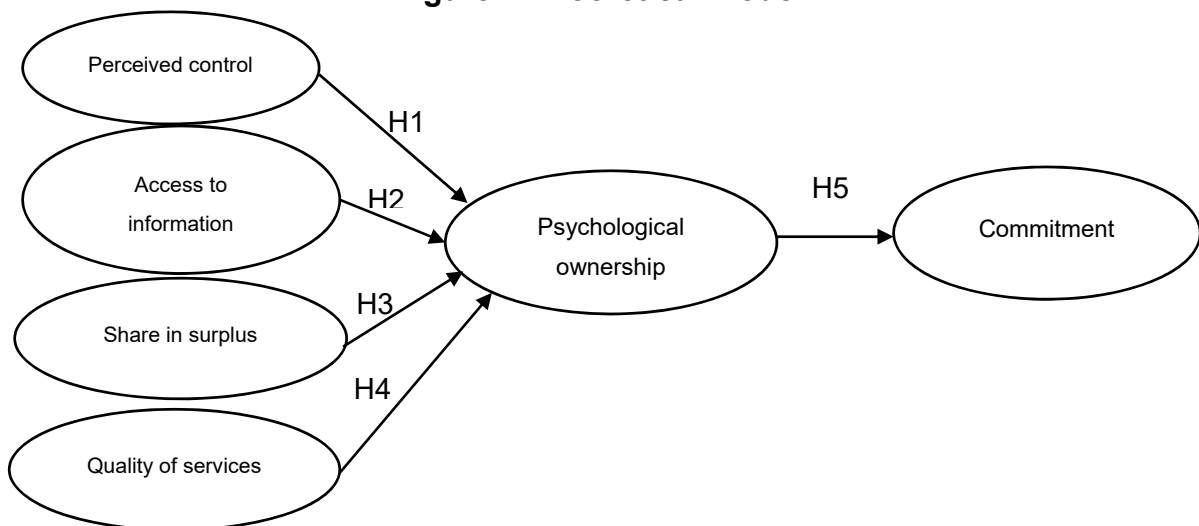
An organization in which the individual finds an intense sense of identification comes to be considered as "home" (Avey et al., 2009). Thus, members who identify with a cooperative will have a high sense of belonging in their cooperatives. They become psychologically attached to their cooperative as they develop their home base (coming to "feel at home" with their cooperative) (Jussila and Tuominen, 2010). Such a member's feeling of belonging is necessary for cooperative and can lead to various positive members' attitudes and behaviors towards their cooperatives (Talonen et al., 2018). In order to adopt these positive behaviors, members need to feel that they can influence the scope of their cooperatives (Murhula, 2019; Jussila and Tuominen, 2010). Thus, the self-efficacy is also one of the facet related to cooperative psychological ownership. When members feel that they can influence decisions in their cooperative, they come to experience a sense ownership towards them (Talonen et al., 2018; Murhula et al., 2019). As collective-owned organizations, cooperatives characterized by self-help, solidarity, equality and democratic control (Novkovic, 2008). Given these characteristics, relational processes such as affective commitment and psychological ownership are therefore fundamental to their functioning (Jussila et al. 2012a).

The literature on psychological ownership relies on three main antecedents of ownership. Indeed, the PO emerges as individuals recognize and experience that they (1) experience control over a target of ownership (2) have information and knowledge over the target, and/or (3) have invested their related selves into the target (Pierce et al., 2001; 2003). Chi and Han



(2008) proved that these three routes are related to the formal owner's rights and affirms that formal ownership is a route to PO. The PO is thus an experience within individuals towards an organization that might emerge through access to formal ownership rights. Building on this, our study proposes that the way in which members perceive to have access to formal ownership rights can influence their sense of psychological ownership. Pierce et al. (1991) theorized that formal ownership is constructed around three rights (control, information, equity). Being at the same time owners and customers; cooperative members should have, in addition to the three rights, access to the services provided by their owned cooperatives (Murhula et al., 2021).

Figure1: Theoretical model



2.2. Formal ownership rights as drivers of members' psychological ownership

As owners, members have the right to participate in the control of their SACCOs (Chaves et al., 2008). The control rights can be decomposed in two different categories: *the decision management rights* that include the initiation and implementation of decisions and *decision control rights* that include the ratification and monitoring of approved decisions (Fama and Jensen, 1983). Indeed, cooperatives are based on democratic governance mechanism where members have equal formal right of control regardless their equity shares (Puusa et al., 2013). When allowed to participate in democratic decision-making and control, individuals are more likely to feel being owners and believe that they are entrusted with the responsibility of acting in the interest of their organization (Liu et al., 2012; Wagner et al., 2003). Indeed, when people have limited control over the organization or any part of it, they learn that nothing is “theirs”



and do not develop a sense of ownership (Pierce et al., 2001). A member's perceived control over the cooperative organization is thus seen as leading to feelings of ownership and a fusion between the member and the organization (Jussila & Tuominen, 2010). Thus, the participative decision-making gives members the message that they are really the owners of the organization because they have input over the management and the future of the organization (Liu et al., 2012). Giving people the opportunities to participate in the control of their organization can provide them with a sense of power and enhances their ownership feeling (Jussila and Tuominen, 2010). Thus we propose the following:

Hypothesis 1: The members' perceived control is positively related to the psychological ownership in cooperatives.

