Management Controls' effects on the entrepreneurial orientation in Developing North African economy (Case of Morocco)

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Résumé

Bien que l'importance de l'orientation entrepreneuriale en termes de performance ne soit pas incontestée, peu d'études ont examiné comment les systèmes de contrôle de gestion sont liés à cette orientation. Le concept de contrôle ou d'orientation entrepreneuriale varient considérablement entre les études. Notre recherche adapte le contrôle de gestion comme un cadre global et vise à contribuer à l'identification des comportements adoptés par les entreprises marocaines. Tout, en prenant en considération les sous-dimensions individuelles de l'orientation entrepreneuriale, avec un accent particulier sur l'efficacité de la motivation des employés et les pistes potentiels d'amélioration dans le processus d'allocation des ressources et enfin d'avoir part aux études de terrain en cours sur le relâchement organisationnel. Des données empiriques provenant de 89 entreprises ont été utilisées pour répondre aux questions de recherche.

Mots clés: contrôle de gestion; orientation entrepreneuriale; participation budgétaire; mesures budgétaires; mesures non financières.

Abstract

The study of the link between management control and its orientation has not been at the heart of many studies despite the logical link between both concepts. In fact, the studies that mention the link offer different answers. In this context, our research adapts management control as a comprehensive framework and aims to contribute to the identification of the behaviours adopted by Moroccan companies. While, takes into consideration the individual's sub-dimensions of entrepreneurial orientation, with a particular focus on the efficiency of employees' motivation and potential areas for improvement by enabling managers to participate in the resources allocation process and actively contribute to current field studies in the sphere of organizational release. Empirical data from 89 Moroccan companies were used to answer the research questions.

Keywords: management control; entrepreneurial orientation; budgetary participation; ownership; budget measures; non-financial measures.

INTRODUCTION

According to the report on the new development model: financing, access to public procurement, regulation, training, the relationship with the administration...are axes to be developed for SMEs (white paper CGEM 2021. P36). In Morocco, SMEs are placed at the center of the concerns of all stakeholders: public authorities, credit institutions, universities, investors, Morocco SMEs, etc. Moroccan SMEs remain very sensitive to the influences of their ecosystem and their environment, because of their size and their financial and structural fragility (Jaouhari Tissafi and Jellouli 2022).

In this regard, many works devoted to business entrepreneurship show that innovation is one of the relevant factors to measure the organizations' success. Yet, innovators should initially take significant risks while developing and promoting their innovations.

Innovators should also act quickly to ensure that no competitor has already occupied the space of their innovation (Miller 1983; Covin and Sleven 1991). Corporate entrepreneurship is considered a phenomenon at the enterprise level and an organizational outcome because it is more or less a new entry. The results of several studies confirm that corporate entrepreneurship has a positive impact on firms' profits and growth.

To achieve corporate entrepreneurship, enterprises should be entrepreneurship-oriented (Lumpkin and Dess 1996). Over the last 25 years, a significant amount of empirical research on entrepreneurial orientation has been published. However, few studies have examined how managerial control can help a business move towards entrepreneurship.

Additionally, among these articles, most researchers have studied the relationship between entrepreneurial orientation and individual controls, while management controls have been more frequent. This finding is disturbing as, according to Otley (1980) and Malmi and Brown (2008), management accounting researchers have referred to the study of management controls as an essential element of the company's strategy.

Malmi and Brown (2008) argued that controls do not operate independently, as new controls may influence other ones.

Miller and Frizer (1982) studied conservative and entrepreneurial firms to determine their differences in what concerns environmental analysis activity and the effectiveness of control systems.

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However, when Simons (1987) compared prospectors and advocates, he found big differences in their use of budget controls, cost controls and rewards.

Barringer and Bluedorn (1999) considered strategic and financial controls simultaneously, but were unable to find the link between financial controls and entrepreneurial orientation.

In the local context, a study carried out in 30 Moroccan SMEs, Elhamma (2014), confirms that management control tools significantly improve business performance, with a focus on innovation among other factors.

Lastly, according to (Jaouhari Tissafi and Jellouli (2022) organization size appears to be the most significant predictor of MCS change in organizations.

These diverse and sometimes contradictory results can be explained by different measures of entrepreneurship and very different measures of entrepreneurial orientation. Up to date, Simons (1987) is the only study, which has considered a complete accounting layer of all management controls. Yet, this study is not comparable as the measures applied to entrepreneurial orientation is not part of this stream of literature.

Hence, the research questions can be stated as follows:

- What type of management controls show significant ties to the sub-dimensions of social entrepreneurship orientation when considered as a whole?
- Do some elements require more attention than others do?

To answer these questions, the study at hands uses combined hypothesis testing methods and tracks of exploratory analysis; and hence, this article is organized as follows:

- Section 2: A brief introduction to the main concept of the document.
- Section 3: Presentation of the statistical results of the empirical study.
- Conclusion.

