The formalism of governance on the performance of family SMEs in Chad

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ABSTRACT

The aim of this study is to analyze the effects of family SME governance on their performance. Thus, the concern of this work is to present the most relevant agency relationships for analyzing the governance of family SMEs and the family factors that can be analyzed from the theoretical framework of agency and stewardship, given the limitations of agency theory for the study of family SME governance. The study is based on a sample of 182 Chadian family SMEs from a variety of sectors. The investigation is based on a hypothetico-deductive method, and the research results show that the impact of governance on performance is significant. A Principal Component Analysis (PCA) was carried out to identify specific factors for the three groups of variables: governance, altruism and family traits. Factor regression by respective degree of significance and importance of the factors shows that the factors *governance formalism*, *relationships and delegations*, *internal relationships*, *training* and *experience and professional conflicts* are the main drivers of SME performance. Finally, the impact of the altruism variable on performance is insignificant. In conclusion, the theoretical and managerial implications are discussed, along with the main avenues for future research.

Contribution/Originality: This research is the first to statistically and rigorously test factors of governance on SMEs performance in Chad. Originality also arises by integrating in the same tested model agency relationships factors, family characteristics and Altruism (stewardship theory) and providing striking, and for some (Altruism) counterintuitive results.

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1. BACKGROUND

Today, family-run businesses represent a significant economic force, sometimes outperforming non-family businesses (Allouche & Amann, 2000). Characterized by the extent of family ownership, the degree of family involvement in management, and the intention to pass on the business to the next generation, a family business can be defined as "an organization in which two or more members of the extended family influence the running (direction) of the business through the exercise of kinship ties, management positions or ownership rights in the capital" (Davis & Taguiri, 1982, in Allouche and Amann (1998)). These companies are recognized as the lifeblood of the industrial fabric and make a major contribution to economic development.

In Chad, they play a key role in the country's economic fabric. There are few large family businesses in Chad, but the majority are family SMEs[1].

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[1] Small and medium-sized enterprises.

Indeed, the data collected by the authors show that the majority of family SMEs are characterized by relatively low productivity and are essentially outside the realm of regulation or government assistance.

The first objective of this work is to analyze the effects of governance of the EF on its performance. The second concern of this work is to present the most relevant agency relationships for analyzing the governance of family SMEs and the family factors that can be analyzed from the theoretical framework of agency and stewardship, given the limitations of agency theory for the study of the governance of SMEs, limitations that we show below.

Therefore, the first stage of this work is devoted to theoretical elements. Then, we will present our conceptual framework with an explanatory analysis of the variables governance, family characteristics, altruism and their impact on the performance of the family SME. Finally, we will try to analyze empirically the effects of governance of this entity on its performance.

2. STEWARDSHIP THEORY AND SOCIAL ANALYSES OF ALTRUISM

2.1. The Prism of Agency and Stewardship

From an academic point of view, work on corporate governance has drawn heavily on developments in agency theory (Berle & Means, 1932; Ross, 1973). The latter emphasizes the fact that the separation of ownership and management in an organization leads to agency relationships, and hence agency costs, which are likely to hinder the proper coordination of the players involved, and consequently the organization's performance.

This is because the owner, known as the principal, delegates his managerial power to a professional manager, known as the agent. The latter is supposed to conform to the owner's interests. However, these two actors may have opposing interests: shareholders may be seeking only to maximize dividends, while managers may want to ensure the organization's longevity, or even to put down roots, as well as to capture income and control resources for their own benefit, to the detriment of the owners'. Thus, there is a need for formal structures of governance and control of professional managers.

The strict inapplicability of agency theory to SMEs has been highlighted by Melin and Et Nordqvist (2000). These authors base their reasoning on Stewardship Theory. Stewardship theory is based on the idea that, in an SMEs, agency theory is inapplicable insofar as the three functions of manager, shareholder and "overseer" are held either by the same person, or by the family. According to Barrédy (2007) the main shortcoming of the agency theory approach is that it focuses attention on outside directors, either by contrasting them with the influence exerted by the family, or by justifying their presence without explaining how they can contribute to the SMEs.

2.2. Broadening the Theory of Agency

Recent work in the tradition of organization theory has highlighted the central role of emotions and values in SMEs management. We refer here in particular to the work of Ltaief Chibani, Henchiri, and Et Degos (2016). The latter tend to extend agency theory by incorporating types of relationships between principals and agents other than simply financial and monetary.

These lines of research, which incorporate the affective and emotional dimension into agency theory, therefore enable us to return to the question of the possible value of setting up corporate governance institutions in SMEs: we might indeed think that various committees, a family council, a family charter would be institutions capable of "objectifying" certain strategic decisions that need to be taken for the company.

We propose a conceptual model based on the literature that we have just summarized very briefly. We present this model below, and we make it more explicit by specifying several points of the literature in more detail than our brief presentation above.

3. CONCEPTUAL FRAMEWORK

3.1. The Research Model

The conceptual model is composed of concepts and constructs drawn from previous research. It is broken down into three levels

Level I, referred to as governance corresponds to the different concepts that concretize the agency relationships between family, owners and managers: delegation of power, management systems, family council, board of directors, board of management, mode of professional relationship, training plan and risk taking (Allouche & Amann, 2002; Ampenberger, Schmid, Achleitner, & Kaserer, 2013; Arrègle & Mari, 2010; Bauweraerts & Colot, 2013; Bentebbaa, Pacitto, Louitri, & Abdoune, 2018; Chrisman, Chua, De Massis, Minola, & Vismara, 2016; Gallo, Tàpies, & Cappuyns, 2004; Ltaief & Henchiri, 2016; Michiels & Molly, 2017; Sharma, Chrisman, & Gersick, 2012). Level II, called family, consists of eight constructs namely: the percentage of capital held, the professional relationships of the leader, the level of education of the employees, the level of education of the leader, the age of the leader, the professional experience, the family conflicts and the recruitment procedures (Amann, Berger, Gattaz, & Monassier, 2011; Steier, Chrisman, & Chua, 2015); in a third, altruism on the work of Barney (2014) and Louis and Filion (2011). Finally, level III denoted altruism, includes family involvement in management, family recruitment, the leader's professional experience, the leader's level of education and age (Barney, 2014; Louis & Filion, 2011). We are interested in the effects of these three sets of variables on the performance of African SMEs (Ndjambou & Sassine, 2014). Some authors have already considered all of these variables (governance, family factors, altruism, and performance), including Chrisman, Sharma et al. (2012); Djimnadjingar (2012); N'DRI (2017); Besson (2021) and Meier and Schier (2016) we use their work in building our model.

