

Organizational Demography:
A Review

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Organizational Demography

Abstract

Research has established the importance of including demographic considerations in organizational analysis to provide a more comprehensive explanation of organizational phenomena. However, there are a wide variety of conceptual and empirical perspectives in the field of organizational demography. Each perspective has a different focus and conceptual underpinnings. In this paper, we develop a framework to categorize the current literature into cohesive theoretical perspectives. In addition to organizing the past and current work in the field, the framework draws attention to other possible approaches to demographic research in organizations.

Demography and Organizations

The impact of demographic characteristics of organizational members on their work attitudes and organizational behavior has been of interest to organizational theorists for a long time (e.g. Porter & Steers, 1973). However, the organizational studies using a wide range of demographic perspectives have increased significantly since the early 1980s (Bacharach & Bamberger, 1992). Research in the area is underpinned by diverse theoretical and conceptual approaches that have focused on a wide variety of issues. While some studies have examined the impact of demographic characteristics of organizational members on their attitudes and behavior, others have investigated the impact of the composition of these demographic characteristics in an organization on individual attitudes and behavior, and organizational outcomes. A few studies (e.g., Baron, Mittman & Newman, 1991) have examined the determinants of an organization's demographic composition.

Determinants of Individual and Organizational Demographic Characteristics

The organizational demography literature can be organized into clusters based on the conceptual approaches used and the issues examined. At the very first level, research that examines the consequences of demographic characteristics can be differentiated from studies that analyze its origins and determinants. Studies that examine the origins and determinant of demographic characteristics can conceptually be further subdivided into those that examine processes at an individual or system level. Most individual level studies are based outside organizations and are outside the scope of this article. Within organizations, one can study how individuals acquire some of their demographic characteristics - tenure, rank in an organization by examining the impact of organizational structure and processes, and other demographic characteristics such as race, sex, and age. One can also examine how these lead to certain compositions of demographic characteristics within organizations. However, it is difficult to categorize a study into any one category because the theoretical frameworks used and the conclusions drawn are so interrelated.

Mittman (1992) provides a framework that can be used to categorize studies that examine the origins and determinants of organizational demography. He argues that the key organizational processes that largely operate independently and influence demographic composition are entry, internal transition, and exits. The determining internal factors are organizational structure, organizational policies and procedures, and existing demographic composition. The key external factors are government policy, court rulings, social norms, population demography, technology change, and economic conditions.

Tharenou, Latimer and Conroy (1994) examined the role of gender in managerial advancement. They found that training, work experience and education, a spouse and dependents, and career encouragement had differential affects for men and women. Shenhav (1992) examined the impact of gender and race on entrance to managerial positions in private and public sectors. He concluded that relative to white males, black workers had promotional advantages in both sectors, and women had promotion advantages in the private sector. Although both these studies examined advancement at the level of the individual, their findings have implications at the organizational level. While Tharenou et al. (1994) concluded that some organizational practices that hindered advancement of women needed to be changed, to improve representation of women in management, Shenhav suggested that low representation of blacks and women in managerial positions is more a function of past practice than current.

Consequences of Individual and Organizational Demographic Characteristics.

In this paper we will develop a framework that can be used to group studies that examine the consequences of organizational demography by expanding on the four approaches model offered by Bacharach and Bamberger (1992). The new framework draws attention to other streams of research that also address demography related issues but have not traditionally been considered part of the organizational demography literature, and to possible research questions that have not been investigated.

Bacharach and Bamberger (1992) in their review of the literature that examined the consequences of organizational demography suggested that "demography can be operationalized at either the individual or organizational level using either relational or non-relational approaches" (1992:95) providing four basic ways in which demographic research can be categorized. They were referring to operationalization of the causal or independent variables. We believe that the framework can be expanded by differentiating between studies that examine outcomes at the level of the individual or the system (group, unit or organization). Table 1 depicts this new framework.

Table 1

Operationalization of independent / causal variables.		Operationalization of dependent / outcome variables (Level of Analysis)	
Level of Analysis	Mode of Measurement	Individual	System
Individual	Non-relational		
	Relational		
System	Non-relational		
	Relational		

As suggested by Bacharach and Bamberger (1992), demographic variables may be differentiated according to their level of analysis -- individual versus system (group/ unit

/organization) -- and the mode of measurement -- relational/non-relational. Measurement at the individual level of analysis indicates a primary focus on the demographic characteristics of individuals in an organization, without any attempt to aggregate their characteristics to develop organizational level constructs or variables. On the other hand, measurement at the system level of analysis indicates a focus on the demographic characteristics of groups, units, or organizations. The variables for such an analysis are based on some form of aggregation of demographic characteristics of individuals in the system.