1. LITERATURE REVIEW

Several frameworks have been proposed for empirical studies on management control. The introduction of management control systems in academic research generally dates back to Anthony (1965), who distinguished strategic control, management control and quality control. Anthony (1965) distinguished between strategic control, management control and operational control (Anthony & Govindarajan, 2007). Simons (1995) developed the levers of a control

framework, which notes that management controls are not simply accounting controls; without taking into account belief systems, boundary systems, diagnostic control and interactive control. Simons (1995) categorized management control not on the basis of an oriented dimension, but on the basis of an objective-oriented vision. Other researchers, however, have stuck to instrument-oriented vision.

Otley (1999) and Ferreira and Otley (2009) have suggested a starting control framework which also takes into consideration structural and strategic items as management tools. In 1985 Merchant has begun developing a different understanding of management control systems, which later on evolved to the Merchant and van der Stede manual (2003, 2012). Within their framework, accounting controls are a subset of the results' control, which is supplemented by the control of actions, the control of the staff and the control of quality which is supplemented by the control of actions, staff control and cultural control.

The most recent approach, which also summarizes all prior approaches, is Malmi & Brown (2008). According to this framework, management control may be conceptualized in four distinct levels: cultural control, accounting control, management control, and administrative control.

The accounting control layer comprises planning, cyber security, and reward control. Because their approach is the most intuitive, their accounting control layer provides the framework for the direction of research in this article entrepreneurship can be studied in relation to an individual at the subject level in a real entrepreneurial or small business context. Yet, organizations can also engage in entrepreneurial behavior, and entrepreneurship can be scoped as a characteristic of the organization (Covin & Slevin (1991)).

Miller (1983) has treated entrepreneurship as multi-dimensional product in terms of the ability to innovate new product-market combinations or technology renewals; the demonstrated risk-taking in the companies' actions, and the proactivity present in the behavior of companies, Lumpkin and Dess (1996) added autonomy in decision-making and competitive aggressiveness to these dimensions.

The effect of entrepreneurial orientation on business performance has been studied many times. A meta-analysis of Rauch et al. (2009) has found a positive and significant relationship in the size effect of =0,24. Many studies have treated entrepreneurial orientation as a one-dimensional concept of higher order. The present study, therefor, attempts to contribute to this stream of research by providing information on a dimensional level.

However, George and Marino (2011) argued that, in such a research model, important information about how the individual sub-dimensions of entrepreneurial orientation are influenced by certain backgrounds. Covin and Wales (2012) supported this line of argument, and presented several alternatives for measuring entrepreneurial orientation.

2. MODELIZATION

Through our research, we propose to contribute to the identification of the behaviors adopted by Moroccan companies, emphasizing the following hypotheses:

H1: External information that is (more rational) will be positively related to social entrepreneurship and competitive aggressiveness.

H2a: Budget deficit is positively related to all sub-dimensions of social orientation.

H2b: Fiscal space has a U-shaped relationship with all of the social orientation sub dimensions.

H3: Non-financial performance measures in internal reporting are positively related to social enterprise.

H4: Non-financial performance measures in compensation contracts will be positively linked to corporate entrepreneurship.

H5: Budget participation moderates the relationship between management control systems and the sub-dimensions of social orientation.

From these hypotheses and based on the theories and models already mentioned, we have been able to list the variables on which we will work.

- Dependent variables (effect) management control
- Independent variable(s) (cause) social entrepreneurship
- Categorical variables age, gender, height…

This empirical research also allowed us to refine the conceptual model on the basis of a convergence of a set of isolated models, and then harmonized by the results of the survey, to give birth to the end of our proposed model of the specific SD management for the optimal implementation of SD/CSR in Moroccan companies.

From these models and theories, we were able to develop our conceptual model where in an environment conducive to social entrepreneurship, companies can have social management control through the influence of innovation, risk taking, proactivity.
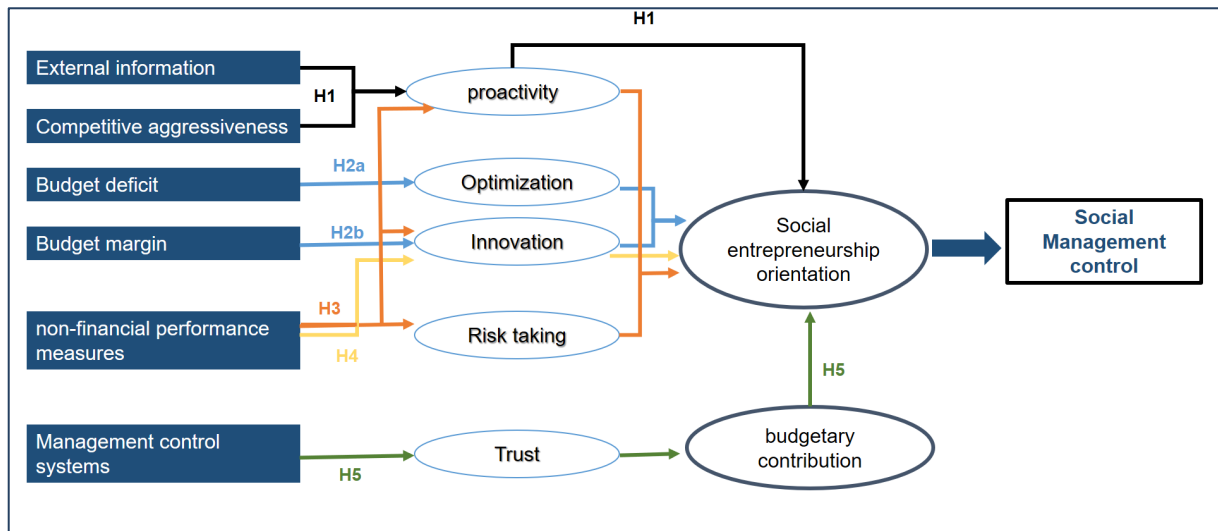
3. RESEARCH FINDINGS