The debates surrounding the definition of informal SMEs are still open. Definitions are generally problematic. In the informal sector, not all activities obey accounting standards, Abate (2017) and Hugon 1 (2014).

Thus, the behavior of the family SME regarding its governance practices would be influenced by governance, family and altruism (social relationship) on its performance. The following model explains the influence of the governance of the family SME on its performance.
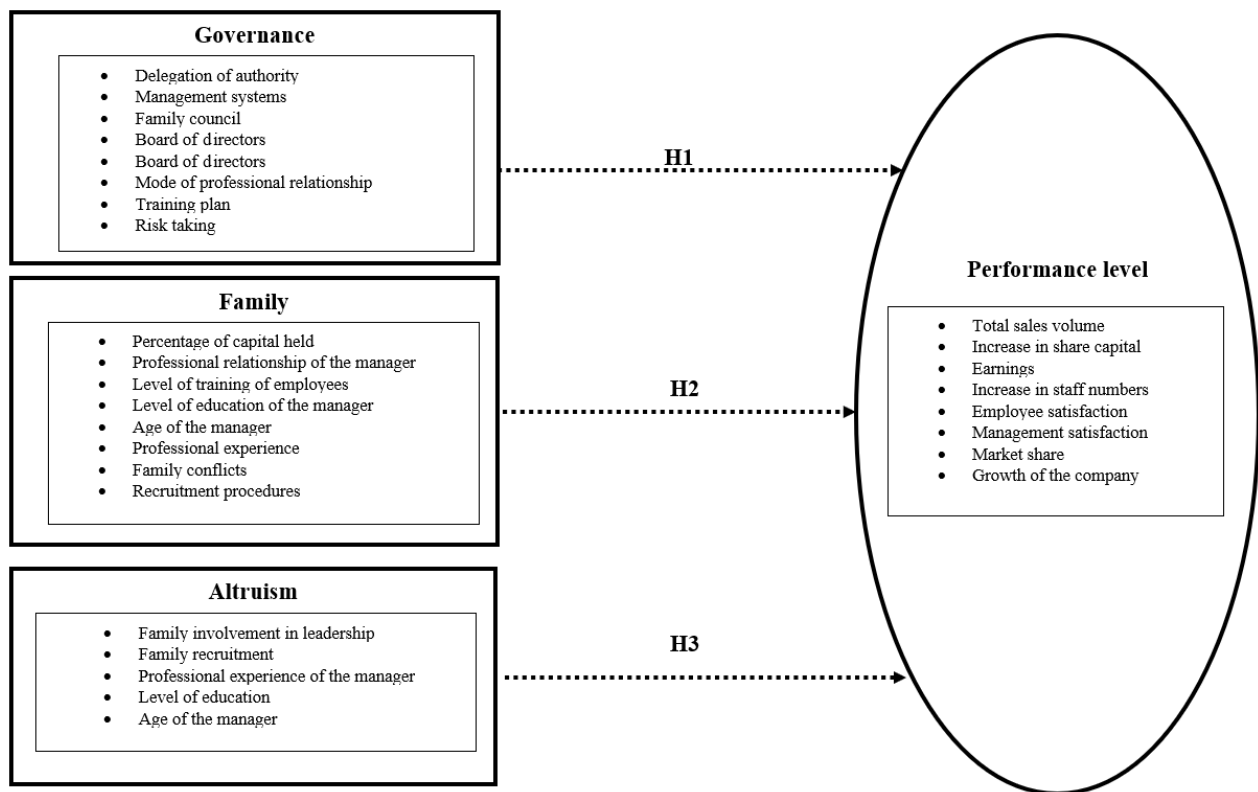

Figure 1. The main research model.

The Figure 1 is the main model of the research and explains the influence of family SME governance on its performance.

3.2. Explanatory Analysis of the Variables Governance, Family, Altruism and Their Impact on the Performance of the Family Business

The altruism of the owner-manager is manifested by the link between his well-being, as head of the family, and that of the other members of his family Barney (2014); Djimnadjingar (2012); N'DRI (2017) and Louis and Filion (2011).

It encourages family members to be considerate of each other and to care for each other in times of need, to make sacrifices. In contrast, Schulze, Lubatkin, Dino, and Buchholtz (2001) and Schulze, Lubatkin, and Dino (2003) observe that altruism has sometimes problematic manifestations. They show that the conflation of family and firm issues may favor family interests over those of the firm (non-family shareholders), due to family loyalty.

In addition, conflicts of interest may arise, Djimnadjingar (2012); N'DRI (2017) and Besson (2021). Family members may question the ability of the owner-manager to make decisions that they consider to be in line with the family's interests. They would also be required to implement oversight of the owner and incur other agency costs to ensure that their interests are served. Second, it is common to find the family members of the founder(s) running the EF. But to run an EF or not, you need deep skills. These skills are not necessarily present among the founder's descendants.

H_1: The formalization of governance processes positively influences the performance of Chadian family SMEs (Level I).

H_2: The characteristics of family involvement have a positive or negative influence on the performance of family SMEs (Level II).

H_3: The modalities of the owner-manager's altruism have a positive or negative influence on the performance of Chadian family SMEs (Level III).

The three general hypotheses are broken down into several sub-hypotheses that would take too long to list here. We refer the reader to the summary graph of the conceptual model, above. It is these three hypotheses that we will attempt to test in the remainder of the study.