Access to information is another aspect of formal ownership. Members need to be informed about their cooperative (Talonen et al., 2018). The information disclosure can allow members to better understand the nature and the operating model of cooperative enterprises (Talonem, 2018). A cooperative firm should thus communicate its cooperative identity to members so that members can know it (Byrne and McCarthy, 2005). Indeed, intimate knowledge of an organization have to be promoted by making information more accessible and less costly to acquire (Pierce et al., 2001). As the information and knowledge that individuals have about a target increase, the link between the individuals and the target will be strengthened, and the individuals are more likely to feel attached to that owned target (Zhang et al., 2021; Pierce et al., 2001). The more information and the better knowledge an individual has about their organization, the deeper the relationship he will have with it, therefore the stronger the feeling of ownership toward it (Pierce et al., 2001). Providing relevant information to members about their organization, will let them know the organization better and, consequently, plays an important role in members-owners' development of psychological ownership (Talonen et al., 2018; Jussila and Tuominen, 2010). Thus, we propose the following:

Hypothesis 2: The member's access to information is positively related to sense of PO in their SACCOs.

Member-owners are entitled to enjoy the surplus generated by their cooperatives. SACCOs must therefore achieve a fair surplus distribution so that each member who has contributed to the generation of the surplus can enjoy it (Talonen et al., 2018). There may exist several mechanisms, either direct or indirect, to make members benefit from the surplus generated by their cooperative (Talonen et al., 2018; Murhula, 2021). When members perceive that they



really enjoy from this surplus, they can feel belonging to their cooperatives and experience a high sense of ownership. Allowing members to perceive that the earnings generated by the SACCO belong to them and make them effectively enjoy this surplus are aspects that can lead the members to develop an attachment to their cooperatives and thus develop a feeling of ownership towards their cooperatives (Murhula et al., 2021). The participation in profit-sharing plans has been proved to lead to a higher level of psychological ownership (Chi and Han, 2008;Wagner et al., 2003). Thus, we propose thus the following:

Hypothesis 3: The members' share in cooperative surplus is positively related to their feelings of ownership toward SACCOs.

Member-owners are entitled to use the services set up by their cooperative. These services should meet the expectations of members in order to produce a feeling of satisfaction that can probably lead to a sense of ownership. Indeed, individuals join the organization with various expectations (Kanyurhi, 2017); when an organization's services meet these expectations, the likelihood of enhancing their psychological ownership is increased (Murhula, 2021). The accessibility, security, price and speed of operations are underlined to be the main features that value MFI's clients (Kanyurhi, 2017). When SACCOs' members perceive that they accede easily and less costly to the services, they will have positive judgments on their organization that may probably develop their sense of ownership (Murhula, 2021). Indeed, the positive judgments about an organization provide an overall framework that can positively influence affective commitment and the feeling ownership towards an organization (Van Dyne et Pierce, 2004). The judgments about an organization can only be positive when members' expectations and aspirations on the services delivered by the organization are met and this can create a feeling of ownership. Thus we propose:

Hypothesis 4: The members' access and perceived quality of services is related to their sense of PO in SACCOs.

2.3. Psychological ownership and member commitment

Active and continuing membership is a key goal in co-operatives (Jussila et al., 2012a). As individuals develop feelings of ownership towards an organization, they become more committed to that organization (Pierce et al., 2001). The organizational commitment is a psychological state that characterizes individual's relationship with the organization and has implications for the decision to continue membership in the organization (Meyer and Allen, 1991). It is characterized as a strong acceptance of the organization's values and goals, a



willingness to exert considerable effort on behalf of the organization and a strong desire to maintain membership in the organization (Mowday et al.; 1979). Indeed, when members are psychologically attached to an organization, they tend to identify with that organization and wish to maintain membership in order to achieve its goals (Jussila et al., 2012a). Hence, the PO feelings reduce the likelihood that members will leave it (Mayhew et al., 2007). Empirical studies have supported that possessive feelings toward an organization lead to an increase in organizational commitment (Avey et al., 2009; Mayhew et al., 2007; Van Dyne and Pierce, 2004). Thus we propose:

Hypothesis 5: Psychological ownership is positively related to cooperative organizational commitment

3. Methodology

3.1. Sample and data collection procedure

Data of this study were collected through both qualitative and quantitative surveys. For qualitative surveys, we conducted individual interviews and focus groups. The interviews targeted 28 persons consisting of cooperative leaders (board and committee members), managers, employees, members and microfinance experts from the central bank and other microfinance associations. The interviews were conducted using a semi-structured interview guide with four main themes: the specifics of SACCOs in terms of governance, the rights and responsibilities of members, the drivers and outcomes of members' sense ownership, the efforts made by cooperatives to strengthen member's ownership and participation. The interviews took place at the informants' office or home and lasted one hour on average. Three focus groups with 16 members from three cooperatives were conducted using an interview guide. Themes of discussion related to members' responsibilities, their motivation to participate in governance and to engage in their cooperatives, the respect of member-owners' rights by leaders, and their commitment in cooperatives. Focus groups and individual interviews were done by the author assisted by two other researchers from June 10 to July 7, 2021. Some notes were taken during the interviews and the entire interviews were recorded and transcribed to a Word file before analysis.

