PERCEPTIONS OF AFRICAN AMERICAN WOMEN PROJECT MANAGERS ON MANAGING PROJECTS AND CAREER PROGRESSION IN THE AEROSPACE AND DEFENSE INDUSTRY

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Abstract

Organizations within the U.S. aerospace and defense industry are improving their efforts to implement diversity in the workplace. Still, the opportunity to increase the representation of African American women in leadership roles often needs to be improved. The general business problem is that the percentage of African American women in senior and executive project management roles in the U.S. aerospace and defense industry remains low, revealing a lack of diversity and inclusion among project teams, resulting in a high probability of project failure and reduced profit. A gap in practice was that leaders in the U.S. aerospace and defense industry are not implementing effective diversity, equity, and inclusion (DEI) strategies or best practices to ensure African American women have opportunities to advance their careers in project management. The purpose of this qualitative inquiry research was to explore the perspectives of African American women project managers in the U.S. aerospace and defense industry regarding strategies and best practices that can increase African American women's representation, project success, and profitability. The framework for this study was an adapted representational intersectionality framework based on the Intersectional Theory of Kimberlé Crenshaw and Black Feminist Thought by Patricia Hill-Collins. The expert data collected through semi-structured interviews was analyzed using thematic analysis. Four themes emerged from the analysis, including display an executive presence that exudes self-confidence, worth, and value to overcome barriers in the workplace, supportive and influential relationships are instrumental to career advancement, purposeful visibility increases opportunities for career progression, and inclusive hiring practices and processes when selecting diverse leaders.

Keywords: *Underrepresentation, African American women, project management, barriers, career progression*

Introduction

Project management plays a significant role in executing complex projects in the aerospace and defense industry (Rodriguez-Segura et al., 2016; San Cristóbal et al., 2019). In 2021, women represented 38.1% of the workforce in the project management field (Zippia, 2022). African Americans represented 7.1% of the project management workforce (Zippia, 2022). Based on these gender and racial statistics, African American women represented approximately 2.7% of the project management workforce. African American women are shown to be one of the most underrepresented demographics within the project management profession, with Native Americans, Alaska Natives, and unknown races being the least represented (Zippia, 2022). White men have dominated corporate America for decades and have been the sole contributors to numerous professions, including project management (Paneque de la Torre, 2020). To break the stigma, women continue to shatter glass ceilings and prove themselves credible and worthy of bringing value to the project management field and leading from the C-Suite and executive levels (Paneque de la Torre, 2020). Equivalently, African American women face obstacles in obtaining leadership opportunities and are underrepresented in senior and executive management roles (Corbett, 2022).

Project management teams are designed to combine diverse functions together to brainstorm and execute projects and programs effectively and successfully. Diversity encompasses gender, race/ethnicity, age, sexual orientation, veteran status, and religion, adding value to projects (Project Management Institute [PMI], 2020). Creating diverse and inclusive work environments has increasingly focused on companies and organizations. By investing in and implementing diversity and inclusion training, organizations gain a competitive advantage over companies that have yet to embrace the importance of incorporating these aspects into their organizations (Cox & Blake, 1991). A study in 2020 by the Project Management Institute (PMI) revealed that 23% of project professionals feel their voices are not heard or represented within their organization (PMI, 2020). The PMI findings show efforts to create diversity, but there is a gap in inclusivity within the project teams (PMI, 2020). Lack of inclusion is a significant factor impeding African American women from advancing to senior and executive management positions within various organizations in corporate America (Beckwith et al., 2016). Furthermore, gender bias and racial discrimination based on stereotypes have been recognized as causes obstructing qualified African American women from leading teams and projects and excelling in their careers (Hewlett & Wingfield, 2015; Ketzner et al., 2019).

This study explored the perspectives of African American women project managers on strategies and best practices to overcome barriers while managing complex projects and attaining career advancement within the U.S. aerospace and defense industry. Scholarly articles and research literature have identified perceived and actual barriers experienced by African American women in their journeys to attain senior management and executive leadership roles in multiple industries. However, there is little literature regarding the underrepresentation of African American women project managers in the U.S. aerospace and defense industry. By acknowledging the barriers, African American women project managers could identify strategies and best practices contributing to their career progression, which could subsequently result in attaining leadership roles. Additionally, business leaders could utilize the results of this study to gain a deeper understanding of lived experiences and perspectives of African American women project managers in the U.S. aerospace and defense industry. The emergent themes may provide insight into effective interventions that can be used to address the underrepresentation of African American women project managers in senior and executive leadership roles, which may increase the probability of project success and profitability within their organizations.

