

AFRICAN-AMERICAN IT PROFESSIONALS: DIVERSITY AND EMPLOYMENT RIGHTS CONSIDERED

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ABSTRACT

While career models consist of five stages, recurring themes among African-American IT professionals support four classes of factors that impede career advancement: systemic, career development, intrinsic, and cultural determinants. Each of these factor groups holds significant implications for employment rights. These implications stand to affect broader issues among information technology workforce career progression, performance standards, and personnel policies. This is particularly evident under conditions of ever-changing job markets and the continual need for lifelong learning. Stage models have been used to assess the career development of organizational employees. Categories of a stage career development framework were used to guide the collection of data from 30 African-American IT professionals to explore their career progression.

This research sought to explore the implications of employee rights among African-American information technology professionals relative to the barriers to career advancement among this group. I used the five-stage model of Greenhaus, Callahan, and Godshalk [1] to assess career development and the work of Malos, Haynes, and Bowal [2] to evaluate employment relationships and individual rights. Specifically, I posed the question: "How can employment rights and individual rights in the context of African-American information technology professionals be evaluated or better understood?"

While barriers to women in IT careers have been investigated [3-8], distinctions of race have been largely ignored. In its May 2003 Blue Ribbon Panel on IT Diversity Report, the Information Technology Association of America determined

that racial minorities made “few inroads into high tech careers between 1996 and 2002,” based on data from the U.S. Bureau of Labor Statistics and Current Population Surveys [9]. While African-Americans represented 10.9 percent of the U.S. workforce in 2002, the percentage of African-American IT professionals declined from 9.1 percent to 8.2 percent. Some would suggest that discrimination and the glass ceiling add to the complexity of African-Americans and other underrepresented groups attempting to navigate the IT workplace [10, 11].

Given that African-Americans comprise 12.9 percent of the total U.S. population, these statistics suggest that the IT profession has yet to fully utilize this talent base. Additionally, systematic biases in job performance evaluations tend to function to the detriment of African-Americans [12, 13]. Ilgen and Youtz suggested that keep “race differences in job performance may be explained by disparate treatment experienced by minorities. It is possible that race differences in rated job performance are due to treatment discrimination conditions that provide few opportunities or incentives for minorities to perform at a high level” [13, p. 317]. Previous research [14, 15] and anecdotal evidence suggests that these career barriers transcend career stages. Therefore, it is important to better understand career stage categories that exist among African-American IT professionals. Greenhaus et al. offered well-regarded career groupings to understand this phenomenon but also discerned implications regarding employee rights in this context [1].

What follows is an overview of critical research in the employee rights domain. A discussion of the career development and IT diversity literatures is provided. The research methodology is presented, and findings are summarized. The article concludes with implications for the field and practice in the context of employee rights, as well as limitations of this research study.

LITERATURE REVIEW

Why Are Employee Rights Critical in Information Systems?

Employment rights enable us to enhance our understanding of the career experiences of African-Americans as they migrate along the career development stages proposed by Greenhaus et al. [1]. In their 1997 *Journal of Applied Psychology* study, Eisenberger, Cummins, Armeli and Lynch confirmed the results of 295 employees’ responses to items on perceived organizational support, discretionary treatment and job satisfaction [16]. The average age of the employees was 41.5, and 58 percent of the participants were female. While 58 percent of those surveyed worked in large organizations, the remaining percentage worked in the private sector, university settings, hospitals, and nonprofit firms. In

essence, these researchers determined that the favorableness of high-discretion job conditions was significantly associated with perceived organizational support.

As noted by Eisenberger et al., social exchange theorists offer that such discretion affects unrestricted decisions, (in)external organizational constraints and more importantly, employees' perceptions of personnel policies and their (in)equitable implementation [16]. While discretionary decisions are characteristics of job assignments, compensation, promotion, task variety, supply and demand, technological infrastructure, competitive forces, and governmental regulatory constraints must be taken into account. Hence, these variables definitively affect career experiences and employment relationships in IT environments.