4. ANALYSIS METHODOLOGY AND RESULTS
4.1. The Sample Size

The research field is composed of 130 formal family SMEs and 52 informal family SMEs located in the cities of Moundou, Sarh, N'Djamena and Abéché. This sample meets the "minimum size" requirements of Roussel, Durrieu, Campoy, and El Akremi (2002).

Data was collected from the owner-managers of the SMEs using a questionnaire on four main themes: 1- Performance, 2- Governance, 3- Family, and 4- Altruism. To these four themes, we add two sets of contextual data: the characteristics of the company and the characteristics of the owner-manager.

The construction of the questionnaire went through several stages. First, we selected 14 owner-managers of SMEs with whom we had semi-directed interviews. On the basis of the initial interview grid elaborated from the literature review, which takes up the themes of importance as they were identified in the theoretical construction of the research object. The grid was revised during the production of the interviews: some initial questions were deleted, others were added or reoriented according to what the owner-managers interviewed gave to hear. The comments, suggestions and criticisms of the respondents provided a wealth of information, and in the end, the final questionnaire was administered to the entire sample.

The questionnaire was administered face-to-face in the four cities mentioned above. Respondents were selected randomly, given the informal nature of the second category of the sample, based on our initial sample.

4.2. Descriptive Results

The companies in the sample tend to belong to the SME category; more than half (125) have fewer than 50 employees. Only 57 of them are medium-sized companies.

As far as the sectors of activity are concerned, the companies in the sample belong to a wide variety of sectors (industry, commerce, service provision, informal).

The majority of the companies (80%) in the sample were created in the 2010s. 48.3% of the enterprises are sole proprietorships, 11% are limited liability companies, 12.1% are limited liability companies and 28.6% are informal enterprises. In relation to the capital structure, the share held by the owner is above 50% in more than 80% of the enterprises studied. The family holds 100% of the capital in 83% of them. It can be concluded that the sample is essentially composed of companies with concentrated capital.

In 82% of these companies, more than two family members work in the company, while in the remaining 18%, only one or two family members work there.

41% of the companies are managed by managers with at least a bachelor's degree, and given their average age (25 years), this level can be considered quite high. Leaders cited several goals they want to achieve through their business, namely, increasing family wealth, securing employment for family members, gaining a family reputation in business, and business sustainability.

The most common sources of financing used by the sampled businesses are, not surprisingly, equity and tontines.

4.3. Measurement of Variables

We first present the three sets of independent variables governance, family traits, and altruism, followed by the construction of the dependent variable, performance.

4.3.1. The Independent Variables: Governance, Family and Altruism

Once the descriptive part is done, we test the research hypotheses by measuring the links between the variables used. As described below, we use multiple linear regressions. We use PCA[2] to judge the multi or unidimensionality of the concepts studied.

The following Table summarizes the results obtained from the different steps used to refine the scales.

Table 1 Diagnosis of governance, family and altruism scales.

Table 1. Diagnosis of scales.

Dimensions	Alpha of the ladder	Scales /Under ladder	Names of the factorial axes
Governance	0.879	Your accounting system is up to date	Axis 1 : Governance formalism
		You are holding a board meeting	
		You are holding a family council	
		You hold a board meeting	
		You have an employee training plan within your company	
		You delegate tasks to your subordinates	Axis 2 : Relationships and delegations
		Interpersonal working relationships are good	
		The hierarchical relations of: work are good	
Family	0.844	Conflicts with employees due to competence issues	Axis 1 : Relationships and delegations
		Conflicts with employees due to involvement issues	
		Conflicts with employees due to financial malfeasance	
		Problem between employees	
		Conflicts with managers due to their management	
		Relationships between family members have a negative effect on the management of the business	
		Your working relationship with employees is good	Axis 2 :
		Non-family members have a good level of education	
		You (Manager or owner manager) have a good level of education	

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[2] Principal component analysis

Dimensions	Alpha of the ladder	Scales /Under ladder	Names of the factorial axes
		You (Manager or owner Manager family member) have a long experience in the company	Internal relations, training and experience
		You (Manager or owner Non-family manager) have a long experience in the company	
		For the leadership position to be filled in general, we prefer to recruit an experienced member outside the family than to recruit a family member	
		Working with family members interferes with work flow	Axis 3 : Negative influence of family relationships and training of family members
		Employees who are family members have a good level of education	
Altruism	0.874	Family members are more problematic than other non-family employees	Axis 1 : Negative behaviors of family members at work
		Family members are less disciplined than other employees	
		Family members are less competent than other employees	
		Family members make less effort than other employees	
		Executive recruiting is generally geared towards experienced non-family members	
		Family members are paid more than other employees	Axis 2 : Senior leader and orientation towards professionalism
		Our recruitments are generally oriented on family members	
		The company's staff in general has a good level of training	
		Are you (leader) very close to retirement	

This PCA made it possible to synthesize the main factorial axes likely to explain the performance of the companies in the sample. We can identify them as follows:

- The first variable is related to the governance character of the company and contains eight items. When reading the table, the first factorial axis is correlated with five items. This first factor is measured by the governance system. We call the first factorial axis governance formalism. The second axis determines three items and measures the delegation of power and professional relations. We call the second axis relationships and delegations.

The family variable contains 14 items. The first factorial axis is correlated with 6 items which all have a high loading and their commonalities are all above 0.5. We call the first factorial axis professional conflicts. The second axis is correlated with 6 items and measures the level of education and experience of the personnel. We call the second axis internal relations, training and experience. The third factor determines 2 items and is called Negative influence of family relations and training of family members.

The altruism construct is measured through 9 items. The measures give good results in statistical terms (KMO, test of sphericity, etc.) and the authors make the data available to readers on request.