Problem of Practice

The general business problem is African American women face barriers when seeking senior and executive management roles in for-profit companies (Beckwith et al., 2016; Kramer, 2020). In 2009, Ursula Burns became the first African American woman Chief Executive Officer (CEO) of a Fortune 500 company, Xerox, and served until 2016 (Scipioni, 2022). As of May 2022, six African American Chief Executive Officers were listed on the Fortune

500, but only two are women —Walgreens' CEO Roz Brewer and TIAA chief executive Thasunda Brown Duckett (McGlauflin, 2022). Undeniably, these women are capable and worthy of obtaining executive positions in their respective companies. However, one must be curious about what barriers or challenges they experienced during their career journeys to become CEOs and how they overcame the adversities. Taking note and understanding the stories of these African American women CEOs and others in senior and executive leadership can benefit other African American women seeking those same roles in their careers.

Women in project management continue to strive to be recognized as equivalent to their male counterparts in this male-dominated profession (Paneque de la Torre, 2020). Women want the opportunity to lead and manage complex projects and programs and flourish in their careers. Women are closing the talent gap in the aerospace and defense industry (Ketzner et al., 2019). The scarcity of African American women project managers in the U.S. aerospace and defense industry hinders organizations from obtaining diverse viewpoints during the initiation and execution of complex projects that could result in favorable and profitable business solutions (Ali & Konrad, 2017; Hunt et al., 2015). Diversified involvement and contributions amongst the project teams could increase profitability and performance, providing a competitive advantage for companies in the aerospace and defense industry (Hunt et al., 2015).

The specific problem is the percentage of African American women in senior and executive project management roles in the U.S. aerospace and defense industry remains low, which reveals a lack of diversity and inclusion among project teams and results in a high probability of project failure and reduced profit (Barron, 2019; Hunt et al., 2015; Zippia, 2022). A previous study identified that 31% of aerospace and defense industry women benefit from gender diversity programs (Ketzner et al., 2019). However, there remains a lack of visibility of African American women leading and managing complex projects and programs in the U.S. aerospace and defense industry. Not copiously implementing inclusive leadership causes a hindrance to career and leadership advancement for African American women who are educated, qualified, and have working experience in the U.S. aerospace and defense industry.

Purpose of Study

The purpose of this qualitative inquiry study was to explore the perspectives of African American women project managers in the U.S. aerospace and defense industry regarding strategies and best practices that can increase African American women's representation, project success, and profitability. Implementing strategies and best practices can increase the representation of African American women project managers, project success, and profitability in the U.S. aerospace and defense industry. Previous studies have shown that diverse and inclusive leadership teams and the labor force can range from raising customer bases to more significant innovations (Bernard, 2021; Rodriguez-Segura et al., 2016).

Research Question

RQ: What are the perspectives of African American women project managers in the United States aerospace and defense industry regarding strategies and best practices that can increase African American women's representation, project success, and profitability?

Summary of the Literature

Wage inequality, lack of professional development, hiring discrimination, and inequities are obstacles professional Black women often confront in the workplace (Frye, 2019; Wingfield, 2020). These obstacles can create a domino effect for African American women seeking to attain leadership roles and advance their careers. Although previous research has been conducted examining African American women's perspective regarding the lack of representation and the barriers to obtaining senior and executive leadership roles in higher education, information technology, and

various medical professions (Brown-DeVeaux et al., 2021; Camp-Fry, 2021), there is a gap in the literature regarding the underrepresentation of African American women project managers in the U.S. aerospace and defense industry.

African American women continue to face barriers when seeking to advance their careers in for-profit companies (Beckwith et al., 2016). The percentage of African American women in senior and executive project management roles in the U.S. aerospace and defense industry remains low, which reveals a lack of diversity and inclusion among project teams and results in a high probability of project failure and reduced profit (Hunt et al., 2015). Diversity, equity, inclusion training, mentorship, and sponsorship of African American women in the workplace have been addressed. Still, no literature has been located on how these programs and initiatives have been utilized by leadership in the workplace and if there is an increase in the representation of African American women project managers on project teams and within leadership. The underrepresentation of African American women project managers within the U.S. aerospace and defense industry indicates that organizations should fully acknowledge the talent of their employees and the need for diverse project team members and leadership within the workplace. Overlooking the merit and talent of African American women in the workplace brings attention to the disparaging corporate culture that organizations continue to foster that hinders African American women from career advancement.

The Black women project manager's representational intersectionality framework is the applied framework for this qualitative inquiry study. The Black women project managers representational intersectionality framework was built on the key concepts found in Kimberlé Crenshaw's intersectionality theory (Crenshaw, 1991) and Patricia Hill-Collins's Black feminist thought (Collins, 1990; Collins & Silva-Reis, 2019). These two frameworks are centered on the adversity of diversity, equity, inclusion, and underrepresentation of African American women in society. The critical concepts of intersectionality and Black feminist thought guided this qualitative inquiry study to explore strategies and best practices to increase African American women's representation, project success, and profitability within the U.S. aerospace and defense industry.

