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The effect of controlling the estimate budget management on rationalizing the financial decisions- A case study of a sample of economic corporations in North Africa-

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ABSTRACT

This study aims to show the role of control and estimating budgets in rationalizing financial decisions and making decisions. To do so, we designed a questionnaire, which was later administered to a sample of 200 economic corporations. We analyzed the data using the Least Squares Structural Modelling and Smart-PLS. Findings show that controlling the estimated budget can help rationalize financial decisions in the North African states.

1. Introduction:

The estimated budget is one of the tools for controlling the revenues and costs inside the corporation because they are based on setting short-term plans with specific goals that take into account continuous control and evaluation during the execution to take the redress actions. The management of the estimated budget and the control are two topics that triggered the attention of scholars. However, many questions still need to be answered. Therefore, this study aims to answer the question that says, “How does the control of the estimated budget affect financial decision rationalization?”

2. Literature review:

The control of the corporate budget formulation is crucial in rationalizing and redressing the decisions, as confirmed by different studies (Grace, 2016). In this regard, it was found that budgeting in municipalities has a relatively average effect on cost reduction and rationalization (Mahmoud et al., 2014). This improves the financial planning. In addition, the use of cyber systems to forecast and analyze the budget fosters budget control and improves resource disposal, leading to correct strategic decisions (Oduor & Adongo, 2013; Foriaa et al., 2014).

Determining the goals is vital in controlling the estimated budget because it adds objectivity to performance evaluation (Madalina, 2023) and helps make correct decisions through continuous update that hinders big deviations (Henttu-Aho, 2018). The exact forecast of the budget revenues is a pivotal guarantee of sustainable development and planning, mainly for economic corporations that operate in a big competitive environment and uncertainty (Mariana & Amp, 2013; Gary et al., 2004).

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3. Research gap:

The previous studies focused on the importance of making estimated budgets and their effect on rationalizing decisions and reducing costs. Nevertheless, they neglected the long-term effect of the control on the budgets and only focused on the short-term effect. Besides, studies, such as (Oduor & Adongo, 2013; Foriaa et al., 2014) did not focus on the effect of human factors interactively with the computing systems. Moreover, studies such as (Madalina, 2023; Henttu-Aho, 2018) did not concentrate on the corporations that operate within unstable, uncertain, and highly competitive economic environments.

4. Methodology of the study:

This study was designed to find out more about the effect of the estimated budget control on the financial decisions of the economic corporations in North Africa. In this regard, we used analytical and descriptive methods to describe and analyze the data and took 200 industrial, commercial, and service corporations from the North African states as a sample because they witnessed high competition and instability. Furthermore, we collected data using a questionnaire and analyzed them with Smart-PLS.

5. Data analysis:

5.1 Assessment of the measurement model:

5.1.1 The convergent validity:

5.1.1.1 The factor loadings:

This test examines the validity of the measurement tools and requires a ratio of 70% to judge the validity. On the other hand, the items with less than 70% are deleted. The results are shown in table 01.

Table 01: the factor loadings test

Factor loadings test						
Dimension	**X**			**Y**		
Indices	**xa**	**Xb**	**xc**	**Ya**	**yb**	**yc**
Xa1	0.862					
Xa2	0.871					
Xa3	0.907					
Xa4	0.921					
Xa5	0.60					
Xb1		0.985				
Xb2		0.988				
Xb3		0.986				
Xb4		0.694				
Xb5		0.983				

Xc1			0.813			
Xc2			0.933			
Xc3			0.794			
Xc4			0.937			
Xc5			0.615			
Ya1				0.990		
Ya2				0.990		
Ya3				0.991		
Ya4				0.989		
Ya5				0.145-		
Yb1					0.855	
Yb2					0.877	
Yb3					0.744	
Yb4					0.597	
Yb5					0.239	
Yc1						0.984
Yc2						0.497
Yc3						0.993
Yc4						0.977
Yc5						0.985

Source: by the authors based on the outputs of Smart-PLS

The table shows that most of the factors loadings are between 0.862 and 0.985 and are more than 70%; this shows they represent what is needed in their dimension. Besides, we deleted some items because they were less than 70%.

