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THE INFLUENCE OF TALENT MANAGEMENT ON THE SUSTAINABLE COMPETITIVE ADVANTAGE OF SMALL & MEDIUM SIZED ESTABLISHMENTS.

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Objective

- To fill existing gaps in the business literature by providing an analysis of the relationship between talent management & objective measures of the outcomes of sustainable competitive advantage.

Introduction

- Three types of capital resources can be identified as the sources of a business competitive advantage: organizational resources, human resources and physical resources.

- The organizational culture of a firm is composed of both organizational resources and human resources (Barney & Wright, 1998).

Introduction (Cont'd)

- Barney (2008) defines competitive advantage as being sustainable if competitors are unable to imitate the source of advantage or if no one conceives of a better offering.

4

Introduction (Cont'd)

- Lewis and Heckman (2006) identify three streams of thought around the concept of talent management:
  - The first stream substitutes talent management for human resources management,
  - The second stream focuses on the projection of staffing needs and managing employee progression,
  - The third stream focuses on managing the performers and the players as the talented people.

- A fourth stream could also be identified that focuses on the identification of strategic positions. (Collings and Mellahi, 2009)

- For the purpose of this research, talent management is defined as a mission driven process that includes all the activities that are required to ensure that an organization has the required human capital to enable it achieve its strategic goals.

Introduction (Cont'd)

- Denison (1990) identified four basic components of organizational culture that are translated into four hypotheses about the connection between culture & performance:

  1) the consistency hypothesis

  2) the mission hypothesis

  3) the involvement/participation hypothesis

  4) the adaptability hypothesis

- The involvement & consistency hypotheses test the associations between employee participation, training and talent management with the organization's performance.

Table I: Definitions Of Variables & Ordinal Scales

Competitive Advantage Dependent Variables	**Productivity Growth**	Ordered dependent variable, defined as the percentage improvement in productivity over the past three years, and is scaled on a five level ordinal scale: level one being 0-25%, level two 26-50%, level three 51-75%, level four 76-99%, and level five >100%.
	Supply-Chain Efficiency	Ordered dependent variable, defined as the percentage of reduction in the total value of inventory throughout the supply chain for the primary product over the last three years, and is scaled on a four level ordinal scale: level one being <10%, level two 10-25%, level three 26-50%, and level four >50%.
	New products	Ordered dependent variable, defined as the percentage of annual sales derived from new products introduced in the past three years, and is scaled on a four level ordinal scale: level one being <5%, level two 5-25%, level three 26-50%, and level four >50%.

# Table I: Definitions Of Variables & Ordinal Scales (Cont'd)

Independent Variable Talent Management	Independent variable, defined as the percentage of employees dedicated to assessing and upgrading the organization's talent pool, and is scaled on a four level ordinal scale: level one being <1%, level two 1-5%, level three 6-10%, and level four >10%.

Table I: Definitions Of Variables & Ordinal Scales (Cont'd)

Control Variables	log(SIZE)	Control variable, defined as the log of the number of full time employees.
	log(AGE)	Control variable, defined as the log of the number of years the organization has been in operation.
	GREEN	Control variable, defined as the percentage of workforce dedicated to reducing energy, or emissions in operations.
	NAICS	Control variable, defined as the North American Industry Classification System (NAICS).
	Participation	Independent variable, defined as the percentage of employees regularly participating in empowered work teams (i.e., make decisions without supervisor approval), and is scaled on a five level ordinal scale: level one being <25%, level two 25-50%, level three 51-75%, level four 76-90%, and level five >90%.
	Training	Independent variable, defined as the number of training hours devoted annually to each employee, and is scaled on a four level ordinal scale: level one being ≤8 hours, level two 9-20, level three 21-40, and level four >40 hours.