Intersectionality

Crenshaw proposed intersectionality, an analytical framework suggesting that multiple social categories intersect, creating unique dynamics and effects of oppression and inequality. Social categories include, but are not limited to, gender, race, ethnicity, sexuality, age, and class (Crenshaw, 1989). Intersectionality brings awareness of systemic injustice and social inequalities that can occur and provides measures to confront intersectional discrimination through policies and law (CIJ, n.d.). African American women are often hindered by the privileges and limitations associated with other social groups they associate with (Karmakar, 2022). Wiley and Bikmen (2012) contended that intersectionality calls attention to how the diversity within societal settings and their association with systematic beliefs, practices, and norms can lead people dominating in vastly different societal settings to experience firsthand the interlocking of privilege, inequity, and marginalization. Crenshaw reasoned that the intersectional experience is more than the intermingling of racism and sexism, and any research that does not consider intersectionality cannot adequately address the realization that Black women are viewed as a subsidiary (Crenshaw, 1989). Wage inequality, the lack of professional development, hiring discrimination and inequities, and high turnover rates of professional African American women who encounter marginalization could conceivably contribute to organizations and businesses not acknowledging intersectionality and its magnitude when implementing and executing their diversity and inclusion programs in the workplace (Bagalini, 2020).

Black Feminist Thought

For more than a century, African American women have called for a more inclusive feminist movement with intersectionality as the foundation to collectively address the survival and thriving of all women (St. Julien &

Hallgren, 2021). Black Feminism was derived in the 1960s during the Civil Rights Movement to highlight that sexism is not the only plight African American women face; racial oppression is a fight that feminism has failed to address in society. Comparable to the intersectionality framework, Black feminist thought is identified as a standpoint theory proposing African American women have a "self-defined standpoint" regarding their own lived experiences related to the interconnection of race and gender oppression within society (Carter, 2019; Downing, 2019). Collins (1990) addressed the overlapping identities of African American women by analyzing and adding the matrix of domination, causing the oppressed intersections of gender, race, ethnicity, and class that African American women often experience in their daily lives (Collins, 1990). An epistemological study conducted by Dotson (2015) on Black feminist thought emphasized Collins's standpoint on how women were suppressed along racial, gender, class, and educational lines while bringing awareness to the oppressive imagery of African American women. Research by Yates-Richard (2020) revealed that historical efforts to control African American women's narrative and image are designed to make racism, sexism, and other variations of social injustice appear normal and inevitable parts of everyday life. The imagery and the intersecting factors of gender and race continue to complicate the representation of African American women in the workplace. Through diverse and inclusive strategies and best practices, organizations and businesses can exert effort not to repeat past mistakes and ensure that African American women are acknowledged and not ignored or overlooked.

Black Women Project Managers Representational Intersectionality Framework

This qualitative inquiry study aimed to develop a composite of strategies and best practices based on the experiences of African American project managers who have attained leadership roles in the U.S. aerospace and defense industry. Based on the evaluation of literature addressing the underrepresentation of African American women in other industries and professions, the applied framework created for this qualitative inquiry study is the Black women project manager's representational intersectionality framework. As illustrated in Figure 1, this framework shows how social identities overlap and intersect, potentially causing complex identities that challenge the inclusivity of African American women project managers on project teams and with opportunities for career advancement in the U.S. aerospace and defense industry. The goal of implementing the Black women project manager's representational intersectionality framework is to contribute to a better understanding of intersectionality and the various dimensions of diversity and inclusion that can lead to the underrepresentation of African American women.

Figure 1

Black Women Project Manager Representational Intersectionality Framework
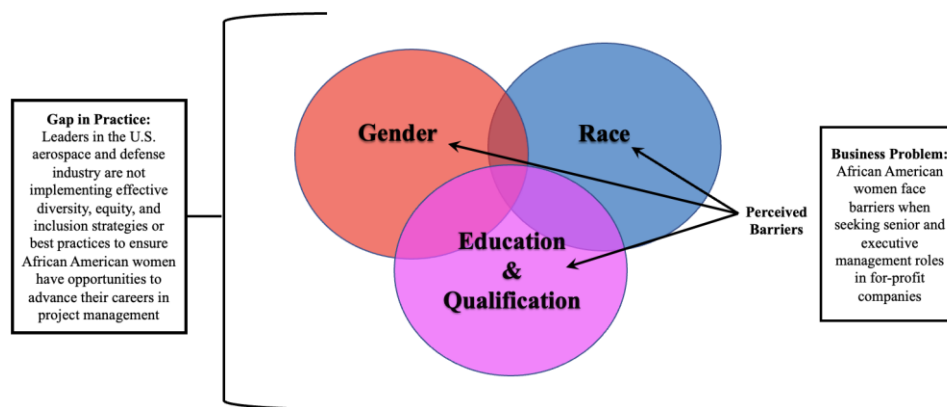
Note: Author created image adapted from Taylor (2019).