The PCA thus produces two factors explaining 59.233% of the variance and proves the bi-dimensionality of the construct. As for the adequacy of the PCA with respect to the sample data, we found a KMO value equal to 0.855 which is acceptable. Bartlett's test of sphericity yields a value of 689.313 at the 0.000 threshold and reflects the fact that the item correlation matrix has a suitable structure for PCA, i.e., it is not a unit matrix. The first factorial axis determined measures the behavior of family personnel within the company. We call this axis negative work behaviors of family members. The second factor measures the age of the manager and occupation of the staff. It is called Older Leader and Professionalism Orientation.

4.3.2. Performance Measurement

Due to the reluctance of firms to disclose information related to their accounting data, we measured performance by a set of eight criteria: V1.1 (Total sales growth), V1.2 (capital increase), V1.3 (profit growth), V1.4 (staff growth), V1.5 (employee satisfaction), and V1.6 (Manager satisfaction), V1.7 (Market share), V1.8 (Company growth). These criteria were personally assessed and evaluated by the business leaders based on the level of change over a three-year period of operation and on a five-point Lykert-type scale. Factor analysis extracted a facet of performance measured by eight items. The Table 2 summarizes the data.

Obtaining a single factorial axis of performance is surprising. Theoretical literature and field studies have shown that performance is multidimensional. The performance of Chadian SMEs is global. This means that in these firms, all elements of performance are interrelated. There are several explanations for this, as it is a declarative statement: in the minds of the managers who responded to the questionnaire, all the elements of performance are interrelated. Either these managers do not differentiate between all the elements of performance, or they actually act in such a way as to achieve good results in all these areas at the same time; in particular, employee satisfaction is linked to economic and market performance, which is a surprising result.

<div align="center">**Table 2.** PCA on the performance measurement scale.</div>

Items	Component F1	Municipalities
PERFOR1	0.838	0.702
PERFOR2	0.834	0.696
PERFOR3	0.819	0.671
PERFOR4	0.717	0.514
PERFOR5	0.803	0.645
PERFOR6	0.780	0.609
PERFOR7	0.872	0.760
PERFOR8	0.727	0.528
Valeurs propres	5.124	
% explained variance	64.052	
% cumulative variance explained	64.052	

5. REGRESSION TESTING OF THE MODEL AND TESTING OF THE RESEARCH HYPOTHESES

5.1. Hypothesis Testing

We test the model composed of concepts and constructs from previous research to validate our three sets of hypotheses. We will test the model in three successive steps, i.e., three successively nested models. Model 1 tests the relationship between performance (explained variable) and the governance construct, which includes the two factors: governance formalism and relationships and delegations. Model 2 then incorporates the family variable, so this model 2 includes model 1, plus the three factors professional conflict; internal relations and training and experience, negative influence of family relations and training of family members. Finally, model 3 incorporates the concept of altruism; this model 3 includes model 2, more the two factors negative work behaviours of family members and elderly manager and orientation towards professionalism. Thus, the analyses will be carried out in three successive stages, in order to be able to interpret the successive contributions of each construct to the general model. The Figure 1 presents the research model after the PCA.

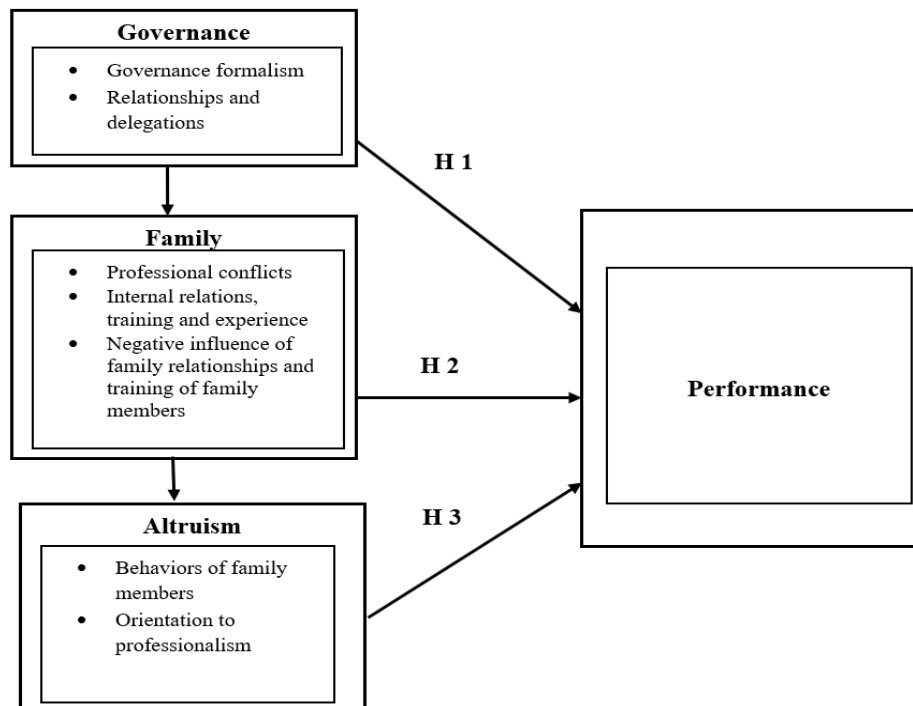Figure 2 presents the research model after the PCA.

<div align="center">**Figure 2.** Research model after PCA.</div>

5.1.1. Testing the Hypotheses Concerning the Overall Sample

This is a multiple regression test. The regression test is carried out between the factors of the governance variable, namely the formalism of governance (FAC1_1), relations and delegations (FAC1_2) and the performance variable. Let us then present this first model called M1.

5.1.2. Results of Regression Tests of the Relationship Between Governance and performance (Model 1)

In Model 1, we test the hypothesis that the formalization of governance processes positively influences the performance of Chadian family SMEs. For to test the M1 model, we used multiple linear regression, which allowed us

to study the relationships between a dependent variable and at least two independent variables and to construct an equation indicating how the variables are related. Thus, in order to identify the factors that best explain the performance of SMEs, we conducted a multiple linear regression of governance through the two factors (governance formalism and relationships and delegations) selected earlier.

The following Table 3 gives the results of the regression performed in SPSS[3].

Table 3. Results of the linear regression of model 1.