While O'Toole submitted that there is an elite "vanguard" [17], there are distinctive qualities that characterize best employee practices among distinguishable organizations. Malos et al. described three types of employment relationships: 1) independent contractor, 2) employee rights, and 3) at-will approaches [2]. The independent contractor approach can be depicted by a discrete yet limited duration of work; outside core competencies can be found in the organization's use of unique contractor expertise. An employee rights approach focuses on routine, static skills within the organization, and employees are fundamentally interchangeable as they work on projects over time. Finally, Malos et al. defined an at-will approach where nonroutine work and projects associated with evolving skill sets emerge [2].

The current IT global workplace appears to embrace each of these three employment relationships. The use of independent contractors is commonplace among IT professionals and in high-tech firms. While some may applaud the use of contractors for temporary assignments and projects, anecdotal evidence has suggested that a substantial percentage of contractors are African-American and other underrepresented minorities. Thus, while this gives the outward appearance of employing these groups, contractors are rarely given the opportunity to transition into management and/or into decision-making roles in the IT workplace.

Secondly, an employee rights approach seems to support professionals being involved on a myriad of assignments, given that they are proficient. In an IT context, this is likely to be the most critical as one attempts to move along the career stages as posited by Greenhaus et al. [1]. However, IT studies by Igbaria and Wormley indicated that even in light of comparable skill sets among African-American and whites, African-Americans received far inferior job performance ratings [14, 18]. I contend that such outcomes hinder professional development and career advancement, and suggest that traditional linear career stages are not applicable to African-American IT professionals.

In addition, there is the at-will approach proposed by Malos et al. [2]. This method embraces nonroutine work with employees having new skill sets. New employees are said to be well-matched for up-and-coming projects. This notion continues on the skill enhancements of the employee rights approach. As such, similar concerns have been articulated regarding professional development and

training among the group of IT professionals at hand. Researchers have demonstrated that the changing demand for IT professionals supports the notion of lifelong skills in a response to employers' needs and global positioning [19].

The intersection of African-American IT corporate experiences and individual employee rights offers an opportunity to uncover vignettes of how stage categories may or may not apply to the participants at hand. The employee rights approach offered by Malos et al. suggests that employees revolve and migrate through the organizational structure based on expertise [2]. Such migration, however, is complex and is a function of organizational structure and individual characteristics.

Ultimately, an individual (who is composed of intrinsic personal and cultural factors, and career development choices) maneuvers within the organizational context (which can be characterized by systemic, cultural, and career development facets), and such actions stand to have an impact on employee rights. Further, data collected for this study weave a multifaceted tapestry between individual rights and at-will frames as offered by Malos et al. [2]. That is, IT career stages collapse and at-will, lifelong competencies that are internal and external to the traditional IT career path, are not the exception, but the rule, among African-Americans.

African-Americans in Information Technology Careers

This section provides an overview of the career experiences of African-American IT professionals, reports findings from the ITAA Blue Panel and offers a connection to the employment rights work of Brief et al. [11]. Igbaria and Wormley determined that race affects organizational experiences and career success [14]. Using a sample of 138 (50 percent split between whites and African-American IT workers) from a large multinational U.S. firm, these researchers compared career development differences between the two groups. The mean age of the respondents was 37.30 years (*S.D.* = 7.13), and 52 percent of the employees were female. The respondents had extensive years (mean 14.75 years, *S.D.* = 7.16) of experience in IT and were well-educated (80 percent attended college). Non-significant differences between the two groups on age, education, organizational tenure, job tenure, marital status, and organizational level, and by the similarity of the jobs, were controlled for in their study. African-Americans experienced lower career satisfaction, career support, and job ratings than their white peers [14]. In the presence of disparate treatment and biased job-performance ratings, questions of civil rights violations and/or protection under Title VII of the Civil Rights Act of 1964 emerge. According to this law, individuals should be protected from discrimination in employment domains regardless of race, color, gender, religion, and national origin [2].

Subsequent research by these investigators resulted in similar findings [15]. Findings from their survey provided evidence that career development varied

among African-Americans and whites. That is, white IT professionals experienced more favorable career opportunities than their minority peers did. Further, IT groups may not be conducive environments for African-American and other underrepresented minority groups, based on their perceptions of IT being a white male career track. While there is a noteworthy body of work that has documented the complexities associated with African-American life in the corporate structure [20-23], O'Toole offered that the "vanguard" companies thrive on ethnic and other differences that exist within their organizations, while distinguishing themselves by offering employee rights, such as implementing participatory decision making and measures of job security, tailoring benefits to individual needs, and deploying incentive pay programs [17].