The six items of the prediction scale: external view has reached a Cronbach alpha of 0.63. Having removed the first element of the scale, the Cronbach alpha has been raised to 0.67 and is deemed acceptable. Comparative budgeting has reached a Cronbach alpha of 0.80. An analysis of the main factors was carried out on the measures of release in order to validate the constructed scales.

Chart 2 provides the analysis findings, which identified three factors. The findings indicate that both Nohria and Gualati's (1996) release scale and the questions related to Simon's (1988) release problem scale can be added to a common index. This scale can be understood as a requirement for efficiency orientation, which is inversely coded for the purposes of this study. What is more, the findings indicate that two low-load and high-uniqueness elements must be omitted from the scale before analyzing the data.

Once omitting an element the Onsi attitude scale (1973), the Cronbach alpha dropped from 0.76 to 0.81. The budgetary room final scale for maneuver reaches a Cronbach alpha of 0.64. According to several authors (Simons 1988; Van der Stede 2001; Auzair and Langfield-Smith

2005), the absolute minimum value of the Cronbach alpha scale is 0.6. Given the fact that the used scales have been applied in several other studies, accepting such a low value seems to be justified. Finally, having removed the last item from the scale of restriction of budget target, we obtained a Cronbach alpha coefficient of 0.81; meanwhile the budgetary participation reached a Cronbach level of 0.66. The sub-dimensions of the entrepreneurial orientation scale, widely used in academic research, have reached a Cronbach alpha coefficient of 0.67 for risk-taking, 0.68 for innovation, 0.69 for proactivity and 0,68 for competitive aggressiveness.

Having carried out regression analyses, several diagnostic tests for the final solutions have been performed. No influential cases were found, Cook's distance always being less than 4/N.

Multiple-collinearity has not been an issue since the variance inflation factor has never exceeded 1.53. Some residues violated the hypothesis of the normal distribution of error terms, which has been corrected by a power transformation of risk-taking dependent variables (= 0.5) and innovation capacity (= 2). The White heteroscedasticity test has not revealed any significant results. The variables used to calculate the interaction effect with budget participation have been averaged to avoid multiculturalism.

Chart 2 and 3 introduce the regression analysis results. For each model, we started by focal, control variables, and used step regression to identify coefficients, which are least weakly significant. Step regression comprises the risk of data over-adjusting. The author has taken two measures in his attempt to minimize the effects of excessive adjustment.

First, the included variables are already well grounded in the theory, whereas the excessive adjustment mainly occurs in situations where regression analysis is used to explore data.

Second, for each dependent variable, chart 1 includes the same independent variables for the sample and the sub-samples, making it easier to compare the results of the complete sample to those of the partial one. Therefore, it is easier to compare the results of the complete sample regressions and the risk-taking subsample regressions.

Chart 1: Correlation Matrix

	Average	1	2	3	4	5	6	7	8	9	10	11	12
1 risk-taking	8.85												
2 Innovation capacity	13.53	.27***											
3 Proactivity	13.41	.14 †	45***										
4 Competitiveness	9.49	.26**	.24**	.26**									
5 Prediction: external view	17.66	.02	.15 †	.18 *	.09								
6 Budget benchmarking	10.11	.07	.13 †	.04	.01	.44***							
7 Attitude towards slackness	10.18	.13	-.12	-.11	.12	.09	.19 *						

8 fiscal room	17.48	-.12	-.03	-.10	.10	.00	.04	.01				
9 Tightening Fiscal Targets	10.51	.00	.09	-.03	-.05	-.06	.04	-.14 †	.08			
10 Non-Financial Measures in Internal Reporting	0.52	-.04	.18 *	.26***	-.02	.16 *	.08	-.16*	.03	.07		
11 Budget contribution	22.87	-.13	-.05	.06	.00	.09	-.07	-.10	-.03	.07	.00	
12 Size	1913.89	.19 *	.13	.16 †	.05	.18 *	.22**	.06	-.11	.04	-.03	.07
13 Environnementale Turbulences	35.08	.03	.11	-.07 .	21**	.04	.09	-.02	.14 †	.15 †	.11	.11	.01

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; N=110

The presentation of all appropriate coefficients also makes it easier to recognize models. Yet, the best model is the one that includes low significant coefficient only. Therefore, chart 2 also includes information on systematic regression also contains information on the entirely step-by-step regressions (called final regression or identification models).

None of the stepwise regression has revealed a significant relationship for the non-financial measures variable in reward and compensation, while the results obtained for non-financial measures in the internal reporting have been satisfactory. Thus, chart2 and 3 do not show this variable.