Coefficients	Value of coefficients by assumption	Recognized standards
R	0.631^a	Close to 1
R-two	0.398	R-two > 0.5
R-two adjusted	0.391	
Standard error of the estimate	0.780	
Fisher coefficient of significance (p) at degree of freedom DL	F=59.187; P=0.000 $DL_1 = 2$ $DL_2 = 179$	F> Flu ; p <5%
Student's t at significance (p)	a= 4.541^{E-17} (t=0.000) $b_1 = 0.414$ (t=7.131) $b_2 = 0.476$ (t=8.217)	t (Significant) i.e. $\neq$ 0); p < 5%

Note: [1]Statistical package for the social sciences.
a. Predicted values: (Constants), relation and delegation, governance formalism.
DL: Degree of freedom.

The coefficient of determination or "R" of the linear regression model gives a value of 0.631a which is quite satisfactory since it is greater than 0.5[4]. It is confirmed by the test of the robustness of the model insofar as the F value is equal to 59.187 and is significant at the 0.000 threshold for 2 and 179 degrees of freedom.

The regression model between governance (F1_2, F2_2) and performance (F1_1) is as follows:

$$F1\_1 = 4.541E - 17 + 0.414F1\_2 + 0.476F2\_2 + \varepsilon \quad (1)$$
$$(0,00) \ (7,131) \ (8,217)$$

As can be seen, all factor regression coefficients have a Student's t-value greater than 1, i.e., 7.131 and 8.217 for the governance formalism (FAC1_2) and relationships and delegations (FAC2_2) variables respectively.

Also, the correlation coefficients between the different independent variables and performance are quite significant (0.414 and 0.476). This suggests that these variables have an explanatory power on the performance of SMEs.

Finally, the hypothesis that the formalization of governance processes positively influences the performance of Chadian family SMEs is validated. This result confirms the research work of the various authors mentioned in the theoretical basis above. We now present the second model called M2.

5.1.3. Regression Tests Between Governance, Family and Performance: M2 Model

For the second model, we test hypothesis 2 according to which family involvement characteristics positively or negatively influence the performance of family SMEs.

The test of the second model linking the two governance constructs to performance, with the addition of the family factors (Professional conflicts; Internal relations, training and experience; Negative influence of family relations and training of family members), gives a better result but, non-significant effects emanating from a family factor (Negative influence of family relations and training of family members) Nevertheless, the model fits the data well and all coefficients are significant. Indeed, the following Table 4 summarizes the results of the multiple regression test.

Table 4. Linear regression results: Governance, family and performance.

Coefficients	Value of coefficients by assumption	Recognized standards
R	0.746^a	Close to 1
R-two	0.557	R-two > 0.5
R-two adjusted	0.544	
Standard error of the estimate	0.675	
Fisher coefficient of significance (p) at degree of freedom DL	F=44.229; P=0.000 $DL_1 = 5$ $DL_2 = 176$	F> Flu ; p <5%
Student's t at significance (p)	a = -1.027^{E-17} (t=0.000) b1 = 0.297 (t=5.597) b2 = 0.364 (t=6.491) b3 = 0.214 (t=3.843) b4 = 0.358 (t= 6.834) b5 = 0.104 (t= 2.025)	t (Significant) i.e. $\neq$ 0) ; p < 5%

Note: Degree of freedom.
a. Predicted values: (Constants), family members' level of training, staff's level of training and professional experience, family conflicts, governance formalism, relationships and delegation.

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[3] Statistical Package For the Social Sciences
[4] Indeed, the value of the coefficient of determination is between 0 and 1. It must be very close to 1.

This table shows an improvement in the overall fit of the M2 model compared to the M1 model. Even though the Student's t coefficients for the two previous factors (governance formalism and relationships and delegations) decrease for each, the explanatory power of the M1 model compared to M2 increases from 0.631 to 0.746. All other indicators are better than those of the previous model. The model gives a strong correlation between the constructs with a coefficient of determination R-two equal to 0.557, higher than 0.5. Similarly, the robustness of the model produces an F-value equal to 44.229, higher than Flu (2.70) at the significance level (p=0.000<5%) for degrees of freedom of (5, 176). All coefficients were within prescribed standards.

The regression equation reflecting significant causal relationships of the M2 model is as follows:

$$F1\_1 = -1.027E - 17 + 0.297FAC1\_2 + 0.364FAC2\_2 + 0.214FAC1\_3 + 0.358FAC2\_3 \quad (2)$$
$$(0,000)\ (5,597)\ (6,491)\ (3,843)\ (6,834)$$
$$+0.104FAC3\_3 + \varepsilon$$
$$(2,025)$$

As Equation 2 shows, all factor regression coefficients have Student's (t) values greater than 1. Moreover, these coefficients are significantly different from zero.

Overall, the effect of family governance is positive on firm performance. The main lesson learned is that the model is able to better explain performance since it has a higher explanatory power than the previous one.

Finally, the hypothesis H2, according to which the characteristics of family involvement positively influence the performance of family SMEs is validated.

5.1.4. Regression Tests Between Governance, Family, Altruism and Performance: Model 3

We test the hypothesis 3 according to which the modalities of the owner-manager's altruism influence positively or negatively according to the modalities on the performance of Chadian family SMEs. To do this, the indices will be calculated according to the methodology described above with successive additions of the altruism constructs of the M2 model.

The results of the regression test of model 3 on the relationship between governance, family and altruism factors on performance are shown in the table below. Based on all the indices, model M3 has a better fit than model M2. The sum of the R2's relative to the M2 model and the total explanatory power improve. All estimated coefficients are presented in the Table 5.

Table 5. Linear regression result for model 3.