5.1.1.2 The consistency and composite reliability test:

We test the consistency using Cronbach's Alpha and composite reliability, which condition a minimum ratio of 70%. The results are shown in table 02:

Table 02: composite reliability test

Axes	Dimensions	Cronbach's Alpha	Composite reliability
x	Xa	0.931	0.947
	Xb	0.997	0.998
	Xc	0.902	0.932
	x	**0.939**	**0.947**
y	Ya	0.994	0.995
	Yb	0.812	0.892
	Yc	0.993	0.995
	y	**0.920**	**0.932**

Source: by the authors based on the outputs of Smart-PLS

The table shows that all Cronbach's Alpha and composite reliability coefficients exceed 0.70, and are accepted. Regarding the axes, the consistency coefficients for the main variables are good, as the coefficients of Cronbach's Alpha and composite reliability in the axis of estimate budget control are 0.939 and 0.947, respectively, and 0.920 and 0.932 for the axis of financial decisions rationalization. Because all the values are within the scope of acceptance for any latent variable, the model meets the minimum values needed.

5.1.1.3 AVE:

It measures the convergent validity and conditions a ratio of 0.50 or more for acceptance. Table 03 shows the results of the convergent validity test:

Table 03: AVE test results

Axes	Dimensions	AVE
x	Xa	0.783
	Xb	0.991
	Xc	0.776
	x	**0.580**
y	Ya	0.981
	Yb	0.737
	Yc	0.980
	y	**0.557**

Source: by the authors based on the outputs of Smart-PLS

Table 03 shows that AVE is significant, as its values exceed 0.5. In this regard, the value is 0.580 for the variable of estimated budget control and 0.557 for the rationalization of the financial decisions.

5.1.2 The discriminate validity:

To measure the discriminate validity, we use the Fornell-Larcker Criterion to judge if the question represents itself more than other questions. It is based on comparing the quadratic structure correlations with AVE to evaluate the structural equations model, the unobservable variables, and the measurement error.

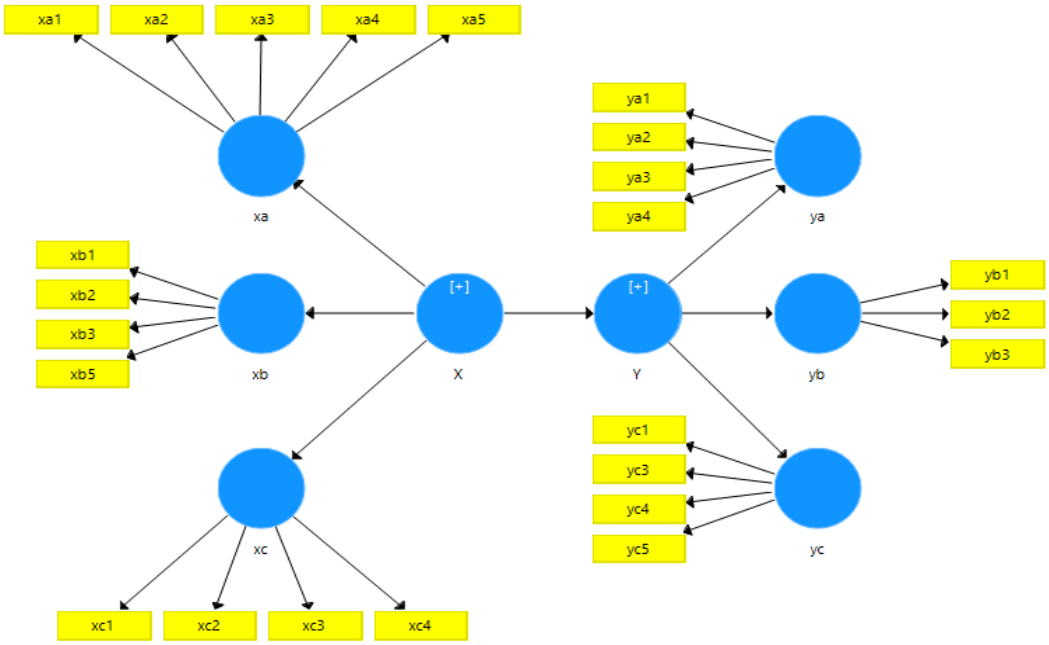
Table 04: Fornell-Larcker Criterion

	Xa	Xb	Xc	Ya	Yb	Yc
Xa	**0.885**					
Xb	0.513	**0.996**				
Xc	0.585	0.497	**0.881**			
Ya	0.365	0.175	0.093	**0.991**		
Yb	0.062	0.112	0.066-	0.572	**0.858**	
Yc	0.149	0.086	0.057-	0.287	0.426	**0.990**

Source: by the authors based on the outputs of Smart-PLS

In the table, the dimension represents itself more than the other dimensions, and there is no cointegration among the study variables. The study axes meet this condition because each variable got the maximum value; it is 0.996 for Xb and 0.990 for Yc.