The Black women project manager's representational intersectionality framework illustrates that social identities play a significant role and create an interconnected bias in society and, more importantly, the workplace. The social identities indicated in this framework that can impact the career advancement of African American women are gender, race, and education/qualification. African American women often struggle with notions such as marginalization, discrimination, sexism, and making a space for themselves professionally in their careers (Chance, 2020; Esposito & Evans-Winters, 2021). Utilizing the Black women project manager's representational intersectionality framework provides an opportunity to contextualize these notions, lived experiences, and how the non-dominant social identities of African American women can influence their career advancement in the U.S. aerospace and defense industry.

The focus of this qualitative inquiry study was to explore the perspectives of African American women project managers in the U.S. aerospace and defense industry regarding strategies and best practices to increase representation, project success, and financial return. The Black women project manager's representational intersectionality framework aims to provide an intersectional lens to prevent the exclusion and marginalization of African American women project managers in the U.S. aerospace and defense industry. Through the lived experiences of African American project managers, this study highlighted these concepts for African American women and identified the problems hindering the representation and career advancement of African American women project managers.

Industry Trends

Diversity and Inclusion

Unlike their White peers, African American women are often discounted as valuable contributors in professional spaces due to low exposure to new challenges, such as leading advanced complex projects, causing steep learning curves, difficulty thriving in the workplace, and subsequent changes in the project team's dynamic (Brewton-Johnson, 2021). The subconstructs for the lack of diversity and inclusion of African American project managers on project teams within the U.S. aerospace and defense industry are gender and race, as proposed by Crenshaw (1989), along with education and qualifications. Key phenomena addressed in this study are related to the potential intersectional social identities experienced by African American women project managers that hinder their representation and career advancement in the U.S. aerospace and defense industry.

A study by the Project Management Institute (2020) concluded that 88% of their respondents believed that building project teams diversified in gender, age, race, experience, sexual orientation, nationality, and culture adds value and diverse skills to projects. Diversity and inclusion are critical aspects that can increase the representation of African American women on project teams. Common problems associated with the lack of diversity and inclusion in project management teams are cost overruns, schedule slippage, and lower productivity, resulting in project failure rates. Gender, racial, and ethnically diverse companies were 25% more likely to have financial returns (Hunt et al., 2015). Racial and ethical diversity significantly impacts financial performance in businesses. The increase in gender diversity and representation of women has yielded positive results for many years for top-level firms (Hunt et al., 2015). The practice of diversity and inclusion can assist with extending the knowledge and expertise in managing projects with more detailed planning and control tailored to a project's specific needs. This qualitative inquiry project pursued to identify strategies and best practices to improve the diversity and inclusion gap hindering the representation of African American women project managers and their career advancement in the U.S. aerospace and defense industry.

African American women are more likely to aspire to hold a powerful position; however, their advancement into leadership roles has remained stagnant (Pace, 2018). In 2015, 0.2% of the CEOs and 1.2% of executive or senior-level roles were employed by African American women within S&P 500 organizations (Barron, 2019). There is an underutilization of African American women's perspectives by organizational and human resources leaders and a

lack of career advancement strategies and paths to improve their recruitment, talent development, diversity and inclusion, and succession planning strategies (Barron, 2019). Companies are successfully hiring African American women into the frontline, entry, and mid-level jobs, but there is a significant regression in representation at management levels. The lack of representation in the boardroom, conscious and unconscious biases, and lack of career support increase organizational risk concerning the recruitment and retention of future African American employees, executives, and leaders (Korn Ferry, 2019). African American women are hindered from obtaining management and leadership positions and feel they are seen but not heard despite their education, qualifications, and credentials to lead teams and projects (Biu, 2019). To maximize and increase productivity, organizations should employ diverse staff and leadership within their workspaces (Krithi & Pai, 2021). However, work is still required to promote career advancement and more representation of women in leadership roles.