Coefficients	Value of coefficients by assumption	Recognized standards
R	0.749^a	Close to 1
R-two	0.562	R-two > 0.5
R-two adjusted	0.544	
Standard error of the estimate	0.675	
Fisher coefficient of significance (p) at degree of freedom DL	F=31.854 ; P=0.000 $DL_1 =7$ $DL_2 = 174$	F> Flu ; p <5%
Student's t at significance (p)	$a = -1.051^{E-17}$ (t = 0.000) $b1 = 0.393$ (t = 5.490) $b2 = 0.356$ (t = 6.227) $b3 = 0.206$ (t = 3.395) $b4 = 0.345$ (t = 6.056) $b5 = 0.091$ (t = 1.743) $b6 = 0.073$ (t = 1.383) $b7 = 0.013$ (t = 0.224)	t (Significant) i.e. $\neq 0$; p < 5%

Note: a. Predicted values: (Constants), professionalism orientation, family member behavior, governance formalism, relation and delegation, family member training level, staff training level and pro experience, professional conflicts.

Thus, for the M3 model, we find a coefficient of determination with a value of 0.749a clearly satisfactory. But non-significant effects emanating from the two altruism factors (Behaviors of family members and Orientation towards professionalism) on performance. Nevertheless, the model is powerful since the Fisher test is significant at the 0.000 level for 7 and 174 degrees of freedom. The M3 model can therefore be represented by the following equation:

$$F1\_1 = -1.051E - 17 + 0.393FAC1\_2 + 0.356FAC2\_2 + 0.206FAC1\_3 + 0.345FAC2\_3 \quad (3)$$
$$(0,000)\ (5,490)\ (6,227)\ (3,395)\ (6,056)$$
$$+ 0.091FAC3\_3 + 0.073FAC1\_4 + 0.013FAC2\_4 + \varepsilon$$
$$(1,743)\ (1,383)\ (0,224)$$

As this equation shows, the values of the (t) statistic are well above zero and both the constant and the regression coefficient of the explanatory variable are significantly different from zero at the zero threshold.

In view of all these results, all indicators are significant except for the two altruism factors. The M3 model has a paradoxical result: by introducing the two altruism variables, we find that they have no statistically significant explanatory power on performance, but that their introduction in the model improves (albeit slightly) the explanatory power of the other variables, those of governance and those of the family. We conclude that the hypothesis is partially validated.

5.2. Comparative Study of the Study's Sub-Samples

Two sub-samples of Chadian SMEs were constituted, one composed of formal enterprises (EFs), and the other of informal enterprises (EIs). To conduct this the results of the statistical tests will be examined to analyze the extent to which the sign of the observed differences varies between these two types of firms. The results of the statistical tests will be examined to analyze the extent to which the sign of the observed differences varies between these two types of firms.

5.3. Regression Tests of Model 1 for Formal and Informal Firms

The following Table 6 summarizes the data.

Table 6. Comparative performance of model 1 EFs and EIs.

Formal businesses (N = 130)					Informal enterprises (N = 52)				
Model 1	**Non-standardized coeff.**		**Coef. stand.**	**t**	**Sig.**	**Coef no stand.**	**Coef. stand.**	**Coef stand.**	**t**	**Sig.**
	A	**Error stand**	**Bêta**			**A**	**Error stand**	**Bêta**		
(Constant)	-0.56	0..067		-0.842	0.401	0.125	0.123		1.016	0.315
Governance formalism	0.380	0.066	0.399	5.721	0.000***	0.428	0.120	0.415	3.557	0.001**
Relationships and delegations	0.427	0.065	0.457	6.550	0.000***	0.489	0.132	0.432	3.703	0.001**

Note: ***Significance at 1% threshold and **Significance at 5% threshold.

From the results in the Table 6, observing the coefficients of the two factors governance formalism and relationships and delegations in model 1 of the regression, it can be concluded that formal firms perform better than informal firms.

5.3.1. Regression Tests of Model 2 For Formal and Informal Firms

The following Table 7 shows the results of the regression tests of the M2 model.

Model three regression tests of formal and informal companies on the relationship between governance, family, altruism and performance are summarized in the Table 8.

Table 7. Comparative performance of EFs and EIs in the model 2 relationship.

Formal businesses (N = 130)						Informal enterprises (N = 52)				
Model 1	**Non-standardized coeff.**		**Coef. stand.**	**t**	**Sig.**	**Coef no stand.**	**Coef. stand.**	**Coef stand.**	**t**	**Sig.**
	A	**Error stand**	**Bêta**			**A**	**Error stand**	**Bêta**		
(Constant)	-0.020	0.078		-0.256	0.799	-0.093	0.096		-0.965	0.339
Governance formalism	0.426	0.086	0.344	4.972	0.000***	0.208	0.103	0.225	2.021	0.492
Relationships and delegations	0.546	0.092	0.552	5.949	0.000***	0.283	0.089	0.334	3.193	0.002**
Professional conflict	0.031	0.084	0.030	0.365	0.716	0.356	0.117	0.321	3.044	0.004***
Internal relations. training and experience	0.398	0.087	0.319	4.603	000***	0.355	0.103	0.369	3.437	0.001***
Negative influence of family relationships and training of family members	0.048	0.091	0.039	0.531	0.597	0.018	0.098	0.020	0.187	0.852

Note: ***Significance at 1% threshold and **Significance at 5% threshold.

Table 8. Comparative performance of EFs and EIs in the model 3 relationship.

Formal businesses (N = 130)						Informal enterprises (N = 52)				
Model 1	**Non-standardized coeff.**		**Coef. stand.**	**t**	**Sig.**	**Coef non stand.**	**Coef. stand.**	**Coef stand.**	**t**	**Sig.**
	A	**Error stand**	**Bêta**			**A**	**Error stand.**	**Bêta**		
(Constant)	-0.066	0.059		-1.112	0.264	0.273	0.119		2.283	0.027*
Governance formalism	0.326	0.060	0.342	5.467	0.000***	0.156	0.127	0.151	1.225	0.227
Relations et délégations	0.328	0.063	0.351	5.243	0.000***	0.456	0.149	0.402	3.061	0.004**
Relationships and delegations	0.197	0.070	0.208	2.840	0.005***	0.325	0.156	0.278	2.081	0.043**
Internal relations. training and experience	0.290	0.069	0.286	4.184	0.000***	0.518	0.130	0.480	3.979	0.000***
Negative influence of family relationships and training of family members	0.040	0.064	0.039	0.619	0.537	-0.013	0.108	-0.014	0.122	0.9503
Negative behaviors of family members	0.142	0.065	0.143	2.196	0.030**	-0.007	0.118	-0.007	0.062	0.951
Elderly executive and orientation towards formalism	0.044	0.066	0.046	0.656	0.513	0.005	0.129	0.005	0.037	0.970

Note: ***Significance at 1% threshold **Significance at 5% threshold and * Significance at 10% threshold.