Chart 4 presents a more in-depth testing of the relationship between the non-financial measures and the sub-dimensions of entrepreneurial orientation in order to identify potential U-shaped relations. To this end, the linear and the quadratic terms were treated as a block in a manual stepwise regression procedure (see chart 4).

The sub-dimension of risk-taking of entrepreneurial orientation in the full sample is significantly influenced by the size of the enterprise ($\beta = 0.19$; $p = 0.011$) solely, resulting in a low variance explained 3,7%. However, the impression changes after having divided the sample into low- and high-budget enterprises. For low-equity companies, the outcomes remain stable, with only the size of the company ($\beta = 0.25$; $p = 0.018$) being a significant predictor of risk-taking. The variance discussed improves gradually to reach 6.2%. The outcomes obtained for the high-participation sub-sample are contradictory to these results.

Benchmarked budgeting is highly significant ($\beta = -0.23$; $p = 0.025$) and negatively linked to risk-taking when budgetary participation is high. This effect is offset by the attitude towards budgetary leeway, which is highly significant ($\beta = 0.29$; $p = 0.005$) and positively linked to risk-taking when budgetary participation is high. In a surprising way, the objective narrowness is also related positively ($\beta = 0.22$; $p = 0.044$) to risk-taking. Among the control variables, instead of size, environmental turbulence can be significantly positively related ($\beta = 0.25$; $p =0.020$) to risk-taking.

In the high-participation subsample, the described variance dropped to 21.4%, and the Fisher (F) test value becomes highly significant, suggesting that this model is very well suited to explain risk-taking. To compare the supporting effect of these management control elements for the risk-taking sub-dimension of entrepreneurial orientation, it is essential to redo the regressions with all relevant variables incorporated in all sub-samples. The first columns of chart 3 exhibit the outcomes. The coefficients for comparative budgeting, attitude towards

slack, attitude towards fiscal flexibility, the tightening of fiscal targets and environmental turbulence are all insignificant for the full sample and the low-participation sample.

Chart 2: Standardized regression results- final (identification) models

Variable	Risk-taking			Innovation			Proactivity			Competitive aggressiveness		
	F	L	H	F	L	H	F	L	H	F	L	H
Independent variables												
forecasts external view							$.13^{\dagger}$		$.33^{**}$	$.15^{\dagger}$		$.32^{**}$
Benchmarking Budgeting			$-.23^{*}$		$.25^{*}$				$-.24^{*}$			$-.23^{*}$
Attitude towards Fiscal room for maneuver			$.29^{**}$		$-.28^{*}$			$-.18^{\dagger}$				$.26^{*}$
Fiscal room for maneuver									$.23^{*}$			
Budget target			$.22^{*}$									
Non-financial measures				$.14^{\dagger}$			$.27^{***}$	$.34^{**}$	$.20^{\dagger}$	$-.14^{\dagger}$	$-.17^{\dagger}$	
Control variables												
Environmental turbulence			$.25^{*}$		$.19^{\dagger}$					$.30^{***}$	$.20^{\dagger}$	$.43^{***}$

Size	.19[*]	.25[*]		.14[†]			.23[*]				
R²	.037	.062	.214	.160	.134		.101	.219	.212	.118	.071	.299
Adjusted R²	.031	.052	.174	.119	.102		.090	.191	.171	.101	.049	.261
F	6.6[*]	5.79[*]	5.30[***]	3.91[**]	4.27[**]		9.22[***]	7.78[**]	5.14[*]	7.17[***]	3.28[*]	7.79[***]

[†] $p < 0.10$; [*] $p < 0.05$; [**] $p < 0.01$; [***] $p < 0.001$

Yet, as indicated in the first three columns of chart 4, however, as indicated in the first three columns of Table 4, the beta coefficients of the variables in the complete sample are always situated between the coefficients of the low and high participation subsample.

Given the cumulative errors, a statistical test for these differences is not achievable. Nonetheless, the differences between the low and high participation samples are clearly visible and help to provide at least some clues to the proposed relationship. A few management control only can be linked to innovation capacity.

Non-financial performance measures ($\beta = 0.14$; $p = 0.063$) and the organizational size control variable ($\beta = 0.14$; $p = 0.055$) are of low significance in the full sample.

However, this model still accounts for a 16% variance and has a highly significant F-value, suggesting that it adapts well to the data. It is worth noting that after having introduced participation as a moderating variable, other significant predictors appear for the sub-sample of low participation enterprises, but none for the sub-sample of high participation enterprises.

