Chapter 83
Emergent Dynamics of Workforce Program Reductions:
A Hybrid Multi-Level Analysis

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ABSTRACT

This paper reports on research that explores designing a hybrid system dynamics/agent modeling (HSDAM) simulation methodology to evaluate potential effects of a new human resources policy in a company. The study measures the effect of changes in the company's pension policies on individual employee retention, promotion and employment longevity. The Delphi method for elicitation of expert views was used, as four expert panels composed of human resource specialists and general managers participated in model design and predicted employee behavior. The model integrates multi-level organizational data inputs from macro-level business data to granular individual-level employee information. Each simulation run used four years of workforce longitudinal data at the start. Initially, the expert panel predictions did not validate simulation results. However, once alteration of a key model parameter recalibrated individual employees as more economically rational, later runs provided strong support for the model and modeling approach. The simulation results confirmed, among several expert panel predictions, that setting a policy that decreased the likelihood of employee willingness to retire due to replacement income concerns could lead to other consequences with potentially adverse strategic implications for the firm.

INTRODUCTION

System dynamics models often use a top-down design strategy to test the impact of organizational policies on long-term patterns of performance. Hines and House (2001, p. 4) note, "from a system dynamics viewpoint, a company *is* a system of policies. A company's particular collection of policies gives the company its unique identity—an identity that survives employee departures, spatial relocations, and corporate reorganizations. Functional areas such as marketing, finance, and human resource (HR) management promulgate policies that interweave and branch across and throughout the company. Over the past several decades, the potential impact of policies on company performance of HR decisions has been underestimated, creating unintended and undesired consequences.

In one such case, studied here, possible effects of a change in the company's retirement policies and other HR conditions upon employee willingness to continue their employment with the firm worried its management. The analysis prospectively considered the possible effects of making changes in the firm's pension policies. Most HR management research has ignored the importance of employee pension adequacy, and instead focused on conventional workforce motivators to increase employee commitment to continued working. These factors may include addressing importance of working to employees, flexibility of working arrangements, interests outside of work, plus supervision and work environment issues (Shacklock & Brunetto, 2011, p. 252). This paper proposes that such underestimations of the importance of human resources policies, and specifically employee retirement plans, result from three major causes: 1. organizational distance between cause and effect; 2. miscalculation of the effects of aggregating individual decisions; and 3. time delays between cause and effect. Historically, there has been an absence of both strategic and systems thinking in HR management practices. However, there is mounting evidence of a shift in the direction of greater use of more systemic strategic practices.

In recent years, scholars have advocated taking a more strategic approach toward managing people in organizations (e.g., Becker, 2001). However, conceptual and methodological barriers have hindered efforts to do so. There is an increasing agreement among researchers that strategic human resource management (SHRM) necessarily involves three levels of organizational analysis: 1. macro, 2. micro, and 3. meso. Macro analysis concentrates on firm strategy, production and finance and contextual factors, while the micro level focuses on the attributes, needs, and contributions of individual employees. In between these two levels is the meso level, which focuses on the firm's management programs – here those of HR – that translate between the other two levels. Unfortunately, most HR research is limited in scope and tends to ignore the interactions among these multiple levels. Only a few scholars (e.g., Jackson & Schuler, 1999) have sought to bridge these levels, and their research does not offer testable hypotheses. There has been an absence of HR methodologies capable of systematically measuring critical SHRM variables and testing the effects of policies across multiple levels of the firm. A major goal of this research is to begin to redress this gap by proposing that multiple levels of strategic policy analysis be adopted by HR managers.

LITERATURE REVIEW

Levels of Organizational Analysis, and Limits of Current Research

Why does a comprehensive SHRM study necessarily involve all three levels of analysis and why does the methodological gap exist? Bowditch and Buono (2005, p. 236) note, "the main focus of organizational behavior … has been on individuals, small groups and their leaders" due to the

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