Relational modes of measurement are based on constructs that examine the impact of similarities or differences of demographic characteristics on certain outcomes. These constructs assume the effect of demographic characteristics, whether aggregated or non-aggregated, is contingent on their relationship with the demographic characteristics of others in the system or the presence/absence of other factors in the system. Non-relational modes of measurement are based on constructs that examine the direct impact of demographic characteristics of an individual or the demographic composition of a system on outcome of interest.

Based on these differentiations, Bacharach and Bamberger (1992) offered their four demographic approaches in organizational analysis. As mentioned earlier, we make a further differentiation based on the level of analysis of the outcome variable. For each approach by which the causality of demographic characteristics is operationalized, the consequences can be examined at the individual or system level. This results in a 2 X 4 matrix with each cell containing studies that are similar on the dimensions described. Each cell may still include theoretical approaches that are different as will be seen in Cell-11 and Cell-12. The matrix not only improves the clustering of the literature reviewed by Bacharach and Bamberger (1992) but directed our attention to other streams of literature that use demographic characteristics in their constructs but have not been included in the organizational demography literature.

Cell-11. Studies grouped in Cell-11 examine the non-relational effects of demographic characteristics of individuals on their attitudes and behavior in organizations. Within this cell there

are two conceptual streams. One corresponds to Cell One¹ in Bacharach and Bamberger's (1992) analysis. These studies examine the relationship between the demographic characteristics of persons on their own organizational behavior and attitudes. Research in this stream is based on the assumption that individuals who have different life experiences outside the organization have differential abilities to deal with organizational life. The demographic characteristics of individuals, such as age, education, gender or race, are surrogate measures of their differing life experiences, and can be related to their attitudes or behavior in the organization. A typical study of this tradition examines the independent impact of one or more demographic characteristics on one or more individual level outcome.

For example, Rhodes (1983) examined the impact of age on job satisfaction and commitment to the firm. Smith and Hoy (1992) examined the same issues in small organizations. Aryee (1994) in their study of male and female teachers in Singapore found men reported significantly more job involvement than women. Age, education, and tenure had no influence. He explained the differences in terms of differences in sex-role socialization in society. Ragins and Scandura (1994) examined the willingness of matched executive men and women to become mentors. They found that, contrary to other studies, that there was no difference between men and women in their evaluation of costs and benefits of assuming the role of a mentor, and they were equally likely to become mentors.

Lefkowitz (1994) however suggests that the impact of non-relational demographic characteristics on dispositional variables may be due to the effect of spurious variables. His analysis revealed significant differences between men and women. However, when he controlled for job characteristics, age, tenure, level of education, income, and occupation level. He concluded that men and women react similarly to the world of work.

The second stream within Cell-11 examines the impact of demographic characteristics on individuals on the attitudes and behavior of others. The conceptual assumptions of this stream of

¹Bacharach and Bamberger (1992) did not include any study that examined organizational level outcomes in this cell.

research are similar to the one above. It suggests that people may have views on the relationship between demographic characteristics and the ability to cope with organizational life that influences their attitudes and behavior towards others. The studies in this stream examine the impact of such views on some individual level outcomes like salary and promotions.

For example, Barnum, Liden & DiTomaso (1995) found that "disparity between the pay rates of women and minority group members, relative to white men, increased with age when organizational tenure, education, and skills were controlled" (1995:863). They suggested that this might be due to biases in organizational practices and race or sex stereotypes used by superiors that result in lower values of work of women and minorities.

Cell-12. The perspective described in Cell 12 is to examine the impact of relational individual level demographic characteristics on individual level outcomes. Within this cell, there are two approaches, the first that corresponds to Cell Four in Bacharach and Bamberger's (1992), and the second that examines dyads. Bacharach and Bamberger (1992) and Bacharach, Bamberger and Mundell (1993) suggest that there are socially or organizationally interpreted status symbols associated with a set of demographic characteristics, which create expectations in the minds of individuals. An inconsistency between the expected status and actual status associated with the position or work in an organization induces stress, which affects attitudes and behavior. In other words, demographic characteristics have an indirect impact on attitudes and behavior.