Mentorship and Sponsorship

Corporate America continues to make strides to ensure workplaces promote diversity and inclusion for women and minorities. Organizations were encouraged to increase diversity at the C-Suite level and enhance the mentoring and sponsoring culture to develop corporate leaders and fill the gap with a diverse pool of potential executives, including African American women (Smith, 2018). To ensure inclusivity, organizations should strive to provide African American women with the same access to mentorship and sponsorship within the workplace. The lack of mentorship can negatively affect organizations financially and structurally (Smith, 2018). Previous studies revealed that the lack of inclusion or barriers to corporate mentor relationships hinders African American women from promotions and career advancement (Smith, 2018). Research suggests that organizations should increase mentorship and sponsorship for African American women seeking promotions and developing the skills and confidence to advance in executive leadership (Fuhrmans, 2019). Contrarily, mentorship is inadequate within the workplace, and more sponsorship opportunities should be incorporated to advocate career advancement for women and minorities (Ibarra, 2019).

Organizations can support the advancement of African American women through formal mentorship programs and informal networking opportunities. However, the research found that younger African American women have less access to these relationships than their older counterparts (Boatner et al., 2021). Sixty-one percent fewer millennials than baby boomers say they have benefited from formal mentorship to a moderate or great extent in their professional careers. Seventy-one percent fewer millennials say the same about informal mentorship. Smith (2018) proposed that for more African American women to be represented in C-suite positions, sponsorship must provide them the direct advocacy and support to attain those positions. Research has revealed that most leaders are White, non-Hispanic men who choose to sponsor people who resemble them (Altimare, 2022). These actions and mindset of leaders are leaving African American women at a disadvantage in attaining adequate sponsorship to assist with career progression from leadership. African American women must acquire the mentorship or sponsorship critical in preparation for corporate leadership or C-Suite selection.

Summary of Literature

The literature review provided insight and understanding of African American women's barriers and experiences regarding representation and career progression in various industries. Despite the emphasis placed on hiring women into their respective professions, the underrepresentation of African American women continues (Beckwith et al., 2016; Connley, 2020). There is a need for businesses and organizations to gain and fully acknowledge the significance of diversity, equity, and inclusion in the workplace and understand that intersectionality concerning gender and race is an ongoing issue (Connley, 2020; Pace, 2018; Smith, 2018). The lack of inclusion and perceived or actual barriers have been identified as factors impeding African American women from career advancement in various industries and businesses in corporate America (Beckwith et al., 2016). Gender bias and racial discrimination based on stereotypes have been recognized as causes obstructing qualified African American women from leading and managing project teams and excelling in their careers (Hewlett & Wingfield, 2015; Ketzner et al.,

2019). Wolff (2020) highlighted 20 women who were devoted to research and development for military capabilities and manufacturing in the aerospace and defense industry. However, African American women were not represented, showing a gap in diversity, inclusivity, and lack of recognition of African American women in the aerospace and defense industry and what they contribute to the industry. The objective of this qualitative inquiry study was to explore the perspectives of African American women project managers in the aerospace and defense industry regarding strategies and best practices that can increase African American women's representation, project success, and profitability.

Methods

The purpose of this qualitative inquiry study was to explore the perspectives of African American women project managers in the U.S. aerospace and defense industry regarding strategies and best practices that could increase African American women's representation, project success, and profitability. The study explored the perspectives of African American women project managers who overcame barriers in the workplace to attain senior or executive-level leadership roles within the U.S. aerospace and defense industry. The study focused on identifying strategies and best practices that will be instrumental to the career progression of African American women project managers in the U.S. aerospace and defense industry. Their statements were collected and reviewed for common themes amongst the 10 participants in the study. All results are as simple raw data counts by themes and ranking.

Participant Information

Each participant self-identified as a current or former female African American project and program manager responsible for leading diverse project teams within the U.S. aerospace and defense industry. During the interview process, specific information regarding years of experience as a project or program lead or manager, job titles, degree attainment, certifications, and leadership attainment for each participant were solicited for categorization purposes for the education and qualification concept of the framework. By identifying their educational and qualification achievements, results showed that six participants have obtained master's degrees or higher, and four participants have obtained industry-standard certifications in project management. Recognizing their leadership attainment within their organizations, four participants held non-managerial roles as project or program managers, and six were senior-level leadership as project or program managers. None of the participants were executive or C-Suite level project or program managers in the U.S. aerospace and defense industry. A summary of the demographic characteristics of the participants is illustrated in Table 1.