While our knowledge of gender differences among IT professionals and adoption and/or use of technologies have been well-documented [5, 7, 8, 18, 24, 25], aside from Igbaria and Wormley [14, 15], few IS studies have addressed the complexities of African-American career experiences. If the field is to address existing calls for diversity, beyond methodological techniques, by its leading scholars [26, 27], an understanding of race differences stands to expand our current body of work, augment and/or challenge existing theories, and offer interesting findings. This is particularly the case in a global world where cultural issues are reshaping how technology organizations are conducting business. In recent commentaries of the organizational impact of diversity, Diversityinc.com addressed these issues extensively in its 2004 Top 50 Companies for Diversity Report. Beyond these calls for diversity by researchers and in an effort to attract and retain underrepresented groups, IT practitioners (as noted by Information Technology Association of America (ITAA), *CIO Magazine*, U.S. Department of Education, National Center for Education Statistics, etc.) continue to seek knowledge from IT researchers on this topic.

According to the 2003 ITAA Blue Ribbon Panel on IT Diversity Report, those who have STEM (science, technology, engineering, and mathematics) education in their formative years are significantly more likely to enter IT professions [9]. Of the undergraduate degrees conferred during the 1999-2000 academic year, African-American undergraduates earned merely 7 percent of all computer science, engineering, and engineering-related degrees [28]. While some barriers to entry for African-Americans and other underrepresented groups have been cited as cultural and socioeconomic, systemic obstructions are particularly prevalent.

Moreover, lack of commitment from practitioners and the academy, as noted in the ITAA 2003 report, continues to linger. This remains an issue in the wake of the recent Supreme Court case regarding the University of Michigan's admissions policies and current trends in the industry to illustrate that African-Americans and other minorities work predominantly in lower-level IT positions, such as key operators and data-entry clerks. Brief and Buttram challenged the workforce to move beyond well-intended efforts, such as hiring African-Americans simply to have "faces of minorities" in what some term the "pots-and-pans" approach

(i.e., hiring in lower ranks even when candidates show evidence of significant education and experience and when more visible, decision-making, and resource-based positions are available) [10]. Often, these actions are viewed as workplace discrimination and communicate antagonistic behavior to the detriment of minority groups, although allegations of discrimination do not constitute proof.

Despite such ambiguity, more than 52,000 allegations of racial discrimination were filed with the Equal Employment Opportunity Commission against private sector employers between 1992-1993 [11]. To enable racial equality, Brief et al. offered well-intentioned executives several choices [11, p. 194]. Among these are investigating the numbers and what is behind the numbers. In other words, organizations should determine: 1) for a given position, what proportion of African-American applicants are hired compared with the proportion of whites; 2) what proportion of African-Americans are promoted; 2) what the comparable turnover rate is among African-Americans and whites; 4) whether African-Americans are clustered in certain occupations and/or levels; and 5) what the results are of employee attitude surveys [11, p. 194]. By addressing these issues, an enhanced understanding of employee rights would benefit the IT workplace experiences of those in underrepresented groups and identify career-stage barriers that characterize these environments. Some researchers delineated alternative approaches to employee-organizational relationships and suggested that environmental contingencies, work characteristics, and valued outcomes affect employment relationship approaches [2, 29].

Career Development

While the above section reviewed career experiences, career development scholars propose stages in the advancement of workers. Hence, this section discusses these stages with significant milestones that characterize each phase. Greenhaus, Parasuraman, and Wormley found that African-Americans experienced less job discretion, received inferior job performance ratings, and “hit” career plateaus in earlier stages of their careers than their white contemporaries [12]. In a survey of 828 manager-supervisor pairs from three U.S. organizations, these scholars found that African-Americans “may” often be barred from career prospects that engender power within and cultural doctrinism of the organization—thereby resulting in unfavorable job performance [12].

