

### **Culture and Demography in Organizations.**

J. Richard Harrison and Glenn R. Carroll. Princeton, NJ: Princeton University Press, 2006. 296 pp. \$85.00, cloth; \$29.95, paper.

Harrison and Carroll have written an invaluable book on organizational culture. They inform us about organizational culture and demography through a synthesis that gives us new insights on what culture is and how it can be managed. The perspective is that of the manager: namely, the manager can change the selectivity and rate of hiring and departures, as well as his or her own socialization efforts. The simulation model they develop is fully embedded in the literature and is a parsimonious model of a complex phenomenon. Harrison and Carroll explain the model fully so that it can be replicated and validated. Finally, the model and the experimental design are carefully crafted, so we can have confidence that the results mean what the authors conclude they mean. In short, Harrison and Carroll have contributed greatly to our understanding of culture and demography and to the methodology of our science.

*Culture and Demography* is organized into three parts: (1) "Cultural Analysis," a review of culture and simulation modeling; (2) "Model of Cultural Transmission," an in-depth development of the model, and (3) "Applications and Extensions of the Model," which covers cultural influence networks, terrorist organizations, merging cultures, and others. It can be read and understood on two levels. The non-modeler can read the culture and demography discussions and their synthesis, the description of the stylized organizations, the experiments, analyses, and implications without delving deeply into the models. For simulation modelers, Harrison and Carroll have done a superb job of explaining each model in depth so that it can be verified, validated, and replicated.

The first two chapters make up part 1. In chapter 1, the authors review culture in organizations. The better-known content approach focuses on the substance of culture: beliefs, values, behaviors, and rituals, among others. It is assumed that culture is shared by members of the organization and is more or less stable over time. Harrison and Carroll explain the culture design or management question by analyzing the organization of Dreyer's Ice Cream and Cypress Semiconductors, with an emphasis on the alignment of culture with activities and structure. The lesser-known distribution approach is related to the demography of the organization and its dynamics when management has levers to make changes.

The authors make the case for modeling culture with simulations in chapter 2. They define simulation as a "computational model of system behavior coupled with an experimental design" (p. 30), and it is one among three ways of doing research (Axelrod, 1997). The first is the closed-form, mathematically tractable model. The second approach is observational studies that generate data for analysis. Simulation models are different in that they are not analytically tractable, and they generate their own data. The authors explain that they use them to examine the outcomes of the interactions in

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complex systems of multiple independent processes that may be individually understood from previous research. "Simulations enable the systematic examination of the simultaneous operation of these processes in a specified theoretical model over time" (p. 35). Synthesizing culture and demography involves complexity and system evolution, properties not well captured in closed-form mathematical models or in empirical studies requiring very large observational data sets. Harrison and Carroll's simulation model is designed to yield new insights into organizational culture.

The four chapters of part 2 describe the base model for the computer simulations. The agent-based model incorporating individual agents and the resulting aggregative behavior are explained in more detail than in Harrison and Carroll's 1991 article. Chapter 3 focuses on the rationale for assigning an individual's enculturation level or fitness score on a 0-to-1 scale, measuring "an individual's propensity to embrace the values and norms of a particular organization . . ." (p. 51). This single measure does not imply that culture is one dimensional but only that the relevant characteristics can be combined into a single score. Technically, individuals must be rankable, and the preferences must be transitive. A related analytical approach is the Q-sort used by O'Reilly, Chatman, and Caldwell (1991). An organization is made up of a number of individuals, each of whom has an enculturation level.

In chapter 4, Harrison and Carroll present the cultural transmission process, a model of how the organizational culture can be changed, as well as their justification for the modeling choices as they synthesize culture and demography. There are three elements: the hiring function, the socialization function, and the departure function. Each period (month), new individuals enter the organization; all members are socialized to some degree, and some depart. At the heart of the model is the socialization function. Individual socialization has three influences: management's action, peer pressure, and decay. An individual's socialization-change intensity function (equation 4.4 on p. 76) is a function of these three parameters. The research and our own experience give face validity to the socialization function. In figure 4.5 (p. 82), the cultural transmission model is fully and clearly pictured: the variables, the parameters, the relationships, and the dynamics of updating the model from one month to the next. The model is a reasonable representation of the organizational culture and how it changes and can be managed. The overall model makes sense and has face validity, the single-variable enculturation score and the transmission function are sensible, and the influences of management, peers, and decay are reasonable. Finally, the model is well crafted and technically sound—verified and validated.