The collected data were subjected to content analysis. The unit of aggregation was composed of sentences that relate to one of the constructs. After this stage, we obtained a list of 19 items for the PO construct. In addition, 18 items related to the participation of members in the control,



sharing of results and the information disclosure were also identified during the interviews and 4 items for members' commitment. Before proceeding to factor analysis and/or scales' reliability of different constructs, the items identified during the interviews were added to those extracted from previous research (Churchill, 1979). For PO construct, we adapted mainly three studies (Murhula et al., 2019; Ayey et al, 2009 and Olckers; 2013). We selected 18 items and add them to those identified during the interview and thus obtained a second list of 37 items. We noted the similarities and dissimilarities between these items, deleted items that resort already in interviews and obtained a third list composed of 23 items. For the commitment, 3 items were identified (Béal and Sabadie, 2018), the aspects related to the three items resorted already in our interviews. For other constructs (antecedents of PO), we relied more on interviews but validated the items according to the statements related to members' rights as proposed by Talonen et al. (2018, 2016). The lists of items for each construct were submitted to microfinance experts (professors and central bank agents) in order to ensure their facial validity. These experts helped assess the relevance of each item, identifying ambiguous items with a view to rephrasing them to make them more precise and/or replacing them with others (Devellis, 2012). This process resulted in a list of 21 items for PO, 18 items for the PO antecedents and 5 items its consequences.

The quantitative survey included a total sample of 1004 members from 12 SACCOs. Surveys were conducted directly in SACCOs and/or at the members' homes, depending on their availability. In each SACCO, we contacted the managers in advance to obtain permission to administer the questionnaire to members. Surveys were carried out by a stratified proportional and reasoned choice sampling. Members were selected according to whether they belonged to one of the twelve SACCOs. In addition, we took into account the criterion of seniority; only members with at least one year's seniority were asked to participate in the survey. The data was collected in August 2021 by 12 investigators from the "Laboratoire d'Economie Appliquée au Développement", which is a research center where the author of this study is affiliated. It was preceded by two days of training of the investigators provided by the author. The training covered key steps to follow during the survey as well as errors to avoid during the questionnaire administration process. The questionnaires were uploaded into KOBBO Collect and downloaded into the tablets that were used to collect the data. The KOBBO tool allows the integration of data quality control functions by specifying the expected characteristics of the



data to prevent incorrect completion of the questionnaire. With such a process, the investigators were able to complete 1004 questionnaires that were used in this study.

3.2. Measurement and analytical procedures

To measure the psychological ownership, 21 items from the above process were used. These items were measured on a 5-point likert scale ranging from “Strongly agree” (5) to “Strongly disagree” (1). The collected data were subjected to exploratory and confirmatory factor analyses. We resorted to $KMO \geq 0.5$ with the Bartlett’s test of sphericity (χ^2 significant at $p \leq 0.05$) to check adequacy of the data for factor analysis. For factor analysis with orthogonal rotation, we resorted the factor loadings, communalities, eigenvalues and extracted variance to identify items and factors for inclusion in the final factor structure. Items with low communalities (<0.5), low factor loadings on any factor (<0.5) and those with significant loadings on two or more factors were deleted (Carricano, et al., 2010). Only factors with eigenvalues <1 were considered (Kanyurhi, 2017). Applying these criteria, the initial PO scale of 21 items were reduced in 11 items grouped into four dimensions, explaining 71% of the PO variance.

A confirmatory factor analysis was used to confirm the dimensionality of this scale by demonstrating that the items and dimensions identified on the exploratory stage are those that characterize the PO latent construct (Brown, 2006). All identified items exhibited a loading ≥ 0.50 (Hair et al., 2010). The analysis allowed also to confirm that the estimated PO scale were well adjusted by resorting to three adjustment indices ($\chi^2/df \leq 3$; $RMSEA \leq 0.1$; $CFI \geq 0.90$; $IFI \geq 0.90$) (Anderson and Gerbing, 1988; Fornell and Larcker, 1981; Bagozzi and Yi, 2012). In addition, the confirmatory analysis proved that all PO items have high loadings (0.66 to 0.92) and exhibit t-values that were above the 1.96 standard (Anderson and Gerbing, 1988). The scale provide internal stability and high convergent validity (Bagozzi and Yi, 2012). The PO scale present good values of cronbach’s alpha (0.867) and the CR (0.958), proving its reliability. The factors and items related to psychological ownership are presented in Table 1.

To measure other variables, we used 5 items for perceived control, 4 items for perceived information, 4 items for perceived surplus share, 4 items for perceived service quality and 5 items for commitment. As described in the previous section, these items emerged from interviews and/or were adapted from previous research. All the items used 5-point Likert scales, ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). For each variable, we



analyzed reliability and removed items that reduced reliability until acceptable psychometric properties were reached. The appendix 1 reports the final detailed scales of the different variables and their psychometric properties.