Greenhaus et al. offered categories of an individual’s career development [1]. Defined along three dimensions (occupational choice, age range, and major tasks), the categories link career development with life development. Based on five stages, the initial stage (Preparation for Work) represents one’s life while progressing through youth and early adulthood. During this stage, the authors stress the importance of aligning the individual (interests, values, talents, etc.) and profession (e.g., career requirements, educational needs, etc.). Following stage one is the Organizational Entry phase where individuals select a profession and

an organization. Typically characterized by first career assignments, professionals at this stage tend to experience career frustration and disenchantment due to unmet expectations, just to name a few [1].

Stage 3 is defined as Early Career, where persons strive to gain and sustain technical skills of the job while discovering the organizational norms and culture. This stage is frequently met with life transformations, as one may pursue changes in marital status and parenthood. The Midcareer stage, then, follows. Often termed the transition period, this period involves a reassessment of where the professional is within the organization, organizational fit (which can result in job change), and more focus on retirement preparation [1].

Lastly, the Late Career stage is distinguished by addressing life changes with a focus on active retirement planning while striving to remain valued and industrious within the organizational domain. These stages are depicted by age and are based on a linear assumption that *Preparation for Work* commences in one's earlier years, followed by formal education, and terminates in one's mid-to late-60s [1].

While I realize the limitations associated with age as a dimension of defining career stages, I sought to explore the intersection of individual employee rights in the context of career stages among African-American IT professionals. I contend that the prior findings in the information systems field hold implications for discovery of career development among African-American IT professionals [14, 18]. This would enable me to better assess the question posed by Datz:

African-Americans hold less than 3% of the CIO positions in the U.S. What is wrong with this picture—given that African-Americans make up 12.9% of the population?; What are the barriers that still exist in corporate America after the Civil Rights Act of 1964? [30, p. 76].

Lastly, the above question stimulates inquiries into the implications of employee rights among African-American IT professionals.

METHODS

Procedures

To collect data, I adhered to the interview-based work of Janson, Guimaraes, Brown, and Tallieu [31]. I employed a convenient sample to uncover and clarify the career development experiences of African-American IT professionals as well as sought implications relative to employee rights. An interview protocol was established using the initial phases of this research. (See Appendix A.) Participation was voluntary and solicited by the author via African-American IT professional groups. All participants' names, organizations, and other data remained anonymous. I made initial contact with each professional group, and potential respondents were requested to sign up for a data collection session (interview).

Interviewees were asked to retrospectively discuss their earlier stages (primary and secondary education, and initial years with their current and/or former employers) in their professional development while providing data on their current IT positions. Within 24 to 48 hours following my preliminary contact, I forwarded a personal e-mail to each subject confirming a time, date, and “neutral” location. Note that these “neutral” locations were typically away from the respondents’ place of employment and my university office.

The interview guide was based on a prior study of the conceptualization of information and community technologies by African American women in the United States [32]. However, my study centered around four themes: systemic, cultural differences, career development, and intrinsic factors. The themes and representative questions are included in Table 1.

Each interview lasted from 75 to 90 minutes, and the interview protocol was developed and used to structure these sessions (Appendix A and based on [1, 32]). Only five participants asked not to be recorded. All taped sessions were transcribed and summarized within 24 hours. Each interviewee was shown his/her

Table 1. Research Themes and Questions to Study’s Participants

Themes	Representative questions
Systemic Factors	How do we move beyond a 3% representation in corporate IT careers? How does racism/sexism . . . other “isms” manifest itself in your workplace, if at all? Explain.
Career Development	How relevant is professional development for African-American professionals in IT? How do you make the choice between technical vs. managerial career paths? Describe any barriers?
Cultural Differences	Describe your organization’s culture (friendly, conducive for African-American professionals to advance, respectful of African-American culture/themes/holidays). Do you fit into an IT position within the firm? If so, how do you accomplish fitting into an IT position within the firm?
Intrinsic Factors	Describe your experiences with your current employer. How did you reach your current position? Have you experienced barriers? How have your precollege and college experiences shaped your IT workplace experiences?

summary for accuracy and any additional clarification. Data were then summarized based on career stages and barriers noted by the respondents. In cases of disagreement, an independent coder was used to isolate barriers noted in the interview transcripts.