Figure 1: The Interaction Between Talent Management & Sustainable Competitive Advantage Outcomes
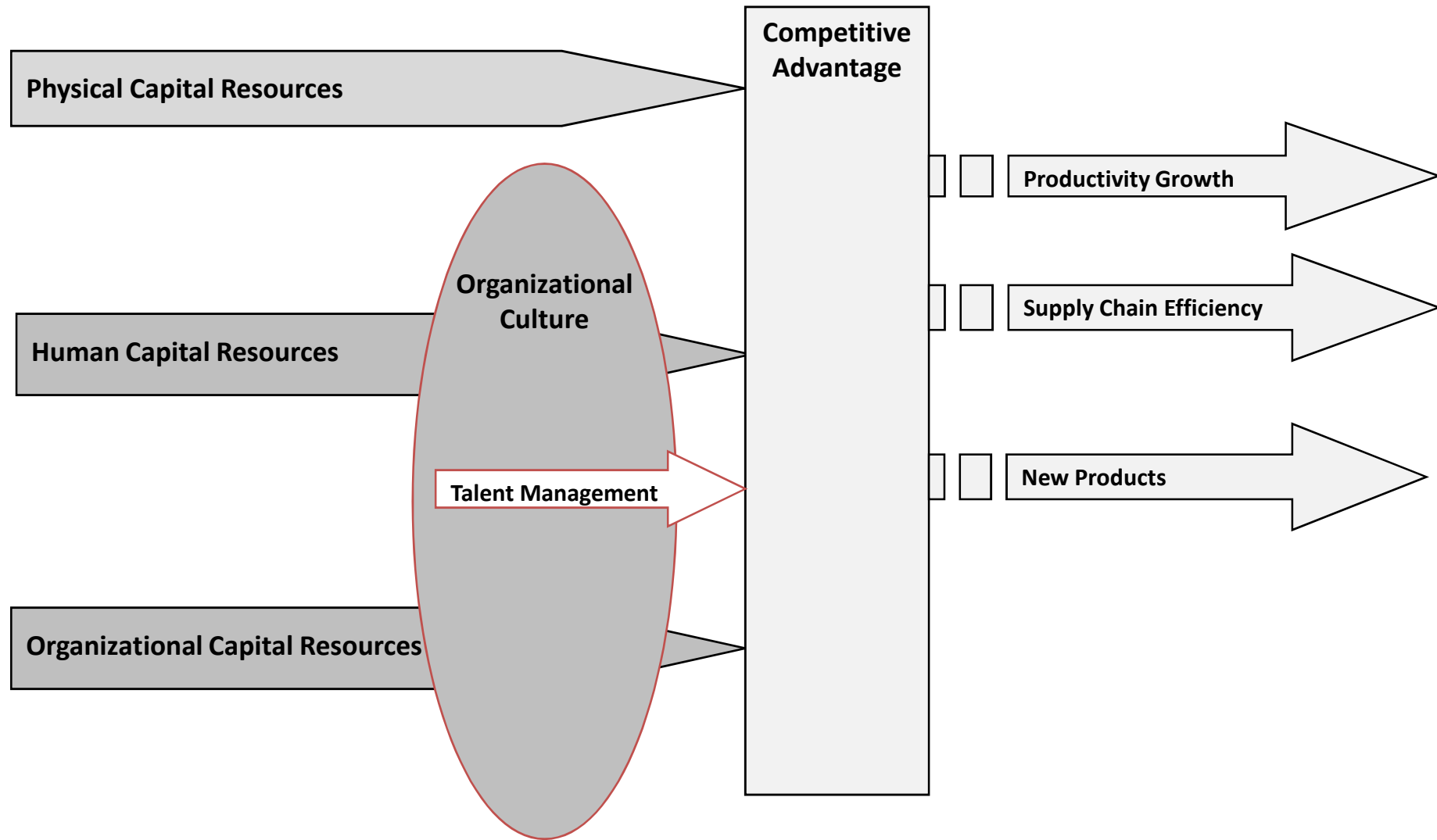
Research Question

- The research question explores the influence of talent management on sustainable competitive advantage (SCA):

   Does talent management affect the sustainable competitive advantage of an SME?

Table II: Hypotheses Sets For The Independent Variable Talent Management

RH 1	H_0	The percentage of employees dedicated to assessing and upgrading the organization's talent pool has no effect on the percentage improvement in productivity over the past three years.
	H_1	The percentage of employees dedicated to assessing and upgrading the organization's talent pool does affect the percentage improvement in productivity over the past three years.
RH 2	H_0	The percentage of employees dedicated to assessing and upgrading the organization's talent pool has no effect on the percentage of reduction in the total value of inventory throughout the supply chain for the primary product over the last three years.
	H_1	The percentage of employees dedicated to assessing and upgrading the organization's talent pool does affect the percentage of reduction in the total value of inventory throughout the supply chain for the primary product over the last three years.
RH 3	H_0	The percentage of employees dedicated to assessing and upgrading the organization's talent pool has no effect on the percentage of annual sales derived from new products introduced in the past three years.
	H_1	The percentage of employees dedicated to assessing and upgrading the organization's talent pool does affect the percentage of annual sales derived from new products introduced in the past three years.