Table 1. Factors and attributes psychological ownership (n = 1004)

Code	Factors and attributes of the scale: $\alpha = .867$	EFA	CFA	AVE	CR
Self-efficacy $\alpha = .857$.605	.858
Effic1	I feel that I am an important member in this cooperative	.758	.81		
Effic2	I feel I can contribute to the success of my co-op	.826	.85		
Effic5	I feel I have the opportunity to influence my co-op's decisions	.785	.66		
Effic6	I feel that my "voice" can contribute to improving the management of my co-op.	.813	.78		
Sense of belonging $\alpha = .895$.740	.895
Belong 1	I feel that this is my cooperative	.849	.89		
Belong 3	I feel that I belong in this cooperative	.897	.82		
Belong 4	I consider myself a "family member" in this cooperative	.858	.87		
Sense of attachment $\alpha = .892$.834	.909
Attach1	I feel attached to this cooperative	.894	.90		
Attach2	I feel a strong relationship between me and my cooperative	.895	.92		
Self-identity $\alpha = .623$.556	.694
Ident2	I feel that the success/failure of this co-op is my own success/failure	.901	.94		
Ident3	I feel pleasure to tell my friends that I am a member of this co-op	.714	.48		
Quality of the model fit: $\chi^2/df = 2.36$; CFI = .96 ; GFI = .95 ; NFI = .95 ; NNFI = .94 ; IFI = .96 ; RMSEA = .079					

Source: Survey results under SPSS 20 and LISREL 9.1

The relationships between psychological ownership and its related antecedents and consequences have been tested through structural equation model (Byrne, 2009). Factors related to the PO construct were transformed into average scores that served as observable indicators for this construct (Vieira, 2011; Brown, 2006). Such a transformation allowed reducing the complexity of the structural model (Vieira, 2011). Structural equation modelling was conducted in three stages (Giannelloni and Vernet, 2012). First, the parameters of the structural model were tested by identifying both loadings and measurement errors (Byrne, 2009). Second, the estimation allowed to assess the model adjustment by resorting to three indicators ($\chi^2/df \leq 3$; $RMSEA \leq 0.1$; $CFI \geq 0.90$; $IFI \geq 0.90$) (Bagozzi and Yi, 2012). Third, the reliability and validity of all latent constructs were established. The reliability were tested using



both Cronbach's α and Joreskog's ρ , with values above 0.70 and 0.60, respectively, for alpha and rho considered as satisfactory values (Churchill, 1979; Bagozi and Yi, 2012). The direction and intensity of the relationship between the different latent variables were tested by the t-value ≥ 1.96 and a significance level ≤ 0.05 (Vieira, 2011).

4. Results

4.1. Characteristic of respondents

The demographic features of the respondents (gender, income, educational level, main activity) and their features related to financial services (Seniority in the cooperative, access to loan and monthly amount of saving) are presented in table 2. A generalized ANOVA were made to assess the relationship between these members' characteristics and their perceived

PO.



Table 2: Characteristics of the respondents

Variables	Modalities	Number	Frequency	Cum frequency	Psychological (M =2.857)		
					Average	F/T	P
Gender	Male	555	55.3	55.3	2.97	3.502	0.000
	Female	494	44.7	100	2.72		
Education	Primary	132	13.1	13.1	2.64	3.255	0.001
	Secondary	343	34.2	47.3	2.82		
	University/partial	274	24.3	74.6	2.91		
	University/Full/post	255	25.4	100	2.94		
Profession	Business	507	50.5	11.6	2.81	1.189	0.199
	Employee	285	28.4	78.9	2.84		
	State officials	157	15.6	94.5	3.07		
	Student/Jobless	55	5.5	100	2.72		
Income	0 – 300	557	55.5	55.5	2.86	0.907	0.365
	301 – 600	236	23.5	79.0	2.77		
	More than 600	211	21.0	100	2.94		
Seniority	1 – 2 years	231	23.0	23.0	2.70	4.212	0.000
	3 – 4 years	295	29.4	52.4	2.72		
	5 – 6 years	219	21.8	74.2	2.87		
	More than 6 years	259	25.8	100	3.15		
	0 – 200	497	49.5	49.5	2.79	2.016	0.040
Monthly savings	201 – 400	226	22.5	72.0	2.82		
	401 – 600	126	12.5	84.6	2.88		
	More than 600	155	15.4	100	3.10		
	Never	455	45.3	45.3	2.79	4.316	0.000
Loans	1-2	321	32.0	77.3	2.74		
	More than 2 times	228	22.7	100	3.15		

This study covers 1004 SACCOs' members of which 55% are men and 45 % are women. The result shows that men have an overall higher sense of ownership than women ($t = 3.502$, $p=0.000$). Such a result can be justified by the fact that women remain marginalized in developing countries and still now MFIs have not yet achieved their empowerment. Thus, women would have a low sense of power of influence in their cooperatives and would not then feel that they are the owners of these cooperatives at the same level as men. Indeed, the SACCOs' management bodies are almost all occupied by men in Kivu region. Women are not yet fully integrated into the management of cooperatives and this would reduce their sense of ownership.



The majority of members have a relatively high level of education: 50% have a university degree, 35% have a high school education, and others (15%) have either an elementary school education or are illiterate. The ANOVA test indicates that members with a high level of education also have a high level of psychological ownership ($F= 3.255$ and $p= 0.001$). Indeed, the cooperative membership requires members to have basic knowledge of writing and reading. The level of members' education reinforces their knowledge of the principles and rules of cooperative management that can provide them with a sense of power to influence and thus enhance their feelings of ownership. Hence, members who have a high level of education would feel comfortable in the day-to-day financial operations and get involved in SACCOS' management easily while less educated members would have a tendency of self-exclusion (Murhula et al., 2019).