Data Coding

I employed traditional techniques for analyzing qualitative texts by finding illustrative themes that emerged across interviews [34, 35]. Two coders began by independently reading and coding five interview texts. The coding utilized a grounded approach that was not informed by *a priori* theory. The codes were synthesized and refined based on initial coding efforts. This was particularly the case and necessary prior to my subsequent interactions with the participants. This process was continued for six months until all of the interviews were coded.

Respondents

Interviews were conducted with thirty African-American IT professionals who work in high-tech careers and/or with high-tech companies. Of the 30, seventeen (57%) were female, and 13 (43%) were male. The mean age was 37.6 years, with a range of 23-60, while twelve (40%) have children. The respondents were in the following career stages: Entry (2), Early Career (17), Midcareer (9), and Retirement/Late Career (2). Thus, 57 percent of my sample fell into the Early Career stage, based on the research model's stages. The average length of tenure with the current organization was 9.3 years. All but two of the respondents had earned an undergraduate degree, while several of the respondents (57%) held technical degrees (BS and/or MS) in mathematics, computer science, engineering and information systems, and two had earned doctorates in engineering. Job functions included the following IT categories: Web specialist, application developer, software developer, customer service, systems administrator, and two IT entrepreneurs.

FINDINGS

Each personal interview can be viewed as a story or vignette regarding IT careers—thereby suggesting implications for individual employee rights and the perceptions and realities that each professional set forth. I offer five short vignettes based on age, gender, and career-stage category. Note that the following are excerpts from quotations exactly as they were transcribed. Although any errors should be attributed to transcribers, note that an attempt was made to accurately capture individual nuances of speech.

Customers would call in (during the late '70s) and wanted to know who is this "n*****" on my account. Get her off on my account. I am still bitter because

management would constantly remove me from accounts and thank the customer for their prior business. There was a Black male in the same office who refused to mentor me. He stated; “I scrapped my way, and you need to do the same. I am the numer 1 sales rep here. Good luck and don’t bother me.” Remember, affinity groups were not around then and they certainly were not cool. Now, I find these groups limiting because I have reached my peak. The group permits (me) to give back and has on occasion shared confidential information on salaries, jobs, and resource actions with other Blacks. I am a founding member of the women affinity group, and these white women need to know about us; I am simply there to represent. . . . (46-year-old, African-American female)

Over the years, I have found that white female managers are motherly and compassionate. They are really concerned about family and often suggest that the reportees spend time with family. I have, yet, to have an African American female manager. Sistas, at least in my peer group, don’t get support from white males. (You) guys have it hard. For example, locks and braids on sistas hold meaning and if not neat, they frankly are not appreciated. Hair is a BIG issue for sistas because sistas have a harder time than black males. Hair means a lot to Black men. You are best cleaning your face. Back then (1960s and early ’70s), whites lacked the interpersonal skills to deal with Black men. Some Blacks were confrontational and were not interested in winning friends and influencing people. I don’t think that much has changed . . . the game is different. I have no intention to leave (this company); the organization has always enabled me to gain professional and technical skills training. After 30+ years, I am looking for retirement. (60-year-old, African-American male)

I find the corporate environment awful, discouraging, and frustrating. I wished that I had negotiated more upfront. I did not know how my skills could add value to the company. I help co-workers with PCs and software applications all the time. This is not part of my job. I know that this saves the department time and money—as I am the internal guru. I should have asked for more money or something. To date, I do not have daily interactions with my white female manager. I report to a team lead who is a different white female who feeds information to my manager. But . . . my manager does not know my skills. This is a problem because those (whites) that have come in after me have been promoted to team lead. The culture is noticeably bias. For instance . . . the XXX account is a top account and whites are always assigned to this account. Black people are not wanted on this account, and there is no explanation why I was moved from this account. My manager does not communicate with me nor does she advocate my interest in higher education to get my MBA. In fact, my manager crossed off of my performance plan my goal to get the MBA. My manager micromanages, and I don’t like it. (23-year-old, African-American female)

But . . . now I am frustrated with XXX (current employer). I was told that I would get a big bonus after 3-6 months and this is not happening. My salary is below my goal and with the current state of the economy . . . who knows? But I am still learning. The culture of the company means that my being a big