Table 3: Results of standardized regressions - full models

	Risk-taking			Innovation			Proactivity			Competitive aggressiveness		
Variable	F	L	H	F	L	H	F	L	H	F	L	H
Independent variables												
Forecasts							.16[*]		.35[**]	.16[*]		.34[**]

External view								-.03			.00	
Benchmarking Budgeting	-.04	.17	-.25*	.05	.18	-.03	-.10	.12	.24*	-.08	.10	-.22*
Attitude towards Fiscal room for maneuver	.09	-.14	.29**	-.08	-.24*	.03	-.10	-.20†	.03	.10	-.02	.26*
Fiscal room for maneuver							.11	.01	.19†			
Budget target	.03	-.10	.21*									
Non-financial measures				.18*	.17	.18	. 26***	34**	.19†	-.12	-.17	-.10
Control variables												
Environmental Turbulence	.09	-.04	.24*	.08	.20†					.31***	.21†	.44***
Size	.20*	.18†	.11	.14†	.13	.15	.14†	.19†	.04	.20*	.18†	.11
R²	.052	.097	.226	.080	.174	.055	.153	.231	.220	.128	.076	.308
Adjusted R²	.023	.041	.176	.051	.123	0	.121	.172	.157	.100	.018	.261
F	1.80	1.73	4.51**	2.83*	3.41*	0.90	4.77***	3.91**	3.46*	4.63*	1.30	6.45***

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

For enterprises with low participation, benchmarked budgeting (β = 0.25; p = 0.023) is significantly positively linked to innovation capacity. This effect is offset by the attitude towards fiscal slackening, which is significantly negatively related (β = -0.28; p = 0.011) to the innovation capacity. Instead of size, the environmental turbulence control is slightly negatively

related ($\beta = 0.19$; $p = 0.064$), but positively related to the tendency for innovation in low-participation enterprises. The models still exhibit 13.4% of the variance, but the Issue is lower than the full sample. With such a highly significant F-test value, the model is able to explain the observed data. The non-financial performance measures of the full sample are low significant and no results were obtained for the low-participation sample, so, we can reasonably expect that the high-participation group will contain information; the high participation model was used to explain the observed data. Instead, no significant predictor has been found for the capacity of innovation. Once more, by rerunning the regression with all the appropriate variables and considering the coefficients of all sub-samples, it has become clear that no variables were found. Again, the coefficients in all the sub-samples show clearly that budgetary participation could help to explain some differences in the contradictory results. The beta coefficient for comparative budgetary, the attitude fiscal space and the control of environmental turbulence in the full sample match perfectly to the arithmetic mean of the coefficients in the sub-low- participation samples.

However, concerning non-financial measures and size control, this conclusion cannot be drawn. In these cases, budget participation does not seem to have a moderating influence.

The complete models regressions also show that introducing the budgetary participation increases the given variable the subsamples by 8% in.

Concerning the proactivity, the results are significant. The use of an external perspective in forecasting is positively linked to proactivity, though it is slightly significant ($\beta = 0.13$; $p = 0.084$) in the

The use of an external point of view in forecasts is positively linked to proactivity, even if it is slightly significant ($\beta = 0.13$; $p = 0.084$) in the identification model.

After introducing budget participation, it is interesting to note that the effect disappears for the low-participation subsample and increases sharply to a highly significant effect in the high-participation subsample ($\beta = 0.33$; $p = 0.003$). It is worth noting that, after having introduced budgetary participation, the effect for the low-participation sub-samples disappears, and increases sharply to a highly significant effect in the high-participation sub-sample ($\beta = 0.33$; $p = 0.003$).

No effects can be found for comparative budgeting neither in the full nor in the low-participation sample. Yet, comparative budgeting, meaning the use of budgetary planning data, is significantly negatively related ($\beta = -0.24$; $p = 0.028$) to proactivity.

The attitude towards fiscal leeway is weakly related (β = -0.18; p = 0.071) to proactivity in the low-participation group in the low-participation subsample, while it is significantly positively related (β = 0.23; p = 0.071) to proactivity in the low positive participation subsample (β = 0.23; p = 0.031) to proactivity in the high-participation subsample.

Chart 4: Quadratic regression results for release measurements - final models

Variable	Risk-taking			Innovation			Proactivity			Competitive aggressiveness		
	F	L	H	F	L	H	F	L	H	F	L	H
Independent variables												
Forecasts **External view**			.25*		-.20†		-.13†	-22*		.17*		.20†
Benchmarking **Budgeting**												
Attitude towards **Fiscal room for maneuver**			.12		-.05		-.02	-.03		-.11		.00
Fiscal room for maneuver											-.21†	-.21†
Budget target											.07	.07
Non-financial measures	-.02	-.24†	.18†								-.26†	
Control variables												

Environmental turbulence	-.15†	-.29	.15							.32†	
R^2	.022	.058	.114		.045		.017	.052		.047	.119	.073
Adjusted R^2	.010	.036	.070		.023		.005	.029		.036	.077	.027
F	1.9	2.66	2.6*		2.00		1.46	2.30		4.26*	2.83*	1.59

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Non-financial measures in internal reporting are strongly and positively linked to proactivity in the high-participation subsample in the full sample ($\beta = 0.27$; $p = 0.000$) and in the low-participation subsample ($\beta = 0.34$; $p = 0.001$).

In the high-participation subsample, the relationship of non-financial measures in the internal reporting with the proactivity is weaker but remains positive ($\beta = 0.20$; $p = 0.063$).