The second stream of research that also examines the relational impact of individual level demographic characteristics on individual level outcomes. This approach focuses on the impact of the relationship between the demographic characteristics of two individuals on certain attitudinal and behavioral outcomes. Tsui and O'Reilly (1989) found that dissimilarity in superior-subordinate demographic characteristics is associated with lower effectiveness as perceived by superiors, less personal attraction on the part of superiors for subordinates, and increased role ambiguity experienced by subordinates. Ragins and Cotton (1991) found that women reported more barriers to obtaining mentors than men. They suggested that this might be because of fewer senior level

female managers leading to a shortage of female mentors. Thus female workers have to initiate cross-gender mentoring relationships which probably have more barriers than same-gender mentoring relationships.

Cell-13. Cell 13 represents a potential approach to examine the impact of non-relational system level demography on individual level outcomes. This approach is not covered in Bacharach and Bamberger's (1992) framework. We are also not aware of any theoretical or empirical work in that may be clustered in the area. There has been a lot of research examining the impact of demographic composition in a system on an individual's attitudes and behavior using relational arguments. These will be discussed in when we examine Cell 14. However, we make the case that there is a need to examine the independent impact of demographic composition on individual behavior.

For example, Dutton and Dukerich (1991) through the analysis of the impact of how the Port Authority of New York and New Jersey dealt with homeless people at its facility, suggest that individuals develop an image of an organization based on its actions on certain issues and this affects their organizational attitudes and behavior. Dutton, Dukerich and Harquail (1994) suggest that an organization's images that individual's have of their work organization influences the strength of their identification with the firm. Gatewood, Gowan & Lautenschlager (1993) found that initial job choice decisions are related to the image of an organization held by a potential applicant.

Although, these studies did not examine demography-related variables, it is conceivable that an organization's image based on its demographic compositions, which will effect individual level attitudes towards the organization. For the sake of an argument, individuals, irrespective their own demographic characteristics, may want to work in an environment with a preferred demographic composition. For example, people may want to be part of an organization or unit that has a high proportion of highly educated members. As in Cell 11, the proportion of educated members in an organization may be a surrogate measure for organizational success and may affect a persons job satisfaction or attachment regardless of their own demographic characteristics.

Another example, may be the commitment a person may have to an organization because its demographic composition reflects the composition in society, irrespective of their own characteristics.

Cell-14. Cell 14 represents the approach that has attracted maximum attention in the recent studies. It corresponds to Cell Three in Bacharach and Bamberger (1992)². The studies are based on the assumption that certain individual level outcomes are dependent on the proportion of people with demographic characteristics similar to their own. An individual's demographic characteristics in isolation may not be as important as their relationship to the attributes of others in the organizational unit in providing an explanation for his/her attitude and behavior. For example, the age of organizational members may influence their commitment to the firm (Porter & Steers, 1973; Rhodes, 1983), but the major influence on their commitment may be the proportion of people of similar age group. Within this approach, it is argued

it is not one's sex or race, per se, but the proportion or composition of the organizational unit in terms of the particular salient ascriptive characteristics that affects group dynamic and the attitudes and performance of the individuals involved (Wagner, Pfeffer, O'Reilly, 1985:75)

The argument for the impact of relational organizational level demography on individual level outcomes have been based on (i) the similarity-attraction paradigm (Byrne, 1969; 1971), and (ii) self-categorization theory (Turner, 1987). Most of the studies have used the arguments of the similarity-attraction paradigm. It suggests that people who have similar demographic characteristics are more likely to be attracted to each other in work and non-work situations. Therefore, demographic homogeneity leads to greater social integration (O'Reilly III, Caldwell & Barnett, 1989) which in turn influences the attitudes and behavior of members of the organizational unit. The similarity-attraction paradigm had been used to examine communication in organizations (Zenger & Lawrence, 1989), and organizational attachment.

²Bacharach and Bamberger (1992) did not include studies that examined organizational level outcomes of relational demography.

