Ferdinand Mahr

Aligning Information Technology, Organization, and Strategy

Effects on Firm Performance

With forewords by Prof. Dr. Dres. h.c. Arnold Picot and Prof. Dr. Tobias Kretschmer



Contents

roleword.	TOI. DI. Dies. I.C. Altiola i icot	V
Foreword	Prof. Dr. Tobias Kretschmer	VII
Preface		IX
Contents		XI
List of tabl	es	XV
List of figu	res	XVII
Chapter 1:	Introduction	1
1.1 Me	otivation	1
1.2 A	summary of the three studies	4
1.3 Th	e datasets employed in the two empirical studies	8
Chapter 2:	Information technology and firm performance: An integrative m	odel of the
role of con	plementarities	19
2.1 In:	troduction	19
2.2 Ar	overview of the empirical research on IT complements	21
2.2.1	Studies on internal or external IT complements	22
2.2.	FF	
2.2.	1.2 Contingency perspective	23
2.2.2	Studies on internal and external IT complements	23
2.2.3	The need for an integrative model of IT complements	
2.3 To	ward an integrative model of IT complements	
2.3.1	Fit and complementarity	
2.3.2	Organizational information processing and IT	29
2.3.3	An integrative model of IT complements	30
2.4 Ho	orizontal fit between IT and IT complements	
2.4.1	The degree of centralization	34
2.4.	1.1 Centralization	34
2.4.	1.2 Decentralization	35
2.4.	1.3 A richer definition of the degree of centralization	36
2.4.2	Standardization	38
2.4.3	HRM practices	40
2.4.4	Information technology	42
2.4.5	Two ideal configurations of organization design	44
2.5 Ve	ertical fit between contingencies and organization design	46
2.5.1	Environment	46
2.5.2	Corporate strategy	48

XII		Contents

252	0		F0
2.5.3		ganizational culture	
2.5.4		o ideal ways to achieve vertical fit	
		sion and implications	53
-		nncing the performance effects of information technology through	
-		on: The role of corporate exploration and exploitation	
		ction	
3.2 L		re review and hypothesis development	
3.2.1		ormation technology and firm performance	60
3.2.2		e information processing view of organizations and information	
		hnology	
3.2.3	Info	ormation technology, decentralization, and centralization	62
3.2.4	The	e role of organizational learning	63
3.2.5	Hy	potheses	65
3.3 E	mpirio	cal approach	66
3.3.1	Em	pirical models	66
3.3.2	Dat	a	68
3.3.3	Var	riables	70
3.3	3.3.1	Production function inputs and outputs	70
3.3	3.3.2	Organizational learning and organization design	71
3.3	3.3.3	Control variables	75
3.4 R	Results		77
3.4.1	Dis	cussion of the results	77
3.4.2	Rol	oustness of the results	80
3.5 C	onclus	sions	85
		rid strategy and firm performance: The moderating role of individua	
-	-	nbidexterity	
		ction	
		and hypotheses	
4.2.1		orid strategy, organizational architecture, and firm performance in	
	-	ory	. 91
4.2.2		orid strategy, organizational architecture, and firm performance in	
1.2.2		pirical studies	93
4.7	2.2.1	Summary of empirical studies	
	2.2.2	Definitions of a hybrid strategy's performance impact	
4.2.2.2		Organizational ambidexterity as a moderator of the hybrid strategy	
4.2	2.2.3	performance relationship	
4.2.3	٥٠٠	ganizational ambidexterity	
4.4.3	OrE	gainzational annuluextelity	20

Contents		XIII	
4.2.3.1	Individual ambidexterity	99	
4.2.3.2	Technological ambidexterity	101	
4.2.4 H	Hypotheses	104	
4.3 Meth	od	106	
4.3.1 N	Models	106	
4.3.1.1	Moderation effects model	106	
4.3.1.2	Effects-coding model	107	
4.3.1.3	Dummy-coding models	108	
4.3.2	Sample	110	
4.3.3 N	Measures	113	
4.3.3.1	Firm performance	113	
4.3.3.2	Corporate strategy	114	
4.3.3.3	Individual ambidexterity	115	
4.3.3.4	Technological ambidexterity	118	
4.3.3.5	Group indicator variables	120	
4.3.3.6	Control variables	121	
4.4 Resu	lts	124	
4.4.1	Moderation effects models	124	
4.4.2 I	Effects- and dummy-coding models	127	
4.4.3 I	Robustness test: Porter's definition of the performance imp	act	
(of a strategy	131	
4.4.4 I	Pure strategies	135	
4.5 Discu	ussion and conclusions	136	
4.5.1 I	mplications for research	137	
4.5.2 I	mplications for managers	138	
	imitations and future research		
Chapter 5: Co	onclusion	141	
5.1 Sum:	1 Summary and contributions141		
5.2 Suggestions for future research146			
References		149	

 Appendices
 171

 Subject index
 183