

Knowledge Management and Innovation on Firm Performance of United States Ship Repair

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Abstract

Labor forces continue to decrease in the United States. If the ship repair industry's leadership does not incorporate knowledge sharing and innovation into business practices, knowledge will be lost resulting in decreasing performance. This was a study to determine if there was a correlation between knowledge management, innovation, and firm performance. Knowledge was found as more influential than innovation in predicting firm performance.

Problem

The largest concentration of the U.S. labor force consists of workers aged 25 to 54 years, who represented 71.4% of the labor force in 1992 and decreased to 65.3% in 2012 (Bureau of Labor Statistics, 2014).

An overall decrease of 8.3% in labor forces of those aged 25-54 years is expected by 2022.

Knowledge management, innovation, and firm performance are important to businesses, but it is unclear whether ship repair managers in the mid-Atlantic region of the East Coast understand this relationship. The importance of this understanding is because these managers are responsible for maintaining and modernizing Navy ships in order for the ships and the respective Sailors to deploy as scheduled.

Purpose

To examine the relationship between knowledge management, innovation, and firm performance in the U.S. ship repair industry.

Relevant Literature

Theoretical Framework

- The **unified model of dynamic knowledge creation** with the key constructs of the socialization, externalization, combination, and internalization process; places of knowledge sharing, whether they are virtual, physical, or mental; and leadership (Nonaka, Toyama, & Konno, 2000).

Research Literature

- Through examination of organizational learning, found that **parsing of organizational learning supported the creation, transfer, and retention of knowledge** (Argote & Miron-Spektor, 2011).
- Organizational leaders use knowledge management to ensure capture, creation, transference, and sharing supports positive firm performance and as **evaluation value of future investment of organizational knowledge** (Massingham & Massingham, 2014).
- **Preventing loss of knowledge through verbal communication** is part of the organizational leadership responsibility as well as the management of day-to-day operations whether it is face-to-face or through a community of practice (Hong, Suh, & Koo, 2011; Musa & Ismail, 2011).
- Virginia had the **largest percent of U.S. private employment** in the shipbuilding and ship repair industry at 24.9%. (Maritime Administration, 2013).

Research Question

What is the relationship between knowledge management, innovation, and firm performance?

Procedures

Instrument: Strategic Knowledge Management, Innovation, and Performance Questionnaire (Lopez-Nicolas & Merono-Cerdan, 2011)

Sampling: I was interested in personnel of the member organizations who would have first-hand knowledge of their organizations' knowledge management and innovative practices who could provide informed opinions of these practices.

Participants: Sixty-nine Virginia Ship Repair Association (VSRA) member organization CEO/Presidents, Human Resource personnel, and members in leadership positions within their organizations. Virginia was most applicable due to my location and I had accessibility to the membership since my company is part of VSRA.

Process: Surveyed participants through SurveyMonkey® over a 5-week period

Data Analysis

Tested the assumptions of outliers, normality, linearity, multicollinearity, and homoscedasticity

Conducted multiple linear regression analysis to evaluate how knowledge management and innovation are correlated to firm performance.

Findings

The model as a whole was able to significantly predict the DV, $F(2, 66) = 17.33, p < .001, R^2 = .344$.

Knowledge management was a more influential variable than innovation on firm performance.

Limitations

Examination was in the mid-Atlantic region due to size of the private employment.

The individual respondents might not have been aware that their companies were supporting knowledge management practices responding with false knowledge.

False results were possible with the survey questions being based on opinion vice historic organizational data.

Conclusions

With reduction in forces to work on these government contracts, it is imperative that knowledge management and innovation continue to expand and improve to ensure ship repair organizations continue to flourish in this economy and dwindling labor forces.

Continue examination and exploration through the addition of employee turnover and firm size in future studies. Conducting research of knowledge management, innovation, and firm performance as a longitudinal case study will add depth to this research.

Social Change Implications

Organizational leaders and managers would encourage a culture of knowledge management and innovation with the goal to promote positive personal and professional development of the workforce.

Employee empowerment would become part of an organizational culture.

Increasing knowledge sharing and innovation practices provides the organizations' personnel new or additional skills that are immediately usable outside of the organization.

Chair: Michael Lavelle, Ph.D., Committee Member: Richard Johnson, Ph.D., URR: Peter Anthony, Ph.D.