The size control variable is a significant predictor of proactivity ($\beta = 0.23$; $p = 0.019$) only for low-participation enterprises. With the introduction of budget participation as a moderator, the variance explained increases from 10.1% in the full sample to 21.9% in the low-participation group and 21.2% in the high-participation group. Although the situation looks slightly different in the full model regressions, it must be recognized that the validities of the model risk having insignificant coefficients. Probably, the most relevant change in the complete model is that the size becomes weakly significant for the sample ($\beta = 0.14$; $p = 0.080$). What also becomes apparent is that the beta coefficients of the complete samples lie between the coefficients of the low- and the high-participation samples. Due to the accumulation of errors, testing these differences is by no means possible. Ultimately, the sub-dimension of entrepreneurial orientation, competitive aggressiveness, is related to proactivity. Expecting similar outcomes seems reasonable. Therefore, using external (i.e. more rational) data in the forecast is related to competitiveness, though it is only slightly significant ($\beta = 0.15$; $p = 0.053$) in the sample. Concerning the high-participation sample, the use of external data in the forecast is significantly positively related ($\beta = 0.32$; $p = 0.003$) to competitiveness. Such an outcome is also consistent with those of the proactivity.

Additionally, as the case of the proactivity, comparative budgeting is negatively linked to competitiveness. The outcomes for the relationship between the attitude towards fiscal slack

and competitiveness are notable. The attitude towards the budget slack is weakly related to the proactivity in the low-participation subsample, it is significantly positively related ($\beta = 0.26$; p = 0.010) to the competitive aggressiveness in the high-participation subsample.

No relationship can be found for the measure of the fiscal space. Given the relationship between the proactivity and the competitive aggressiveness, one could expect similar results for non-financial measures in the internal reporting. Yet, instead of a positive relationship, the non-financial measures of internal reporting are weakly significant and negatively related to competitiveness in the full sample ($\beta = -0.14$; p = 0.06) and the subsample at low participation ($\beta = -0.17$; p = 0.096). The control variable environmental turbulence is very strongly and positively related to competitiveness ($\beta = 0.30$; p = 0.000) as well as in the high-participation subsample ($\beta = -0.17$; p = 0.096

Though the discussed variance for the low-participation subsamples decreases to 7.1% compared to 11.8% in the full sample, introducing budgetary participation still increases the discussed variance to 29.8%.

Chart 5 considers slackening more closely to identify U-shaped relationships with the sub-dimensions of entrepreneurial orientation. Such results reveal few significant coefficients. The linear and quadratic terms coefficients must be interpreted together (Brannick 2010). As for risk-taking, no model is identified in the full sample. In the low-participation subsample, for fiscal tightening target, the linear ($\beta = -0.24$; p = 0.068) and quadratic ($\beta = 0.068$) coefficients are both identified, and the quadratic term ($\beta = -0.29$; p = 0.030) are associated in in a weakly significant way with risk-taking. In the high-participation subsample, a model with a significant F-value can also be identified. In this subsample, the attitude towards fiscal easing is significantly positively related to risk-taking ($\beta = 0.25$; p = 0.02), but not the quadratic term ($\beta = 0.12$; p = 0.301). The budget targets narrowness is slightly significantly related ($\beta = 0.18$; p = 0.094) to risk-taking, but not to the quadratic term ($\beta = -0.12$; p = 0.301).

Neither the innovation capacity nor the modal proactivity with significant F-value are identified, though the models include some significant coefficients. This outcome is an additional indicator, which indicates that release in itself is not sufficient, demonstrate the variance in the sub-dimensions of innovation capacity or proactivity.

Additionally, other control elements are required. Concerning competitiveness, models with significant F-values are identified for both the full sample and the low-participation subsample. Surprisingly, the attitude towards fiscal slackening is significantly negatively related ($\beta = -0.17$;

p = 0.027) to competitive aggressiveness in the entire sample. Once more, however, the quadratic term is not significant (β = 0.07; p =0.521). in the low-participation subsample, the fiscal space for manoeuver In the low-participation subsample, the fiscal room for maneuver is weakly and significantly related to competitive aggressiveness (β = 0.21; p = 0.521).

Chart 5: Budgetary participation as interaction effect

	Risk-taking	Innovation	Proactivity	Competitive aggressiveness
Variables (Chart 5)	2, 3, 5, 7, 8	2, 3, 6, 7, 8	1, 2, 3, 4, 6, 8	1, 2, 3, 6, 7
R^2	.0516	.0958	.1504	.1187
F	1.76	3.43**	4.52***	4.15**
Budgetary participation Variable ΔR^2	.0042	.0000	.0092	.0001
Budgetary participation with interaction ΔR^2	.0973**	.0242	.0796*	.0548†

† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001

This presentation of results previously gives several indications on the fact that the budgetary participation can be adapted to moderate the relationship between the element of a control and the sub-dimensions of entrepreneurial orientation.

The previous presentation of the results is not adapted to statistically test the significance of the addition of budgetary participation as a control, though it is very useful for their interpretation. Therefore, chart 5 summarizes the regression models, including modelled budget participation as an independent variable and an interaction effect.

Adding budgetary participation as an extra independent variable does not result in any significant or appropriate increase in the variance explained. Yet, modeling budget participation

as an interaction effect for each independent variable shows a highly significant increase in the explained variance for risk-taking ($\Delta < = + 0.0973$; $p = 0.00432$, a significant increase in proactivity ($\Delta < = + 0.0796$; $p = 0.02252$), and a slight significant increase in competiveness ($\Delta < = +0,0796$; $p = 0,02252$).