Most of the respondents are traders (50%) or employees (44%). The rest (6%) were either students or unemployed. The ANOVA test shows that there is no significant difference in the level of members' perceived ownership according to their professions ($F= 1.189$, $p=0.199$). However, the over-representation of traders in SACCOS can be justified by the fact that traders have a regular income and are thus a preferred target for credit granted by cooperatives which consider them a solvent segment. Employees are also a favored target of SACCOS because they can have some money to make savings but also SACCOS grant loans to employees as they seem to be less risky since the employers serve as loans guarantors of their employees.

The average age of the respondents is 39 years. A large number of respondents (34%) has been members of their SACCOS for one to two years, 26% for 3 to 4 years, 16% for 5 to 6 years and 14% more than 6 years. While the level of PO is not related to age, the result shows that the PO varies according to the seniority of members in their cooperatives ($F= 4.212$, $p= 0.000$). Indeed, members who have spent more years (from more than 4) in the cooperatives have a greater sense of ownership. This can be justified by the fact that the longest serving members in SACCOS are likely to have knowledge about the functioning of their cooperatives but also develop a sense of attachment to it (Murhula et al., 2019). The number of years spent in a cooperative may therefore lead to greater knowledge about this cooperative and higher feeling of ownership towards it.

49% of members make small monthly savings in SACCOS (1 to 200 USD), 23% save between 200 and 400 USD, and 28% of members save more than 400 USD per month. The large proportion of members with small savings can be explained by a large number of members



who also earn low incomes. Indeed, 56 % earn less than US\$300, 23 % earn between 300 and US\$600 and only 21% earn more than US\$600. In addition to savings, the results show that 45% members have never had the loan in their SACCOs, 32% have taken it between one and two times and 23% more than two times. The ANOVA test proves that the sense of ownership varies according to members' savings ($F= 2.016$, $p= 0.040$) and to the number of loans received ($F= 4.316$, $p= 0.000$). Members who usually save largest amounts (more than 400) and those who have benefited from loans more than two times have a greater level of ownership feeling towards their cooperatives. These results give an insight that the access to services could probably be positively related to members' sense of ownership. Members who have easy access to services would have a greater sense of ownership. Indeed, the fact that members frequently use credit services and especially put their savings in SACCOs can be justified by the trust they have in these cooperatives. Such trust would be related to the way in which members feel they own these cooperatives.

4.2. Means, standard deviations and correlations between constructs

The table below present the correlation between the different constructs of these study and resort the mean and standard deviation of each construct.

Table 3: Means, standard deviations and correlations between constructs

Factors	1	2	3	4	5	6
1 Control	1					
2 Information	0.68**	1				
3 Surplus share	0.53**	0,51**	1			
4 Service quality	0.31* *	0.42**	0.16**	1		
5 Psychological ownership	0.56**	0.55**	0.43**	0.42**	1	
6 Commitment	0.39**	0.44**	0.33**	0.57**	0.56**	1
Average	2.89	2.91	2.55	3.85	2.86	3.59
Standard deviation	0.77	0.85	0.88	0.68	0.67	0.77

Source: SPSS20 survey results20. ** = $p \leq 0.01$; all correlations are significant at the 0.01 threshold.

The table 3 shows that the level of members' psychological ownership is generally low in Kivu. As compared to the mean score of the 5 point liker scale ($M=3$), the perceived PO ($M =2.85$) has a low score indicating that members do not have a strong perception of being the true owners of their SACCOs. This table also shows that the scores of perceived members' rights are low in Kivu's SACCOs. Among all constructs, only the perceived quality of services presents a high score ($M =3.85$) as compared to the perceived access to surplus ($M = 2.55$), perceived control ($M = 2.81$) and perceived access to information ($M = 2.91$). Such results show that members perceive that SACCOs strive to fulfill their obligations towards their



members “as customers”, but that the obligations towards the members “as owners” are not fulfilled yet. Most of members do not perceive that SACCOs provide them with their ownership rights. This study has postulated that respecting the rights of member-owners would be a mechanism to increase their sense of ownership. Before testing this, we first established correlations between the members’ perceived ownership rights and their feeling of ownership. As reported in the table 2, members’ psychological ownership is positively correlated to their perceived control ($r = 0.56$, $p < 0.01$), perceived information disclosure ($r = 0.55$, $p < 0.01$), perceived surplus stake ($r = 0.43$, $p < 0.01$) and to members’ commitment ($r = 0.42$, $p < 0.01$). The relationships between these constructs are analyzed in detail in the next section.