(tall . . . 6'4") Black male matters. This is with any company. It took me 2 years out of (college) to get a job . . . with a technical degree. I was days away from enlisting and signing the paperwork for the military. (This) is a good place to work. It is doing something about diversity especially for African-American women, and I can advance my skill sets. (29-year-old, African-American male)

I was working and going to school when up North . . . but my new white male manager was told something negative and simply had it in for me. I maintained my good attitude, which made it difficult for this white boy. White males have a problem with confronting Black men. I had to move out of there. The department was broken up and the Black secretaries would warn us . . . some of my Black friends refused to listen and ended up unemployed. I consequently moved to (). To this job, I brought networking skills but now . . . the game is at play and I play better now. Other Black males in my group are given a lot of hell because they resist the game. I play the more southern role . . . "How are you? Come in and let me help you." I got my name out there among the (company) managers. I have networking skills and managers value this . . . so I am on top. I may be rated fairly but no one is ever compensated fairly. I look for the fringe benefits plus my flexibility plus my pay . . . and I am okay. Headhunters call me daily and offer me more money and other (company) divisions call. But I look at the whole picture . . . personal, vacation, business, fringe, etc. (43-year-old, African-American male)

Based on the entire data sample including the above vignettes, there are positive and negative comments offered by the participants. The positive centers about "reasonable" compensation and access to professional development, if supported by an individual's manager. Despite acceptable compensation levels, visibility and upper movement into the executive ranks tended to elude several in the sample, particularly those older African-Americans. The general consensus indicated that if you have not made "it" by a certain age then "it" (higher career ranks beyond line management) will not ensue. The negative, however, appears to be embedded in the organizational culture and politics. In all cases, participants were consistent in their perceptions that cultural differences were and are barriers. Early age preparation and "technical career" thinking were said to be key for African-Americans—thus, initiation at the elementary school level. Based on my interpretation of the data, it appears that the Greenhaus et al. career stages [1] collapse under the conditions of gender, race, age, and seemingly, geographical location and thus, do not apply to my findings. Moreover, the individual employee rights of these participants are less likely to be influenced by compensation (i.e., higher salaries lead to greater job satisfaction or positive career experiences). Rather, the careers of African-American IT professionals whose individual employee rights are being examined are significantly affected by cultural awareness/sensitivity, job conditions, (in)formal mentoring, sponsorship, and management support. This

interpretation, however, is not to deny the criticality of early career preparation by African-Americans themselves.

Based on the participants in the sample and emerging from the data after the first round of interviews, several obstacles to career advancement were consistently cited and can be summed up in four categories as depicted in Figure 1. The X-axis is defined as “individual characteristics,” which captures the racioethnicity and precorporate educational formation for career preparation. The Y-axis captures those factors external to the individual and fundamentally is delineated by internal organizational culture. This is defined by systemic and career development elements, and the individual must maneuver such structure—as it is identified by and implemented within the organization boundaries. As such, individual employee rights are influenced by the barriers as noted in Figure 1. Based on the coders’ feedback, quotes are provided in each box of Figure 1. The barriers are summed as:

- 1) Systemic Factors (Box 1)—organizational cultural and climate; “old boy network”; nepotism and rigid organizational structures; isolation and racism. Brief and Buttram offered that the new racism is at work and is systemic, and according to these authors, new racism behaviors suggest that discrimination no longer exists in the minds of some due to advancements as a result of Affirmative Action [10]. This has enabled African-Americans to advance and make some professional and economic advancements. Brief and his colleagues pointed out that those business justifications are constant excuses provided by new racists as to why an action can or cannot happen; in fact, this pretext often indicates that negative feelings, biases, and behaviors are at play [10].
- 2) Cultural Differences Factors (Box 2)—being stereotyped; African-American females being farther isolated and challenged; access to and participation in the political culture (e.g., cocktail parties, golf outings). In part, these attributes rest on social policy, which I suggest is rarely in print and typically communicated informally. Participation and inclusion are the mechanisms for disseminating social policy. O’Toole, in his portrayal of the employee practices among the “vanguard” companies, advised that these firms deploy participation, career-long training (this goes back to Item #1), and individual freedom (i.e., avoidance of monolithic culture) [17]. Further, O’Toole made the case that “vanguard” organizations are “good places to work for minorities, women and other groups who feel some sense of discrimination in American society” [17, p. 63].
- 3) Career Development Factor (Box 3)—lower than expected compensation, job ratings, and performance evaluations; lack of mentorship; lack of management support for professional development. Scholars have documented the consistent, yet ubiquitous practices of underrating African-Americans’ performance in the IT workplace [1, 14, 18, 20, 22, 23]. Given