Analysis of the results

Hypothesis 1 states that:

H1: External (that is more rational) information will be positively related to social entrepreneurship and competitive aggressiveness.

This hypothesis received mixed support. Indeed, companies that use external information in their forecasts act more proactively and exert greater competitive aggressiveness, although the coefficients are weakly significant. This result is consistent with the findings of Li, Tse, and Gu (2006) and McEwen (2008). Support for this hypothesis is stronger in the high-participation sub-sample. Regarding the sub-dimensions of entrepreneurial orientation, the use of external data in forecasts is significantly related to proactivity and competitive aggressiveness. However, in the high turnout subsample, comparative budgeting is significantly negatively related to proactivity and competitive aggressiveness.

Benchmarked budgeting is not an element of control capable of stimulating entrepreneurial orientation but rather a control often employed by companies that only react rather than act. This conclusion is consistent with that of Schäffer and Zyder (2005). Furthermore, the results also support their argument that benchmarking can lead to risk aversion behavior, even though this hypothesis was not held in our research. Thus, the measurement of benchmarked budgeting is clearly distinct from the measurement of external forecasting. Interestingly, this effect is only visible in the high-participation subsample.

The negative relationship of comparative budgeting with proactivity or competitive aggressiveness belongs to more than one hierarchical level and is not limited to management. The moderating effect of budgetary participation is greater. The beneficial effect of external information on proactivity and competitive aggressiveness in forecasting is present and highly significant only under conditions of high budget participation.

The coefficient of low participation firms in this relationship is not significant and is close to zero. Moreover, it is only under conditions of high budget participation that the negative effects of benchmarking for three of the four sub-groups are the greatest, and the negative effects of benchmarking for three of the four sub-dimensions of entrepreneurial orientation become visible.

Hypothesis 2a states that:

H2a: Budget deficit is positively related to all sub-dimensions of social orientation.

H2b: Fiscal space has a U-shaped relationship with all of the social orientation sub dimensions.

Without taking into account the moderating influence of budgetary participation, this hypothesis would have been completely rejected. However, regarding budgetary participation, the hypothesis receives partial support, even if contradictory results are found. Attitude towards fiscal slack is significantly related to risk taking and competitive aggressiveness under conditions of high fiscal participation.

Interestingly, low participation conditions lead to less innovation and proactivity. What seems controversial at first glance confirms the hypothesis

If we consider that the scale determined the degree of positive attitude of managers towards slacking, a possible explanation is that a positive attitude towards the room for maneuver within the framework of budgetary participation creates a perceived cushion to engage in risk taking, aggressive competition, and a positive control experience.

On the contrary, conditions of lack of room for maneuver within the framework of participation could lead to conditions in which the need to innovate or to act proactively is perceived to a lesser extent, as proposed by Bradley, R et al. To a lesser extent, as suggested by Bradley, Wiklund and Shepherd (2011) and Chen (2007).

Hypothesis 2a is also supported by the results for fiscal space. Under conditions of high turnout, fiscal space is weakly related to proactivity.

Whether the results for fiscal target tightening contradict Hypothesis 2a is debatable. Arguably, strict goals indicate a lack of flexibility. In contrast, leeway can be absorbed and unabsorbed (Singh 1986; Geiger and Cashen 2002; Heng and Ding 2010).

Thus, these results are consistent with other results that suggest that strict goals motivate managers to take more risks to achieve those goals.

Hypothesis 2b states that leeway and the sub-dimensions of entrepreneurial orientation have a U-shaped relationship. budget targets and risk taking, as well as competitive aggressiveness - both in case of low budget participation.

The negative sign of the quadratic term indicates an inverted U shape. The negative sign of the linear term (slope) indicates that at the average value of fiscal stringency, the U-shaped relationship with risk taking or competitive aggressiveness does not exist.

Companies with low budgetary participation could benefit from a slightly less strict target on these sub-dimensions. In the case of high budget participation, no U-shaped relationship is present, and the conclusion of the linear relationship is that companies can use strict goals to motivate their employees.

Hypothesis 3 assumes that:

H3: Non-financial performance measures in internal reporting are positively related to social enterprise.

The hypothesis was supported for the sub-dimensions of innovation and proactivity. The effect of innovation seems to be constant despite the level of budgetary participation. However, the reduction in sample size resulting from the median division of budget participation leads to a reduction in sample size.

Thus, interesting motivational effects are visible for proactivity. A strong and highly significant positive effect is seen in the full sample, with a comparatively stronger and highly significant effect in the low-participation subsample.

A weakly significant positive effect is still visible in the high-participation subsample. It should be noted that the effects of non-financial performance factors in internal reporting under high participation do not appear to be as strong as those of low participation.