4.3. Hypothesis testing

The results of the specified structural model suggest that the model fits the data, as all fit indices exceed the thresholds providing reasonable support to the factorial structure of the different constructs (CFI = 0.95, GFI= 0.94; AGFI = 0.92, RMSEA= 0.073) (Bagozzi and Yi, 2012; Brown, 2006). Table 4 gives more information about the relationships between constructs. Each variable is statistically linked to its latent construct to which it was supposed to load. All items related to the four dimensions of PO have loadings above 0.50. The items of the control, profit sharing, information disclosure and service quality constructs have also loading above 0.50. All items and dimensions related to each latent variable have t-values larger than 1.96. The R^2 related to each dimension is high and varies from 0.63 to 0.72. Such results indicate that the specified model meets convergent and discriminant validity requirements (Vieira, 2011; Lings and Greenly, 2005; Anderson and Gerbing, 1988)



Figure 2: Structural equation model

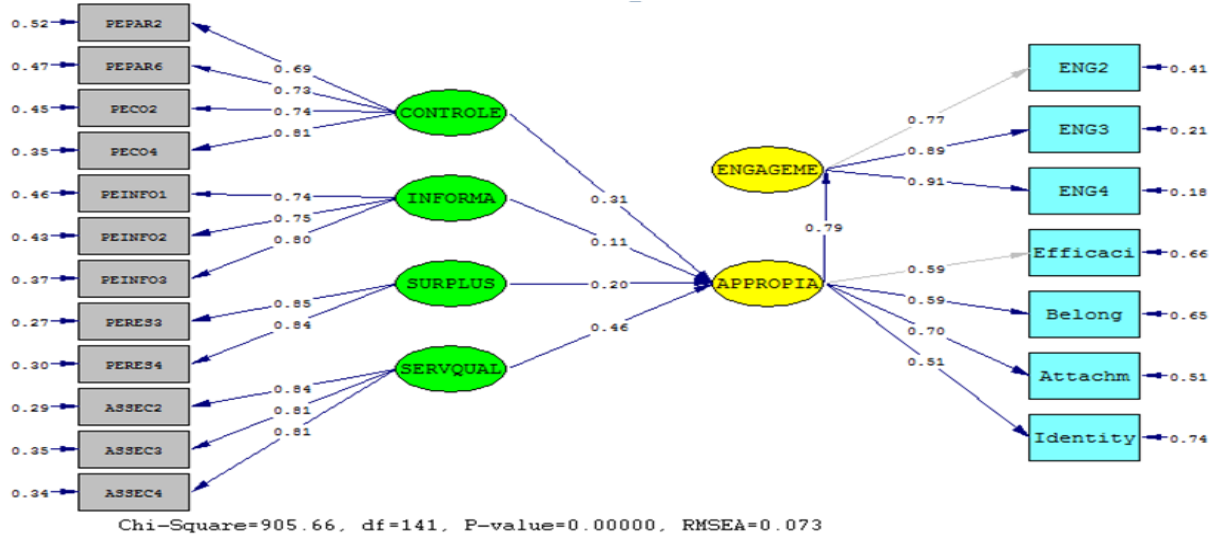




Table 4 : Linking the PO to its antecedents and consequences.

<i>Parameters</i>	<i>Estimato rs</i>	<i>Standard errors</i>	<i>T- value</i>	<i>R²</i>
PEPAR2 ← Control	0.675	0.028	23.811	0.478
PEPAR6← Control	0.663	0.026	25.621	0.533
PECO2 ← Control	0.675	0.025	26.217	0.533
PECO4 ← Control	0.689	0.023	26.217	0.650
PINFO1 ← Information	0.699	0.027	25.704	0.542
PINFO2 ← Information	0.816	0.031	26.551	0.568
PINFO3 ← Information	0.785	0.027	28.216	0.633
PRES3 ← Surplus share	0.821	0.028	29.352	0.730
PRES4 ← Surplus share	0.790	0.027	28.691	0.702
ASSEC2 ← Service quality	0.640	0.020	31.142	0.712
ASSEC3 ← Service quality	0.659	0.022	29.331	0.654
ASSEC4← Service quality	0.602	0.020	29.391	0.656
Self-efficacy ← PO	0.542	0.027	20.329	0.343
Sense of belonging ← PO	0.555	0.037	14.809	0.347
Sense of attachment ← PO	0.582	0.034	16.676	0.490
Self-identity ← PO	0.405	0.030	13.204	0.257
ENG2 ← Commitment	0.678	0.017	19.320	0.589
ENG3 ← Commitment	0.743	0.025	29.917	0.791
ENG4 ← Commitment	0.750	0.024	30.407	0.824
Control → PO	0.313	0.089	3.504	0.738
Information → PO	0.107	0.091	1.162	0.738
Surplus share→ PO	0.196	0.042	4.680	0.738
Quality of services → PO	0.459	0.041	11.262	0.738
PO → Commitment	0.787	0.049	15.846	0.619
Quality of model fit: CFI = .97 ; GFI = .91 ; NFI = .96 ; NNFI= .96 ; IFI = .97 ; AGFI = .88 ; RMSEA = .073				