The results of the regression tests show a non-significant relationship between the altruism factors except for the negative behaviors of family members, but a more significant relationship for informal firms.

The outperformance of EFs can be explained by the convergence of interests thesis and stronger growth when considering the family governance performance of EIs. A possible explanation for this phenomenon would be a greater emphasis on agency costs.

6. ANALYSIS AND DISCUSSION OF RESULTS

Mustakallio and Autio (2002) have shown that the relational perspective, in addition to a contractual perspective, of the governance of family SMEs significantly influences the performance of the firm. This nuances what the "usual" approach of the theory of the agency postulates. For example, Arrègle and Mari (2010) and Gallo et al. (2004) note that EFs can use contractual mechanisms (formal control), such as the Board of Directors. This aligns interests between family shareholders and managers (Fama & Jensen, 1983; Jensen & Meckling, 1976). Of course, our results validate the importance of the formalization of governance (governance formalism axis). But the positive effect of the relational dimension of governance on performance is also established by our correlations (relations and delegations axis). The formal mechanisms do not therefore fully exhaust the positive effect of governance on performance than the informal ones.

The use of structural elements of governance (Board of Directors, Executive Board) for strategic decision making in the EFs is still mandatory. The strategic direction and exercise of power by the owning family, on the other hand, most often takes place in more informal arenas (Melin & Et Nordqvist, 2000). Thus, while they provide an opportunity to discuss important strategic issues, board meetings are still focused on formalities (Melin & Et Nordqvist, 2000). In the case of Chad, the real decisions are made elsewhere: unplanned meetings or gatherings, private interactions between influential actors. They may also be irregular contacts that may involve the same family members, or different combinations of them, and involve relevant external actors. This explains the positive effect of the "relationships and delegations" axis.

Given that performance is a unidimensional concept in our analyses, we find a model that reduces to simple linear regression with a value of T that is satisfactory since it rejects the null hypothesis at a comfortable threshold of 0.000. We obtain for this proposition the same result as those of Arrègle and Mari (2010) Indeed, they concluded that the existence of an advantage specific to EFs and which is defined as: "organizational processes" specific to an EIs will allow it to develop a strong performance to other nonfamily firms when they underlie factors related to altruism seeking the same interests. Our results are also consistent with those of Allouche and Amann (2002) who showed that EFs are characterized by superior performance compared to EIs. The results of these studies are often interpreted as the manifestation of a more efficient management resulting from the family nature of the firms. Our results thus validate one of the most fundamental criticisms of the application of agency theory to formal FEs: the social dimension in the relationship between agent and principal is not explicitly taken into account in agency theory because it cannot be expressed in strictly contractual terms.

The formal Chadian FEs usually seeks to maintain its values through the evolution of the enterprise by developing special ties with the community through the involvement of members in local affairs. The objectives are therefore different from those of the economic sphere and are more akin to family culture. In addition, these enterprises have a multitude of relational governance mechanisms (e.g., communication, cohesion) based on the dominance of kinship ties that they have Mustakallio and Autio (2002) and Ndjambou and Sassine (2014).

7. CONCLUSION

The objective of this research is to analyze the effects of governance on the performance of Chadian family SMEs. It is worth recalling that the term governance has been defined in this research on the basis of the concepts mentioned in the model.

For the statistical tests, we conducted an analysis on the overall sample, formal firms and informal firms. We conclude that governance and family positively explain the performance of family SMEs and the results are complex for altruism.

Indeed, for models 1, 2 and 3, the linear regression was done on the overall sample by comparing their performances. The validation of models 1 and 2 led us to believe that from now on the two approaches "agency" and "stewardship" can be of great help in predicting principal-agent relations in family SMEs and in formulating strategic management proposals aimed at the emergence and development of governance in family SMEs. The regression showed better performance of formal firms than of informal firms informal. These results seem logical to us because, a priori, the formal relationships in the directions are stronger and any effort at formalism has more positive effects.

The results, validating model 1 and 2 and partially invalidating model 3 of this research's proposals.

The results of this research give rise to theoretical and managerial contributions.

On the theoretical level, this research revives the scientific debate on the governance of family-owned SMEs and their performance, although there is a lack of work on this issue in the context of SMEs, which puts the concepts of governance and performance on a continuum. The other contribution is the mobilization and validation of the complementarity of the theoretical approaches mobilized (Agency and Stewardship) which allowed to highlight several external factors that served to build an original conceptual framework, likely to be reproduced in other research fields.

On the managerial level, the governance, family and altruism factors identified will allow the SMEs to carry out a diagnosis in order to identify the strong points to establish the strategy and the weak points to be improved. Finally, it would be relevant to integrate the contributions of other theoretical approaches, in particular the theory of property rights and the theory of resources (Resources Based View) in order to deepen the specifications of the fundamental

variables of the model. In particular, it would be appropriate to develop the dimensions of the family manager's altruism towards the family and the firm in terms of employment, and in terms of better relations with employees.

REFERENCES

Abate, A. M. (2017). Transition from informal to formal businesses: Gray zones as a facade entrepreneurial strategy. *Revue Africaine de Management, 1*(2), 1-21.

Allouche, J., & Amann, B. (1998). Trust: An explanation of the performance of family businesses. *Economies and Societies, Management Sciences, Series SG, 8-9*, 129-154.

