

THE ROLE OF SOPHISTICATED ACCOUNTING INFORMATION SYSTEM IN STRATEGY MANAGEMENT: AN EMPIRICAL STUDY

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Overview

- Research objectives:
 - Analyze the alignment between accounting information system and organizational strategy
 - Examine the enabling effect of the accounting information system on performance
- Theoretical perspectives:
 - Contingency theory of accounting information

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AIS literature

- Several alternative typologies of AIS
 - Types of management techniques
 - Types of management information
- In this paper:
 - We look at the AIS as a system
 - Addressing the information content of AIS design rather than focus on specific techniques (such as, Budget, BSC...)

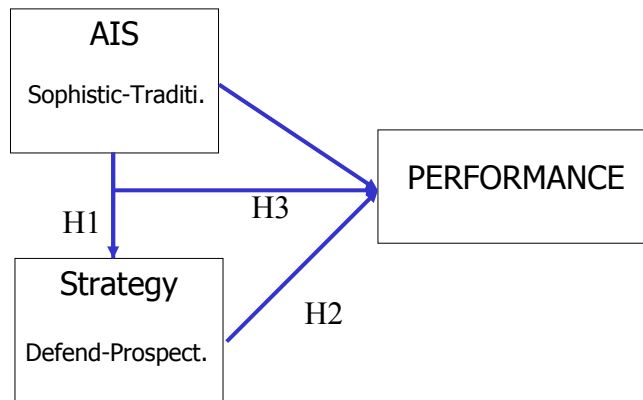


Strategy literature

- Focus on relationship AIS and strategy
 - Various typologies of strategy
 - Effect on performance not well understood
- In this paper:
 - Relationship between AIS and strategy of Miles and Snow (Defender - Prospector)
 - Analyzing the effect on organizational performance



The model



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Hypotheses

- H1: There is a positive relationship between more sophisticated AIS and more prospector strategy.
- H2: There is a positive indirect relation between sophisticated AIS and organizational performance acting through prospector strategy.
- H3: The interaction of sophisticated AIS and prospector strategy will improve organizational performance.

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Empirical study

- CEOs at 218 public hospitals in Spain
- Useful Questionnaires 112
- Variables:
 - AIS: Based on Chenhall and Morris (1986) and Gul (1991). Sophisticated to Traditional.
 - Strategy: Based on Miles and Snow (1978). Defender to Prospector.
 - Performance: Public Hospital hard data (Van Peurseem et al., 1995).

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Statistical descriptives and Hypothesis 1

	Mean	SD	Theoretical range	Actual range	Pearson correlation coefficients (p-value)	
					Strategy	Performance
AIS	3.45	0.26	1.00-5.00	1.63-3.94	0.29 (0.07) ^c	0.18 (0.08) ^c
Strategy	3.27	0.55	1.00-5.00	1.00-5.00	----	0.37 (0.02) ^b
Performance	0.70	0.04	0.00-1.00	0.47-0.93	----	----

^a Significant at 0.01 level (two tailed), ^b Significant at 0.05 level (two tailed),

^c Significant at 0.1 level (two tailed).

H1 confirmed (significant and positive coefficient, 0.29)

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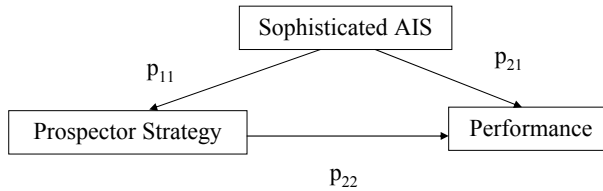
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Hypothesis 2

- We test the following path model:



$$\left. \begin{aligned} X_2 &= p_{11} X_1 + \mu_1 \\ X_3 &= p_{21} X_1 + p_{22} X_2 + \mu_2 \end{aligned} \right\} \begin{aligned} X_1 &= \text{Sophisticated AIS} \\ X_2 &= \text{Prospector Strategy} \\ X_3 &= \text{Organizational Strategy} \\ p_{11}, p_{21} \text{ and } p_{22} &= \text{path coefficients explanatory variables} \\ \mu_1, \mu_2 &= \text{error terms} \end{aligned}$$

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Hypothesis 2

Linkage	Direct	Indirect/spurious ^a	Total ^b	<i>p</i> -value
AIS/Strategy	0.29		0.29	0.07
AIS/Performance	0.11	0.07	0.18	0.08
Strategy/Performance	0.35	0.02	0.37	0.02

^a Indirect effects of AIS on performance (through strategy) are shown in bold prints.

^b Zero order correlation.

Hypothesis 2 supported: Primary effect of AIS on performance is via strategy.

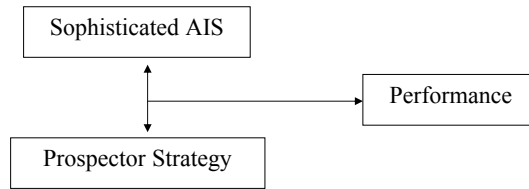
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Hypothesis 3



$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + \mu$$

where Y denotes organizational performance,
 X1 denotes AIS and
 X2 denotes strategy.



Hypothesis 3

Variables	MAIN EFFECTS Coefficients (p-value)	INTERACTION EFFECT Coefficients (p-value)
Constant	3.66 (0.00) ^a	5.09 (0.00) ^a
Sophisticated AIS (β_1)	0.08 (0.03) ^b	0.12 (0.08) ^c
Prospector Strategy (β_2)	0.13 (0.02) ^b	0.19 (0.11)
Sophisticated AIS x Strategy (β_3)	Adj. R ² =0.084 F = 6.153 ^a	0.09 (0.17) Adj. R ² =0.085 F=6.802 ^a

Dependent variable = organizational performance. N=112

^a Significant at 0.01 level (two tailed), ^b Significant at 0.05 level (two tailed),

^c Significant at 0.1 level (two tailed).

Hypothesis 3 not supported



Hypothesis 3: Further analysis

ANOVA Results: Mean Performance Scores

	Prospector Strategy	Defender Strategy
High Sophisticated AIS	71.24	69.77
Traditional AIS (low sophisticated)	70.52	70.01

Partial support for H3

Performance is highest when sophisticated AIS match with prospector, but not when traditional AIS is matched with defender strategy

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Discussion

- Sophisticated AIS are positive related to prospector strategy.
- Sophisticated AIS affect on performance indirectly, through a prospector strategy.
- The interaction between sophisticated AIS and prospector strategy do not enhance performance.

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Conclusions

- Overall AIS is a mechanism that enables organizational strategy and enhance performance.
- Managers recognize the importance of receiving more sophisticated information to manage more complex strategies in order to enhance the organizational performance.
- Traditional or low sophisticated AIS is more suitable for enhancing the performance in defender organizations.



Limitations

- Related to the questionnaire:
 - Use of non-random sampling
 - Common rater bias
- Causality and cross-sectional study
- Focus on a single industry



Future research

- Examine the relationship in others settings.
- Examine the role of informal information systems in the strategy management.
- Analyze how the interrelation between strategy and informal information systems affect in organizational performance.