Source: Results of the LISREL 9.1 survey

The table 4 shows that the perceived member's control is positively and significantly related to psychological ownership ($\gamma=0.313$; $t=3.54$; $p=0.000$), supporting the first hypothesis of this study. The control has also been empirically validated as a route to PO by other studies (Liu et al., 2012; Pierce, O'Driscoll, & Coghlan, 2004). When members perceive that their SACCO is managed in the way that allows them to participate in its control, these members will feel psychologically attached to it. Indeed, to be actively involved in cooperative control, members can first get elected in administrative bodies of cooperatives (Talonen et al., 2016; Birchall and Simmons, 2004). However, even being outside the bodies, still customer-owners may exercise direct influence by giving feedback and propositions to managers or to other personnel (Tuominen et al., 2009). As Talonen et al. (2018) demonstrated it; cooperatives that seek members' propositions or opinions before making decisions and strive to implement these



propositions can lead members to have a strong sense of ownership. Therefore, members' direct or indirect participation in the SACCOs' control is imperative for building a real sense of ownership and SACCOs' managers should be sensitive to feedback and propositions from members. If members feel that they are not listened to, they come to lose interest in their cooperatives because their voice cannot have any influence (Simmons and Birchall, 2004). It has been argued that customer-owners who see the possibilities to exert influence as inefficient would prefer to "vote with their feet," exercising the exit option rather than their voice as an influence mechanism (Talonen et al., 2018). The lack of member involvement in decision-making can thus create a distance between members and their cooperatives that is traduced by a low level of sense of ownership.

Results show also a positive and significative link between the perceived surplus stake and the PO ($\gamma=0.196$; $t=4.680$; $p=0.000$). Previous studies on employee ownership have found similar results by proving that the employee participation in profit-sharing plans is positively related to psychological ownership (Chi et al., 2008; Wagner et al., 2003). Even if cooperatives do not have the primary objective of maximizing the value of shares or the amount of dividends (Talonen et al., 2016), our study proves that having a share in cooperative surplus is a matter of concern in member's ownership design. In this vein, Uhlaner et al. (2007) note for example that owner attitude can be influenced by rewards received for past financial success of the firm. However, as compared to other drivers, the share in surplus seems to have a very weak effect on the feelings of owners. This proves that members do not seek dividends at first even the issue of redistributing the surplus to members is essential for SACCOs. As noted by Spear (2004), members characterize the essence of being an owner of a customer-owned cooperative as consisting of ensuring maximum benefits for oneself as a consumer. Therefore, services issues can be greater than the value of shares or the surplus sharing issues in cooperatives. Hence, the SACCOs have to set up their earning redistribution mechanism with some caution. Indeed, several mechanisms can exist for the cooperative surplus distribution. On the one hand, cooperatives can directly return a certain amount of the surplus to customer-owners in proportion to the operations they have conducted with the cooperative (Talonen et al.; 2018). On the other hand, cooperatives can apply indirect redistribution mechanism consisting on improving the quality of services or reducing the cost of services (Murhula, 2021). Cooperative should thus deeply assess the best way of redistributing the surplus to induce a higher effect on members' feelings of ownership.



The results also prove that the quality of service is positively and significantly related to psychological ownership ($\gamma=0.459$; $t=11.262$; $p=0.000$) confirming the hypothesis 4. Indeed, customers mainly become owners in order to receive benefits from consumption of the cooperative's products and services (Talonen et al., 2016). They thus use various financial services set up by their cooperatives; the main ones being savings and loans. While making their financial transactions, members are attentive to different aspects such as the cost of services, the fast of transactions, the security of their money but also other relational aspects like the empathy of personnel (Kanyurhi, 2017). For their sense of ownership to be developed, members need to have positive judgements on the overall services that they receive as customers. Such positive judgements on SACCOs are only possible if their expectations on those various aspects of the services are met. When the cooperatives' services meet members' expectations, these members will feel attached to their cooperative (Jussila et al., 2014). The judgement that members make on the overall quality of services provided by cooperatives is thus an important aspect that proves to them that the cooperatives are operating on their behalf and that the services set up by their cooperatives are done for the customer-owners but not regular customers (Murhula et al., 2021). Members who globally perceive to be well treated in cooperative and to access easily and less costly to services will feel to be the owners of those cooperatives.

The results show that the psychological ownership is positively related to members' commitment to their cooperatives ($\gamma=0.78$; $t=15.84$; $p=0.000$), supporting the hypothesis 5. This result is similar to other research that has proved that psychological ownership was a significant predictor of organizational commitment (Van Dyne and Pierce, 2004; Vandewalle et al.'s, 1995). Indeed, members who feel attached to an organization and have a sense of ownership are generally concerned with the outcomes of this organization and want to stay in their organization (Pierce et al., 2003). When organizations provide members with a valued sense of ownership feeling, they will be motivated to reciprocate by making positive and proactive contributions to the organization (Van Dyne, L. and Pierce, 2004; Van Dyne et al., 1995). As compared to IOFs, Fulton (1999) stresses that the cooperatives' competitive advantage lies in their ability to develop deeper relationships with customers in terms of member commitment. Our results prove that these relationships can be strengthened by the members' sense of ownership. In the quest for increased commitment, cooperatives should strive to motivate the customer-owners to participate in the governance and thus making them feeling to be owners of their cooperative (Jussila et al., 2012a; Birhcall and Simmons 2004a).



5. Conclusion, Implication, Limitations, and future research perspectives

This study focused on members' sense of ownership in financial cooperatives. It aimed to analyze if the perceived ownership rights can induce the customer-owners' sense of ownership. First, the results showed that the overall members' sense of ownership is low in Kivu region. Except the rights to service, member-owners perceive that SACCOs do not value other ownership rights in this region. It thus appears that customer-owners perceive to be considered and treated mainly as customers and not really as owners of SACCOs. The assessment of the relationships between PO and the members' perceived ownership rights shows that the ownership feelings develop as member-owners perceive that cooperatives respect and value their right to control, to have stake in the generated surplus and to accede to cooperative services. Such a sense of ownership induces the members' commitment to their SACCOs.