<p>F i r m</p>	<p>Systemic Factors (Box 1)</p> <p>"I was passed over for a VP position because a white boy was given the position . . . I do mean given. Often, I was offered the refrigerator projects— meaning everything works then when it breaks down, then it's a major problem and the blame is on me (us). My manager (white female) was floored that I contested the assignment and being passed over."</p>	<p>Career Development Factors (Box 2)</p> <p>"I am not compensated fairly because (the firm) plays the bell curve game for performance appraisals. However, the more seniors, like myself, are at the lower end of the scale. . . My manager is holding down my rating because I am well compensated due to my prior roles within (the firm). Now . . . I am penalized because of my experience and past superior ratings. Does that make sense?"</p>
<p>S t r u c t u r e</p>	<p>Cultural Factors (Box 3)</p> <p>"I have had to assert myself and let people know that I have a PhD in this highly intellectual group. I am not as aggressive as my white counterparts, male or female. This has come out on my evaluations with management. This is a challenge. Talking about my achievements and tooting my horn is difficult. Our culture is different than my white counterparts. We are not trained (culturally) to boast. White females don't have this problem. Other black females that I know have this problem. We have had conversations regarding this tooting your horn business."</p>	<p>Intrinsic Factors (Box 4)</p> <p>"I will pursue my MS in EE and want to do so at an HBCU* (preferable NC A&T University) but I am likely to go to NC State University or UNC. I find comfort at HBCUs and Southern University is part of my parents' and family's tradition. My aunts, uncles and parents are graduates of Southern." "This is a process that starts young . . . did your parents talk to you about being an engineer at 7, 8 and 9 years old? Black folks have got to start earlier." *Historically Black College and University</p>
	<p>Individual Characteristics</p>	

Figure 1. Four class barriers depicting African-American IT careers

these continual practices, an employee (as noted by Malos et al. [2]), is likely to be confronted with *a priori* standards regarding performance, compensation, advancement, promotions, and other personnel actions.

- 4) Intrinsic Factors (Box 4)—this is particularly critical in Preparation for Work stage. While the prior four infrastructure factors persist (boxes 1-3), African-Americans must look inward and assess appropriate levels of education and mentoring for career alternatives, as well as professional and social networking. Many of the intrinsic factors rest on issues of the information gap, primary and secondary STEM education, and corporate leadership's willingness to facilitate attracting and retaining a diverse IT talent pool. However, windows of opportunity must be open, and a staunch effort to support openness on the part of the organization must be delineated. Too often, the business justification articulated by high-tech and other sector firms is that qualified African Americans are difficult to find [10].

The obstacles having an impact on African-American IT professionals appear to occur early rather than later in one's career—thereby suggesting that the applicability of stage models diminish earlier in the careers of African-Americans. Moreover, while members of the sample can be classified using age in the career stage framework, African-Americans experience barriers to career development earlier in their careers than Greenhaus et al. suggest [1]. According to the entrepreneurs in the sample, this rationale captures the essence of their departures from IT corporate environments and suggests that self-employment is one solution for African-Americans in high-tech careers. As one African-American female entrepreneur stated, "I reached the apex too early with Corporate Y, and the opportunity was too great not to leave even at 35."

More importantly, the data illustrates the intersection of a triplicate: race, age, and gender. While the eleven respondents in the Midcareer and Late Career stages spoke of being passed over or disregarded by management for high-powered advanced positions, all noted that age discrimination was, likewise, occurring earlier in high-tech professions. For African-American females, however, the triplicate complicates corporate IT life even further. That is, females and, similarly, several males consistently alluded to how strenuous corporate life is for African-American women. Of the thirteen men in the sample, ten stated that (as paraphrased), "Black women, especially those young ones in management, catch hell from everybody including white males, (young and mid-aged) who have a difficult time taking direction from a *sista*. Other African-Americans may tend to question their sense of cultural loyalty and/or identity."