The studies informed by the similarity-attraction paradigm assume that there is interaction among individuals in an organizational unit. However, Tsui, Egan and O'Reilly III (1992) argue that organizational members may identify with the organization or group without necessarily interacting with others. They suggest that members go

through a process of self-categorization (Turner, 1987) in which they classify themselves and others into social categories using characteristics such as organizational membership, age, race, status or religion. (Tsui et al., 1992:551-2)

If members categorize themselves in such a way that they have a positive self-identity, they will desire to maintain their membership in a group and protect it from outsiders. This includes their attitudes and behavior/ Consistent with the similarity-attraction paradigm, Tsui and colleagues (1992) using self-categorization theory found that demographic heterogeneity was associated with lower levels of organizational attachment.

Ely's (1995) study concluded that the social constructions of gender difference and gender identity at work by professional women was a function of the proportion of women in the upper echelons of the organization. James, Lovoto, and Khoo (1994) examined the impact of social identity of minority workers on their health. Garza and Borchert (1990) examined the differences in cooperative and competitive behavior between genders under majority and minority conditions.

Cell-21. Cell 21 includes studies that examine the impact of individual level non-relational demography on organizational level outcomes. Studies examine the characteristics of individual to their relationship to organizational outcomes. Studies that examine the impact of a leader on an organization fall within this category. Other studies have examined subsets of the problem. For example, Kalleberg & Leicht (1991) found that "businesses headed by women were not more likely to go out of business, nor less successful, than those owned by men" (1991:136). The study was in response to some research suggesting that business owned by men were more successful than those owned by women (e.g., Aldrich, 1989).

C-22. This cell covers studies that examine the impact of individual level relational demography on system level outcomes. For example, the examination of the influence of the

characteristics of technology champions relative to other members of an interdisciplinary team on team performance would be a representative study. Some studies have focused on the impact of group composition on the ability of women or minority leaders to achieve group effectiveness. For example, Garza, Lipton and Isonio (1989) examined the influence of leader ethnicity and group ethnic composition on task performance in a group.

Cell-23. This perspective examines the impact of non-relational system demography on system level outcomes. This corresponds to Cell Two in Bacharach and Bamberger's (1992) framework, which they labeled 'Total Composition Approach'. Studies using this approach attempt to establish a relationship between an aggregate demographic characteristic of an organization with an organization level outcome. For example, a study may examine the relationship between the mean age of a work force and absenteeism at the organization.

Baboub, Rasheed, Preim & Gray (1995) suggest a link between the demographic composition of top management teams and corporate illegal activity. They argue that among other things, top management team characteristics such as "length of service, functional background, formal business education, age, and military service, as well as homogeneity in each of these characteristics" (1995:138) may influence corporate illegal activity.

Cell-24 The studies in this cell are similar to those in Cell-14, except that the dependent variables are defined at the level of the organization. For example, a study in Cell-14 might examine the impact of relational system-level demography on individual organizational attachment, whereas a study its influence of organizational turnover. The similarity-attraction paradigm has been used to examine turnover in top-management groups (Wagner et al., 1984), turnover in work groups (O'Reilly III, Caldwell & Barnett, 1989), and Jackson et al.'s (1991) study of turnover is also based on similar theoretical arguments. Wiersema and Bird (1993) in their study of top management teams in Japanese firms found that heterogeneity on age, team tenure, and prestige of the university attended were related to team turnover.

Ancona and Caldwell (1992) found that functional diversity in a new product team lead to increased communication outside the team boundaries and tenure diversity improved internal goal

clarification and priority setting. However, they found that overall effect of diversity on performance was negative.

Wiersema and Bantel (1992) found that a particular combination of demographic characteristics of a top management team can be linked to the propensity to change corporate strategy. Michel & Hambrick (1992) suggest that for a firm's diversification strategy to be successful it needs top management to have a certain composition in terms of demographic characteristics.

Discussions

The brief review of the literature suggests that there are multiple perspectives that can be used to understand the role of organizational demography on organizational and/or individual behavior. Some of the perspectives have spawned a lot of empirical research, while others have not been well examined. The framework also drew attention to other possible perspectives that may be used to look at influences of demography. Each perspective draws attention to a unique question or value assessment relevant to organizations and/or society.

It is quite unfortunate that there is almost no research on organizational demography in the Indian context. In a society with so much diversity based on language, caste, religion and deeply engrained beliefs based on age, gender, marital status etc., there are bound to be organizational demography related influences on organizational and individual behavior. There is a need to explore these issues to make organizations in India more acceptable to all persons.

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