Table 1

Participant Information

Participant	Years as PM in the industry	Job title	Educational achievement *(Masters Degree or higher)*	Certification	Leadership attainment *(Senior or Executive)*
PM1	7	Management and Program Analyst	No	Certified Scrum Master; Certified Scrum Product Owner	Senior
PM2	30	Senior Program Manager	No	PMP	Senior

Participant	Years as PM in the industry	Job title	Educational achievement *(Masters Degree or higher)*	Certification	Leadership attainment *(Senior or Executive)*
PM 3	11	Program Manager	No	PMP; Certified Scrum Master	No
PM 4	5	Program Manager	Masters Degree	No	No
PM 5	2.5	Associate Director, Program Services	Yes	No	Senior
PM 6	17	Senior Program Manager	No	PMP	Senior
PM 7	12	Supervisory Contract Specialist	Masters Degree	No	Senior
PM 8	4	IT Program Manager	Masters Degree	No	Senior
PM 9	5	Acquisition Program Manager	Masters Degree	No	No
PM10	4.5	Acquisition Program Manager	Masters Degree	No	No

Note. Participant demographics were derived from the interview transcript. During the data collection process, demographic questions were asked for categorization at the begin of each interview.

For clarity, one participant's job title is Supervisory Contract Specialist. The participant was asked to define the roles and responsibilities of a contract specialist and how their duties aligned with project management. The participant expressed that contract specialists are project managers who manage contracts within project management teams, integrated project teams, and informational processing teams by developing acquisitions for procurement from initiation to the closing of projects and programs. Additional research was conducted regarding the duties of a Supervisory Contract Specialist using the U.S. Office of Personnel Management Classification Guide. The classification guide provides a thorough, detailed description of a Contract Specialist within the Department of Defense. For a Supervisory Contract Specialist, duties included but were not limited to determining the approaches and methods necessary to carry out the assignment, including designing overall plans and strategies for the projects to meet mission or program goals, requirements, and time frames (OPM, 1983). These duties aligned with project management focus on the initiation, planning, execution, control, and closeout of projects accomplished to meet the expectations and success of a specific goal. Upon review, the participant was deemed credible as a viable participant in this qualitative inquiry study.

Data Collection Process

The data collection for this study began with a screening questionnaire provided through User Interviews based on the inclusion criteria. Four screening questions were provided to the participants electronically through User Interviews. The participants had to answer each screening question to verify whether each met this study's inclusion criteria. The participants were selected based on the following criteria:

- Self-Identify as a woman/female
- Self-Identify as African American/Black

  • Current or former full-time project/program lead or manager in the U.S. Aerospace and/or Defense Industry
  • Currently or formerly led diverse project teams in the U.S. Aerospace and/or Defense Industry

Participants were selected if all the screening questions were in the affirmative. Ten participants were selected for this study. Once deemed eligible to participate in the qualitative inquiry study, each participant was required to review and electronically sign the informed consent via DocuSign before scheduling an interview. All interviews were scheduled through the User Interviews recruitment platform at a time that was feasible for the participant. Data collection was conducted through 45-60-minute interviews via Zoom video conferencing service at a time feasibly scheduled by each participant. Interviews commenced using an approved list of open-ended interview questions. Each interview was recorded and transcribed utilizing Zoom transcription services.

Data Analysis

Utilizing a six-phased thematic analysis process of Braun and Clarke (2006), an inductive content analysis was used as the data analysis method for this qualitative inquiry study. Once corrected and verified for accuracy, all interview transcripts were uploaded into the Dedoose data analysis platform. Using the inductive analysis approach, initial codes were created in Dedoose to identify patterns and relationships within the data. The concepts of the Black women project manager representational intersectionality framework were utilized to begin the initial coding: (a) gender, (b) race, and (c) education and qualifications.

Through Zoom One Pro, every interview was audio-recorded and transcribed to establish the confidence and trustworthiness of the data. The transcriptions were generated and saved as Microsoft Word documents utilizing the scheduled interview date and time and the participant's unique identifier. To ensure accuracy, the audio recordings were replayed repeatedly to correct the interview transcripts and eliminate any transcribing errors in the interview questions' responses. An accurate copy of the interview transcript was provided to the respective participant to review for accuracy and verification. By repeatedly listening and rereading the interview transcripts of the participants, similar perspectives and patterns that addressed the research question began to emerge.

Once immersed in the data, initial coding was established through an inductive analysis approach. The initial coding structure was based on the concepts of the applied framework. The initial coding expanded to codes based on data extraction from the participants' interview transcription. Words and key phrases were mentioned in the interviews. Ninety-three codes emerged from the transcribed interviews. A code application chart was created depicting the initial codes derived, a definition to explain the meaning of the code, the number of participants that mentioned the code during their interview, the participant identifier the code was found, and the number of occurrences the code appeared throughout the collective interview transcriptions of the participants. Codes were defined based on the data retrieved from the interview transcriptions.