In light of employee rights, current legislation serves as the backdrop to the tenor of the cultural climate within organizations. While the Equal Employment Opportunity Act serves as an administrator of American employment practices, instances and examples, such as those aforementioned, foster vague selection and promotion—thereby demonstrating the new racism identified by Brief and

Buttram [11]. In the IT workforce, independent contractor, employee rights, and at-will approaches are identifiable practices, particularly in light of factors like outsourcing, use of temporary workers, and complex global projects, which call for emerging competencies and persistent skill retooling among IT professionals. In light of past employee practices, the question remains whether African-Americans and other underrepresented groups will compete on a level playing field in the IT workplace.

IMPLICATIONS AND CONCLUSIONS

IT environments, as differentiated by rapid changes in technology and technological advances, are under unvarying competitive pressures to generate acceptable return-on-investments and quicker products and/or services to market while addressing global needs and cultural change. The individual employee rights of African-American IT professionals and those of color will continuously be tested under these conditions. Matrix-like employee relationship approaches as elucidated by Malos et al. [2] are likely to emerge, and parity among African-American IT professionals and their contemporaries under these conditions merits not only an awareness but delineated efforts to address the barriers that exist. The work, herein, suggests that organizations must move beyond attractive compensation packages to attract and retain this group of professionals. The intangibles matter and include appropriate mentoring and sponsorship, visibility, career development, cultural awareness/sensitivity, and “open” access to career mobility.

Systemic, cultural, career development, and other factors continue to create bipolar experiences among African-American and white IT professionals. While Igbaria and Wormley called for African-Americans to partake in the (in)formal networks that can enhance technical, professional and social skills [14], this research suggests that mentoring at the Preparation for Work and Organizational Entry stages is critical to promote entrance and sustainability in the IT profession. Barring mentoring, systemic factors continue to create race differences and career experiences among African-American and white IT professionals. Of the four recommendations offered by Igbaria and Wormley [14], two (initiate recruiting, training, and development strategies; increase commitment to Affirmative Action/ Equal Employment Opportunity throughout the company’s existing functions) appear to align with the systemic issues offered in Figure 1.

Future research should examine the effects of management support, mentoring, and cultural awareness in relationship to how African-Americans and others perceive their individual employee rights. While this study offers a foundation on which the research can build, it is not without its limitations. This research is based on a convenient sample. Additionally, more participants are needed in the multiple categories of the career stages framework. The intersection of IT and individual

employee rights requires the further development of model building, followed by confirmatory testing.

APPENDIX A: INTERVIEW PROTOCOL

Note: Typically, more probing questions resulted as interviews progressed.

1) Demographics

Gender, Age, Current Title, Years with Current Org, Education, Marital Status

2) Describe your experiences with your current employer. How did you reach your current position? Have you experienced barriers?

3) Describe your mentors. If you don't have mentors, why not? Did you establish a mentor (e.g., informal vs. formal as part of a program within the org)? Is mentoring of African-Americans a social responsibility? How satisfied are you in your career?

4) Are affinity groups present in your org? Are you a member? If so, why or why not? How do these groups assist African-American professionals? Is gender and/or race an issue within corporate IT ranks? Why?

5) Describe your relationship with your current manager and peers. How are you perceived?

6) Are you compensated well? In comparison to your peers? How do you know?

7) How relevant is professional development for African-American professionals in IT? How do you make the choice between technical vs. managerial career paths? Are there barriers?

8) How do we move beyond a 3 percent representation in corporate IT careers (CIO, January 15, 2000)?

9) Describe your organization's culture (friendly, conducive for African-American professionals to advance, respectful of African-American culture themes/holidays). Do you fit in an IT position within the firm and, if so, how?

10) Do you have intentions to leave your organization? If so, what options are you exploring (entrepreneurship, another corporate position, higher education, etc.)? Why?

- 11) Is your employer a good place for African-Americans to work? Why or why not? What traits must be present to make an organization a good place for African-Americans in IT?
- 12) What defines and/or guides your career at this point (career anchors defined for each professional for this item)?

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