Chapter 5 is a friendly introduction to empirically inspired, stylized organizational modeling and analysis. Stylized organizations are flexible to represent various real organizations—Japanese, American manufacturing, professional, or bureaucratic, among others—and the analyses examine questions about base turnover, recruitment selectivity, management socialization, and alienation. It is a very good overview of the research approach. Chapter 6 examines the effect of growth

and decline on the cultural system. Using the stylized organizational models of the previous chapter, the authors analyze growth and decline, holding the other parameters constant, by manipulating the model's parameters of recruitment selectivity, management socialization, and turnover. For the Japanese model, the resulting inertia implies that recruitment selectivity and socialization can be relaxed without fear of losing norms. For the American model, more attention to recruitment and socialization is required to maintain the culture. In declining organizations, the culture is intensified as new employees leave first. A good simulation model can yield a better understanding of interdependent dynamic processes when our intuition may mislead us.

In part 3, the authors analyze a number of stylized organizations and investigate questions of heterogeneity in tenure, cultural influence networks, terrorist networks, merging cultures, and "aging" management actions. One way to view these studies is that the simulation model is a laboratory for doing experiments (p. 44; Burton, 2003). Parameters in the basic simulation model are set to represent the stylized organizations, like the Japanese and American manufacturing organizations discussed above. This stylized model then becomes a laboratory in which parameters are manipulated to generate comparative outcomes that address the questions of interest. Using the model as a laboratory, Harrison and Carroll have crafted appropriate and well-done experiments to address a number of questions of interest.

Harrison and Carroll begin chapter 7 with a review of the empirical evidence of the implicit link between length of service or tenure with innovation, control, careers, distribution of power, and turnover. Only a few scholars have investigated the intervening organizational processes to explain what is happening in the organization, leaving us with many plausible psychological and sociological explanations. Harrison and Carroll focus on socialization, group dynamics, and common experiences to understand the organizational processes better. They then offer a critique of and suggestions for empirical research on demography, using the simulation laboratory to inform us on how to make other research approaches better.

In chapter 8, they turn their attention to cultural influence networks, refining the model of influence patterns between people by drawing on research on small-group dynamics, social cohesion, and influence processes. The results reveal possible processes for the influence of structural holes and cohorts. Harrison and Carroll found that "over time the cultural influence evolves around a robust configuration around a stable dynamic equilibrium as individuals enter and leave the organization" (p. 166). For management, they advise hiring culturally desirable individuals to "capitalize on the cohort effect" (p. 167).

In chapter 9, the authors examine the terrorist organization, a hierarchical cellular structure made up of a loosely connected network with a central command authority and training regimens. They adapt the network model of the previous chapter to include the integrated cell structure, lagged replacement of individuals, external influences on network demographics, and

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noise in cultural transmission. In the simulation experiments, they investigate two removal strategies—incremental and whole cells—and two inhibiting replacement strategies—replacement with individuals who are less culturally fit and delays in replacement. One non-obvious finding is that “Increasing turnover actually increases the cell leader’s influence” (p. 182). They also found that terrorist networks are most vulnerable to incremental removal—removing full cells has little effect—and delaying replacement disrupts command and increases heterogeneity. Further, “these networks appear highly resilient and cannot be easily destroyed” (p. 184).

Chapter 10 examines the conventional wisdom that cultural clashes cause mergers to fail. The authors simulate two parent organizations and then the merged organization, examining hiring and layoff policies as well as the effects of socialization processes on the homogeneity of enculturation. The results (with caution due to their harshness) suggest that “high alienation consistently across time produced the managerially desired goals of high mean enculturation and low cultural heterogeneity” (p. 207). Other possible managerial tactics of selective hiring and socialization were less effective.

In chapter 11, the authors extend Stinchcombe’s (1965) liability of newness argument, that new firms with wide cultural diversity can fail shortly after birth. Their findings are consistent with Stinchcombe in terms of the cultural heterogeneity effect at birth, but they find that the liability can remain as the firm grows. If high heterogeneity persists, then high liability remains; it is not only an age issue. Chapter 12 provides a summary of the authors’ ideas and findings. Harrison and Carroll have added a good deal to our understanding of culture and demography by this synthesis, and their book provides a guide to applying simulation in social science. I highly recommend it.

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