Our findings prove that the ownership feeling emerges when ownership encompass certain rights associated with formal ownership. This study proves empirically that the cooperative membership has to be followed but participative management and membership reward in terms of services quality and surplus shares to induce the feeling of ownership and that this feeling of ownership can produce valuable consequences such as member commitment within cooperatives. Given the customer-member ownership design of cooperatives, our study thus adds, in addition to the common routes of PO, that the access to services is another aspect that can induce the members' feeling of ownership in cooperatives. Hence, even if it is legally recognized that cooperatives belong to members, this legal ownership cannot automatically trigger neither their sense of ownership nor their commitment to the cooperatives. It is up to the SACCOs' leaders to ensure that the cooperative is managed in such a way that provide members with real feelings of ownership by giving them possibilities to get involved in their management and to benefit from their ownership in terms of services and surplus shares.

This study calls thus for participative governance mechanisms that put members at the center of actions and decisions of their cooperatives. This requires not only the virtue of voting in general meetings but also providing members the possibility to give feedback, recommendations and suggestions that can help to improve the management of their cooperatives. Cooperatives must therefore establish mechanisms to collect members' opinions not only during the general assemblies but at any time that these members receive the services. This study also suggests that cooperatives would strive to ensure that their



surplus is redistributed in a way that members should feel to have a share on it. However, still there is a need to make a prior assessment on what could be the best mechanism to redistribute the coop-surplus. Indeed, as the quality of services has a strong positive effect on PO and because of the large number of cooperatives' owners, improving the quality services can be considered as an effective indirect surplus sharing mechanism that can improve the members' feelings of ownership. It is therefore necessary to monitor the level of member satisfaction with the SACCOs' services and collect their opinions on the improvements that can be made in the provision of services. In this view, cooperatives should have a policy of member survey to ensure how members perceive their services, collect members' opinions about the provided services and adapt these services according to members' wishes. As Pierce et al. (2003, p.93) note, "the most obvious and perhaps the most powerful means by which an individual invests himself or herself into an object is to create it". Thus, making members to participate to the design of services would probably be an effective way to make them feel psychologically attached to their cooperatives.

Although this study have the advantage of exploiting in detail the formal ownership rights as the antecedents of PO, still it suffers from a number of limitations. This study proposes a governance mechanism that is member-driven. Implementing such a mechanism can have benefits for cooperatives but incur some costs. It would be important in further studies to identify all the costs associated with these mechanisms and make a cost-benefit analysis to highlight whether a truly member-based governance policy can be effective and efficient in cooperatives. In this perspective, future studies would investigate the link between democratic governance and the performance of cooperatives. The results of our study did not prove that the information has a significative effect of ownership. This means that informed and non-informed members would probably have the same level of ownership. As the quality of governance can depend on the level of information and the knowledge of stakeholders that are involved in the governance system, this result calls for more analysis on the relation between the sense of ownership and the quality cooperative governance. The membership governance mechanism should be analyzed in order to see at which level the PO can enhance or no the quality of cooperative governance. Although the psychological ownership can have several attitudinal and behavioral consequences in cooperatives, this study only explores the commitment as a consequence of member sense of ownership. It would then be important to assess in future studies the behavioral consequences of ownership such as organizational citizenship behavior, prosocial behavior, in role behavior etc. The data used in this study were



cross-sectional. Thus, our findings cannot be interpreted as definitive evidence of causal relationships between the variables studied. Using time series data or an experimental approach to prove causality between ownership and its various antecedents or consequences would be a relevant avenue for future studies.

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Appendix: Scales of formal ownership constructs and commitment

Code	F	Standardized loading
Codes	Control (α = .828)	
PEPAR2	As a member, I have the opportunity to participate in the decisions of my co-op	0.783
PEPAR6	My co-op care about my opinion/point of views in the decision-making process	0.790
PECO2	My co-op allows me to participate in financial decisions (budgeting, allocation of results, etc)*	0.833
PECO4	Strategic decisions are debated in co-op meetings where I can make my opinion.*	0.849
	Access to information (α = .803)	
PEINFO1	I have the information that I wish in my co-op*	0.820
PEINFO2	I know much about the nature of my cooperative (its mission, goals, performance etc.)*	0.848
PEINFO3	My cooperative regularly publishes information on its website/brochures where I can accede to it*	0.874
	Surplus share (α = .834)	
PERES3	I benefit from the surplus achieved by my co-op	0.858
PERES4	My co-op improves service quality thanks to its return earnings*	0.843
	Quality of services (α = .861) (Babemba, 2017)	
ASSEC2	The prices, costs and conditions of the services of my cooperative are affordable for me.	0.886
ASSEC3	I have easy, fast and secure access to my co-op's services.	0.890
ASSEC4	I am generally satisfied with the services offered by my cooperative	0.878
	Commitment (α = .887) (Béal and Sabadie, 2018)	
ENG2	I am proud to be a member of this cooperative	0.751
ENG3	I care about the long term membership in this co-op	0.850
ENG4	I am willing to "go the extra mile" to remain a member of this coop.	0.853