Figure 01: the general structural model of the study



Source: by the authors based on the outputs of Smart-PLS

5.2 Examining the internal model

5.2.1 Analysis of the internal model:

We shall use the determination coefficient test, the predictive capacity test Q2, and the effect size test.

5.2.1.1 The determination coefficient R^2:

Table 05: The correlation coefficient test R^2

The interpretation (effect) size	Adjusted R^2	R^2	Dimensions
Strong Interpretation	0.734	0.737	Xa
Strong Interpretation	0.666	0.671	Xb
Average interpretation	0.646	0.650	Xc

Source: by the authors based on the outputs of Smart-PLS

The table shows that the model interpretation is 73.7% for the dimension Xa, 67.1% for Xb, and 65.0% for Xc.

5.2.1.2 The effect size F^2:

Table 06: F^2 test

Result	F^2	Latent variables
High effect	2.809	Xa
High effect	2.037	Xb
High effect	1.860	Xc

Source: by the authors based on the outputs of Smart-PLS

The table shows that the effect size is 2.809 for Xa, 2.037 for Xb, and 1.860 for Xc. All show a high effect for the latent variables in the model.

5.2.1.3 Q2 test:

Table 07: Q2 results

Dimensions	$Q^2 = (1\text{-SSE/SSO})$	Result
Ya	0.654	Big ability
Yb	0.446	Big ability
Yc	0.510	Big ability
Y	**0.118**	Big ability

Source: by the authors based on the outputs of Smart-PLS

The table above shows that all the predictive units are more than 00, as they exceed 0.35 for Ya and Yc, and 0.118 for the overall axis. Thus, they have a high predictive capacity and make it possible to rely on the external (independent) variables in predicting the internal (dependent) variables.

5.3 Testing the study hypotheses:

To test the study hypotheses using SEM, we measure the estimates of the structural model relations using Bootstraping, which represents the relations between the structures. The path coefficient is between +1 and -1, where the values close to +1 indicate strong positive relations and those close to -1 indicate strong negative relations; which are generally statistically significant. The coefficients close to 00 from both sides show weak relations. The relation is statistically significant only when the error value is less than 5%.

Table 08: testing the significance of the effect between the study variables using Bootstrapping

Relation	Original Sample (O)	SampleMean (M)	Standard Deviation	T Statistics	P Values
Xa->y	0.524	0.523	0.057	9.253	**0.000**
xb->y	0.277	0.282	0.023	11.898	**0.000**
xc->y	0.476	0.465	0.051	9.253	**0.000**
x->y	0.460	0.448	0.038	8.328	**0.000**

Source: by the authors based on the outputs of Smart-PLS

The table shows that after measuring the direct relations based on the path estimations, the values of the paths have significant values (0.00).

5.4 Discussion:

From the previous results, we can sum up the results of the hypotheses as follows:

Table 09: the results of the study hypotheses

No°	Hypothesis	decision
01	The dimension of goal determination affects the rationalization of financial decisions	Confirmed
02	The dimension of budget formulation affects the rationalization of financial decisions	Confirmed
03	The dimension of deviation analysis affects the rationalization of financial decisions	Confirmed

Source: by the authors based on the outputs of Smart-PLS

The table demonstrates that the aspects of goal selection, budget formulation, and deviation analysis have significant impacts on the rationalization of financial decisions. Therefore, the variable of estimated budget control significantly influences the variable of rationalizing financial decisions. Within this particular setting, the heightened attention of the auditor toward the projected budgets enhances the process of rationalizing financial decisions. Therefore, we depend on the ultimate model of the study.

6. Conclusion:

This study seeks to demonstrate the significance of budgetary control in attaining favorable economic outcomes for corporations. It also aims to examine the impact of budgetary control on the process of formulating estimates and making decisions. Upon examining the independent variable, which is the estimated budget control, and the dependent variable, which is the rationalization of financial decisions, we discovered that having control over the estimated budget leads to rationalized financial decisions and improves the efficiency of spending financial resources, ultimately resulting in achieving budget balance. Moreover, the definition of goals and the study of deviations have an impact on the rationalization of financial decisions.

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