Upon analyzing the initial codes of the data, the coded data were compiled into categories. Initial codes were evaluated and analyzed to properly sort and develop the categories based on the data provided in the interview transcripts. Nine categories were derived from sorting the initial codes, as shown in Table 2. Details are provided in Table 2, including the names of the nine categories, the definitions for each category, the associated initial codes, and the number of occurrences throughout the interview transcripts.

Upon analyzing the initial codes of the data, the coded data were compiled into two sets of themes were identified. Words and key phrases were analyzed to uncover themes about the barriers African American women project managers encounter while managing complex projects and seeking to attain the strategies and best practices that could increase African American women's representation, project success, and profitability based upon seven categories of participants opinions. The themes derived from the interview transcripts are strategies and best practices derived from the transcripts that could increase African American women's representation, project success,

and profitability in the U.S. aerospace and defense industry: (a) display an executive presence that exudes self-confidence, worth, and value to overcome barriers in the workplace, (b) supportive and influential relationships are instrumental to career advancement, (c) purposeful visibility increases opportunities for career progression, and (d) inclusive hiring practices and processes when selecting diverse leaders. Table 2 contains the initial code associated with the theme, the categories associated with the theme, the theme name, and definitions of each theme.

Table 2

Coding to Categories to Themes

Codes	Categories	Themes	Definitions
asked questions to become acknowledgeable, brought adversities to the forefront, build and utilize your network, champion for others, champion for yourself, confident in who you are, developed pathway for career development, gain trust and comfortability of others, have to prove others wrong, have to prove yourself in the workplace, imposter syndrome, know your worth, learn from mistakes, make sure your voice is heard, motivating factors to continue advance career, preparation of PM duties, professional image, seized opportunities, sought and received guidance, the only African American in the workplace	Personal considerations for career advancement	Display an executive presence that exudes self-confidence, worth, and value to overcome barriers in the workplace	Signature display and branding of self-confidence, integrity, and worthiness in the workplace
advocacy of male mentors, advocates and champions, build and utilize your network, carve out their own space, developed pathway for career development, employee resource groups, initiated mentor/mentee relationships, interest from mentors on career goals, lack of assistance with career goals, lack of leadership involvement, lack of support from other African American women, lack of current or past manager or leader involvement with individual development plans, lack of visibility and reach with leadership and executives, relationship with African American women mentors and advocates, leadership programming, obtaining recommendations for career development opportunities, relationship with Caucasian women mentors and advocates, seeks women mentorship, support from other African American women, surface-level relationship with mentor, training opportunities, women leaders in project management	Guidance on Career Development; Mentorship and Supportive networks	Supportive and influential relationships are instrumental to career advancement	Uniquely selected network of people who foster support and advocacy against adversity while attaining career advancement

Codes	Categories	Themes	Definitions
advocacy of male mentors, advocates and champions, barriers with obtaining promotions, build and utilize your network, a developed pathway for career development, hiring based on field experience, interest from mentors on career goals, jobs, promotions, and opportunities for progression are given to people that look like them, lack of affirmation regarding job performance, lack of assistance with career goals, lack of career advancement opportunity, lack of compensation, lack of current or past manager or leader involvement with individual development plans, lack of leadership involvement	Guidance on Career Development; Influence of Manager and Leader Involvement; Workplace practices	Purposeful visibility increases opportunities for career progression	Intentionally affording opportunities to increase the visibility of qualified African American women project managers
advanced education is an advantage, barriers with obtaining promotions, barriers based on gender, barriers based on preconceived notions, barriers based on race, barriers created by influence, being more efficient and innovative, certification and credentials are an advantage, checking the box, conditioned to overlook barriers, cultivate a team atmosphere, diverse leadership influence careers, diversity contributes to organizational success, diversity in leadership, diversity in the workplace, diversity of thought, education gets you in the door, entering spaces not created for African American women, good ole' Boys club, have to prove others wrong, have to prove yourself in the workplace, inferiority of African American women, intentionally setup to fail, lack of affirmation regarding job performance, lack of assistance with career goals, lack of current or past manager or leader involvement with individual development plans, bias received as an African American woman PM, women leaders in project management	Perceived or actual barriers hindering opportunities; Impact of Diversity and Inclusion; Influence of education and qualifications; Influence of Manager and Leader Involvement; Challenged on abilities and competency	Inclusive hiring practices and processes when selecting diverse leaders	Inclusive measures when seeking to hire in leadership positions

Results

Theme 1: Display an Executive Presence that Exudes Self-Confidence, Worth, and Value to Overcome Barriers in the Workplace

In response to increasing the representation of African American women within the U.S. aerospace and defense industry, Theme 1 displays an executive presence that exudes self-confidence, worth, and value to overcome barriers in the workplace emerged from the data analysis. An executive presence involves African American women, eliminating perception disparities by manifesting self-confidence, value, and worth to attain career advancement. Having an executive presence sets the standard for how African American women are seen in the workplace despite the barriers they encounter.