Non-financial performance measures are largely defined by process and human resource indicators. In the context of high budgetary participation, the need to monitor these indicators may become less important. Nevertheless, the effect is visible, even if it is only slightly significant, and it should not be concluded that the monitoring of financial performance measures is not necessary in the context of high participation to achieve the proactivity. On the contrary, a possible conclusion is that the monitoring of non-financial performance indicators

promotes innovation and proactivity. The visible negative effects of non-financial performance measures on competitive aggressiveness diminish when looking at models complete with all relevant control elements. However, it is interesting to note that competitive aggressiveness seems to be hampered by monitoring these indicators, even if the results are not always satisfactory.

The control of these indicators, even if the results are not significant for the complete models. One possible explanation is the more internal orientation of non-financial measures, but determining the exact nature of these relationships requires further study.

Hypothesis 4 proposed:

H4: Non-financial performance measures in compensation contracts will be positively linked to corporate entrepreneurship.

Our research therefore does not support hypothesis 4.

Hypothesis 5 proposes:

H5: Budget participation moderates the relationship between management control systems and the sub-dimensions of social orientation.

This hypothesis is supported for three of the four sub-dimensions. It is interesting to note that the innovation capacity sub-dimension is also not influenced by budgetary participation. Although research in the context of management control and innovation in the context of budget participation is limited, research in other areas such as strategic decision-making can explain this result. Covin, Green, and Slevin (2006) studied participation in strategic decision-making as a moderator of the relationship between entrepreneurial orientation and entrepreneurial orientation and sales growth. They found that autocratic decision-making is more effective in moderating the relationship between orientation and performance than in participatory strategic decision-making. They also offered an explanation those participatory decision-making results in incremental strategic change instead of bold, sweeping moves. However, budget participation effectively moderates the effects of management control on other sub-dimensions of entrepreneurial orientation, including risk taking and proactivity.

These results support the hypothesis that the effects of participation on engagement can indeed cause these moderations.

Thus, the initial research questions may now have answers. Most of the controls categorized in the accounting layer of the set of management controls were significantly related. Surprisingly, non-financial measures of reward showed no significant relationship with entrepreneurial orientation. However, incorporating non-financial KPIs into internal reporting drives entrepreneurship.

In general, entrepreneurial orientation is stimulated more within the framework of budgetary participation. Negative effects exist for benchmarked budgeting. When benchmarked budgeting is used, budget participation results in less entrepreneurial orientation. In these cases, the adaptation of the experiences of other companies by the staff involved in the budget leads to risk avoidance and a rather passive behavior. These results somewhat contradict those of Miller and Friesen (1982), who found no relationship with controls. One explanation may be the different and more comprehensive framework and control measures of our research. The results obtained by breaking down the type of prospecting firm into four sub-dimensions of entrepreneurial orientation are consistent with the conclusions of Simons (1987).

The identification of the relation between the interactive lever of control and the entrepreneurial orientation by Henri (2006) is linked to the results, the budgetary participation is a method of interactive use of a lever of control.

CONCLUSION

The global economy is still characterized by the opening of markets, the liberalization of trade and the advent of information technology, the business environment is becoming increasingly unstable and unpredictable, and for the latter to guarantee its sustainability, it must focus on optimizing its performance (Sidqui, 2022).

Achieving a specific optimal mode of Management and Governance, integrating environmental and societal requirements, while ensuring financial and commercial wellbeing of companies constitutes a real challenge for Moroccan companies. The study carried out as part of this research revealed to us the appearance of a phenomenon that is difficult to conceptualize, particularly in access to information.

It is possible to draw multiple conclusions from our research in light of the contribution of management controls as a whole to entrepreneurial orientation: first, budgetary participation moderates and positively influences almost all relations. At the end of the day, the controls, which rely on the employees' behavior to be effective, are implemented more effectively when participating. Second, it is advisable to rationalize the predictions depending on the external data, but the budgets should not be aligned on competitors only, mainly in case of budgetary participation. Third, the leeway is a management control. Although risk-taking and competitiveness appear to be beneficial to maintaining a positive attitude towards high budget participation, it is not advisable to adopt a positive attitude towards the leeway when the low participation is not desirable given the negative effects on innovation capacity and proactivity. Even if a positive attitude towards the leeway can serve as a support to allow additional risk-taking, strict targets within the framework of high budgetary participation, also lead to increased risk-taking.

The focus on non-financial measures in internal reporting also promotes innovation and proactivity; yet, it is more important in companies with low budgetary participation than in those with high budgetary participation.

Our study faced the same limitations as most cross-sectional studies. According to Rindfleisch et al. (2008), common issues include the ability to draw causal inferences and potential systematic error from data analysis. Some researchers suggest creating a temporal separation between an initial data collection and a follow-up data collection.

However, as noted by Rindfleisch et al. (2008), temporal separation or even a longitudinal study design is not always possible temporally or even a longitudinal study design. They do not

necessarily improve causal inferences because most relational links are likely past their start date at the start of the investigation.

The disadvantage of longitudinal frames for all observable cases that can be found is that statistical tests are not observable, and can be found is that statistical tests are no longer possible given the extremely small samples.

Therefore, the choice between a cross-sectional study and a longitudinal study is a trade-off between statistical reliability, improved causal inferences, and cost of the study. Zahra, Jennings and Kuratko (1999) pointed out that this problem is common in studies of entrepreneurial orientation.

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