Allouche, J., & Amann, B. (2000). The family business: A state of the art. *Finance Contrôle Stratégie, 3*(1), 33-79.

Allouche, J., & Amann, B. (2002). The managing shareholder of the family business. *Revue Française de Gestion, 28/141*, 109-130.

Amann, B., Berger, P., Gattaz, Y., & Monassier, B. (2011). The governance of family businesses. In (pp. 117). Paris: Lexis Nexis.

Ampenberger, M., Schmid, T., Achleitner, A.-K., & Kaserer, C. (2013). Capital structure decisions in family firms: Empirical evidence from a bank-based economy. *Review of Managerial Science, 7*, 247-275. https://doi.org/10.1007/s11846-011-0077-2

Arrègle, J.-L., & Mari, I. (2010). Advantages or disadvantages of family businesses? Main research results and perspectives. *Revue Française de Gestion*(1), 87-109. https://doi.org/10.3166/rfg.200.87-109

Barney, J. B. (2014). How marketing scholars might help address issues in resource-based theory. *Journal of the Academy of Marketing Science, 42*, 24-26. https://doi.org/10.1007/s11747-013-0351-8

Barrédy, C. (2007). *Theoretical reflection on the interest of external directors in listed family businesses.* Paper presented at the International Conference of Strategic Management.

Bauweraerts, J., & Colot, O. (2013). Firm performance and family ownership: An accounting approach. *The Review of Management Sciences*(5-6), 207-216.

Bentebbaa, S., Pacitto, J. C., Louitri, A., & Abdoune, R. (2018). Do family businesses learn differently? Effects of ambivalent attributes of the family business on the learning of individuals and the organization. *Research in Management Sciences, 127*(4), 161-186.

Berle, A., & Means, G. (1932). The modern corporation and private property. *Mac Millan: New York, 1932. Business Review, 2*(3), 257-276.

Besson, D. (2021). HRM in African countries: The culturalist trap as a lesson. *Revue Internationale des Sciences de l'organisation*(2), 17-54. https://doi.org/10.3917/riso.011.0017

Chrisman, J. J., Chua, J. H., De Massis, A., Minola, T., & Vismara, S. (2016). Management processes and strategy execution in family firms: From "what" to "how". *Small Business Economics, 47*, 719-734. https://doi.org/10.1007/s11187-016-9772-3

Djimnadjingar, R. (2012). *Governance and performance of family SMEs in Chad*. Doctoral Thesis in Management Sciences, IAE January, Lille, 444.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law and Economics, 26*(2), 301-325.

Gallo, M. Á., Tàpies, J., & Cappuyns, K. (2004). Comparison of family and nonfamily business: Financial logic and personal preferences. *Family Business Review, 17*(4), 303-318. https://doi.org/10.1111/j.1741-6248.2004.00020.x

Hugon 1, P. (2014). The "informal" or small market production revisited forty years later. *Monde en Développement, 2*, 17-30. https://doi.org/10.3917/med.166.0017

Jensen, M., & Meckling, E. W. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics, 3*, 305-360.

Louis, J., & Filion, E. L. (2011). Sharing the vision in very small businesses. *Dans Entreprendre & Innover Janvier-Février, 9-10*, 7-20.

Ltaief Chibani, F., Henchiri, J. E., & Et Degos, J.-G. (2016). The contrasting financial structure of French family businesses: An approach based on the theory of compromise. *The Financial Review, 38*(219), 30−50.

Ltaief, F. C., & Henchiri, J. E. (2016). The financial structure of family businesses: An analysis based on the pecking order theory. *Journal of Academic Finance, 7*(2), 84−97. https://doi.org/10.59051/joaf.v7i2.71

Meier, O., & Schier, G. (2016). The early succession stage of a family firm: Exploring the role of agency rationales and stewardship attitudes. *Family Business Review, 29*(3), 256-277.

Melin, L., & Et Nordqvist, M. (2000). *Corporate governance in family firms: The role of influential actors and the strategic Arena*. Paper presented at the The ICSB Conference, 2000, Brisbane, June 2000.

Michiels, A., & Molly, V. (2017). Financing decisions in family businesses: A review and suggestions for developing the field. *Family Business Review, 30*(4), 369-399. https://doi.org/10.1177/0894486517736958

Mustakallio, M., & Autio, E. (2002). *Governance, entrepreneurial orientation and growth in family firms*. Paper presented at the Communication at the 13th FBN Conference, Helsinki.

N'DRI, A. E. (2017). The choice of governance mechanisms in Ivorian family SMEs. *Revue Ivoirienne des Sciences Economiques et de Gestion-RISEG Rev. Iv. Sci. Eco. Gest, 3*(1), 127-139.

Ndjambou, R., & Sassine, M. (2014). Study of the relationship between manager profile, culture and performance of Gabonese SMEs: Clarification of skills and vision. *Management and Organization Review, 6*(1), 7-19.

Ross, S. A. (1973). The economic theory of agency: The principal's problem. *The American Economic Review, 63*(2), 134-139.

Roussel, P., Durrieu, F., Campoy, E., & El Akremi, A. (2002). *Structural equation methods: Research and applications in management*. Paris: Economica.

Schulze, W. S., Lubatkin, M. H., & Dino, R. N. (2003). Exploring the agency consequences of ownership dispersion among the directors of private family firms. *Academy of Management Journal, 46*(2), 179-194.

Schulze, W. S., Lubatkin, M. H., Dino, R. N., & Buchholtz, A. K. (2001). Agency relationships in family firms: Theory and evidence. *Organization Science, 12*(2), 99-116. https://doi.org/10.1287/orsc.12.2.99.10114

Sharma, P., Chrisman, J. J., & Gersick, K. E. (2012). 25 years of family business review: Reflections on the past and perspectives for the future. *Family Business Review, 25*(1), 5-15.

Steier, L. P., Chrisman, J. J., & Chua, J. H. (2015). Governance challenges in family businesses and business families. *Entrepreneurship Theory and Practice, 39*(6), 1265-1280. https://doi.org/10.1111/etap.12180