Research Models

Model 1:

$$PRODUCTIVITYGROWTH_i = f(\alpha + \beta_1 PARTICIPATION_i + \beta_2 TRAINING_i$$
$$+ \beta_3 TALENTMGMT_i + \beta_4 \log(SIZE_i) + \beta_5 log(AGE_i) + \beta_6 GREEN_i + \beta_7 NAICS_i + \varepsilon_i)$$

Model 2:

$$SUPPLYCHAIN_i = f(\alpha + \beta_1 PARTICIPATION_i + \beta_2 TRAINING_i$$
$$+ \beta_3 TALENTMGMT_i + \beta_4 \log(SIZE_i) + \beta_5 log(AGE_i) + \beta_6 GREEN_i + \beta_7 NAICS_i + \varepsilon_i)$$

Model 3:

$$NEWPRODUCTS_i = f(\alpha + \beta_1 PARTICIPATION_i + \beta_2 TRAINING_i$$
$$+ \beta_3 TALENTMGMT_i + \beta_4 \log(SIZE_i) + \beta_5 log(AGE_i) + \beta_6 GREEN_i + \beta_7 NAICS_i + \varepsilon_i)$$

Where: $f(\ )$ is used to signify the proportional odds logistic regression function

Data Source

- The data are from the Wisconsin Next Generation Manufacturing Survey of manufacturing establishments in Wisconsin conducted by the MPI for the Wisconsin Manufacturing Extension Partnership (WMEP) during 2008.

- The purpose of the MPI survey was to identify best management practices in the state's manufacturing establishments.

- The universe of the study was all manufacturing establishments in Wisconsin. The sample size is 492 establishments representing a 6% of the universe.

14

Method

- Proportional odds logistic regression models are used for the statistical analysis because the dependent variables are ordinal variables and not continuous

- OLS is not appropriate to use because the dependent variables are not continuous

Table III Estimation Results For The Model That Uses 4-Digit NAICS Fixed-Effects For Small & Mid-Sized Business Establishments

Variable Name	Model 1 Dependent Variable (PRODUCTIVITYGROWTH)		Model 2 Dependent Variable (SUPPLYCHAIN)		Model 3 Dependent Variable (NEWPRODUCTS)	
	Value	EXP(Coef)	Value	EXP(Coef)	Value	EXP(Coef)
	Std. Error	t value	Std. Error	t value	Std. Error	t value
PARTICIPATION2	0.676	1.965	0.502	1.651	-0.109	0.897
	0.281	2.400**	0.291	1.720*	0.267	-0.409
PARTICIPATION3	0.208	1.231	0.510	1.665	-0.060	0.942
	0.347	0.599	0.361	1.410	0.341	-0.176
PARTICIPATION4	1.041	2.833	0.338	1.402	-0.419	0.658
	0.428	2.440**	0.459	0.737	0.407	-1.030
PARTICIPATION5	0.529	1.697	-0.770	0.463	-0.054	0.947
	0.600	0.881	0.682	-1.130	0.578	-0.094
TRAINING2	0.642	1.901	0.953	2.594	0.059	1.061
	0.292	2.200**	0.316	3.020***	0.277	0.213
TRAINING3	0.714	2.041	1.300	3.671	0.491	1.633
	0.361	1.977*	0.385	3.380***	0.347	1.410
TRAINING4	0.881	2.413	1.035	2.816	0.987	2.683
	0.428	2.060**	0.477	2.170**	0.413	2.390**
TALENTMGMT2	0.530	1.699	-0.081	0.922	0.335	1.397
	0.302	1.750*	0.310	-0.262	0.288	1.160
TALENTMGMT3	1.283	3.606	0.281	1.325	0.674	1.962
	0.394	3.260***	0.406	0.692	0.377	1.790*
TALENTMGMT4	1.349	3.853	-0.744	0.475	0.113	1.119
	0.473	2.850***	0.604	-1.230	0.482	0.234

*significant at the .10 confidence level **significant at the 0.05 confidence level ***significant at the 0.01 confidence level. N=492

Table IV: Summary of the Proportional Odds Logistic Regressions Results

		p-value		
		Model 1	Model 2	Model 3
		Dependent Variable		
		PRODUCTIVITYGROWTH	SUPPLYCHAIN	NEWPRODUCTS
Independent Variable TALENTMGMT		3.260***		1.790*
	df	108	107	107
	AIC	1069	869	1119
	Pseudo	0.2717	0.2280	0.2609
Proportional Odds Test "Pchisq"		0.9997	0.9973	0.8644

Findings

- Models restricted to SME size & 4-digit NAICS fixed effects have superior results than other models

- The percentage of employees dedicated to assessing & upgrading the organization's talent pool is strongly associated with the percentage improvement in productivity over the past three years

Findings (Cont'd)

- The association of talent management with new products is very weak, almost non-existent. It is possible that the structure of an establishment's talent will change at different stages of a product's life cycle.

- A supply chain includes all the internal and external activities and facilities. Talent management can only be applied to the internal portions of a supply chain and, therefore, may not have a strong association with a supply chain that extends to include external activities and facilities.

Conclusions

- Talent management forms a basis for creating a framework for understanding and, more importantly for investing in a firm's sustainable competitive advantage.

- Business establishments & top managers are advised to invest in managing their organizational talent pool