Before detailing the strategies and best practices, it is crucial to understand some of the barriers that drive the significance of African American women project managers having to show themselves differently in the workplace. All participants voiced their experiences with various racial and gender-related obstacles in the workplace throughout their careers. One barrier, ageism, emerged from the data and was identified by six participants. As a young professional, PM1 expressed,

> Race-wise, I will say that the unconscious bias happens. I noticed this now, as I am leading larger projects and projects that have a higher visibility within the [Organization/Company]. You enter into a meeting and people are surprised to know that you're the project lead. You know that you are the one who's coming in, and you will be delegating and assigning action, and that a large chunk of federal money is now under your purview. While somewhat satisfying it can be to raise your hand and say, "Oh, yes, I'm the PM" or introduce myself, as you know, "Hello! I'm [Name]. I'm the lead PM. I'm the one that's been sending you all of these emails." It's signaling, but it's a little satisfying to see this surprise wash over their face, and then everyone kind of has to readjust. But it is a little disheartening because sometimes in those same meetings after the initial shock of learning that this younger Black woman is in charge of a 30-to-50-million-dollar project, then it's "well, maybe you should do it this way," or "since this is your first time doing it, you know, this is the way that things should be done." So, it takes a little bit of time to help people understand who is in charge and how I will be leading the team to success. (PM1).

Another barrier that emerged was tokenism. Tokenism in the workplace derives when diverse employees are recruited for specific events, such as hiring events or DEI-focused conferences, and used as collateral to give a false perception or representation of diversity (Asare, 2022). Four participants expressed their being subjected to tokenism or being viewed as the token because of the position held. PM2 expressed serving on diversity panels for the interviews and felt like she was the token Black females to check two boxes for race and gender. PM6 voiced her experience with tokenism and being a DEI leader within the organization,

> We have more of in our company, "oh, how many people of color do you have in your network?" So, whenever there's something that goes on that's related to DEI, you're the first one that they contact. I'll say in the last two years of being this role, I've gotten more exposure that I feel like is a tokenism kind of exposure. Being put on programs, now all of a sudden, you're on a high potential list. You have all this stuff that now, because of you being in this role and you being at this level, that you're getting more people tapping you to go do stuff. I always get tapped to go talk to people about DEI and all that kind of stuff, especially during Black History Month. But I definitely feel that there is a, "Oh, okay, let me see who I could have to go do this, that, and the other." And you're that person usually. (PM6).

Three participants voiced their ideas on how to deal with microaggressions. PM5 spoke on her experience regarding being articulate and questioned on how she obtained her position,

> Someone say, "man, you're well spoken." Well, what does that mean? Does that mean all African Americans speaking Ebonics or something like? Why are you saying that? Oh, well, I didn't know that. Or, "How did you get here? I mean oh, what did you do?," as if it's an anomaly. It's not an anomaly for you to get there. So, why is it an anomaly for me as a Black female to be able to be in this space or to be in this particular job? I worked hard for this job. (PM5).

When dealing with microaggressions, PM1 found that having a sense of humor and being able to address the microaggressions when it happens was an effective action in the workplace,

> I've found having a pretty good sense of humor when you catch those microaggressions that come your way. To not staying too deep into it, but just a quick comeback. That usually surprises people when you suddenly let them know, "Hey? I caught that. That wasn't appropriate." So, I'll say something equally as witty and inappropriate, and then we can all go about our day. Is that sinking to the level of the microaggressor? Maybe, but, if it's done with some kind of humor, then at least it's non-confrontational. But I have found that that helps get the point across. Where that doesn't work is to not have a very public conversation, but to instead pull that person aside to say, you know, "listen, that wasn't appropriate," or "what you said made me feel like X Y and Z." That usually helps because people are caught off guard or

surprise that you would confront them even the friendliest way. That usually sends them running, "Oh, I didn't mean it like that," or, "oh, I'm so sorry! That's not how I wanted you to take it." Blah blah blah whatever, but it has to be addressed. As uncomfortable as it may be or as exhausting as it is to have to address it, you just you can't really let it go, because then they'll think it's okay. (PM1).

Participants expressed that these barriers were encountered due to the perception that their counterparts had about them or African American women. PM10 spoke on how the perception of African American women and how they present themselves in the workplace are often skewed compared to their counterparts and cause disparities when seeking career advancement. PM10 expressed that,

Perception is big here. I'm an African American woman. I have tattoos. I have a nose piercing. I wear my hair in natural state. I'm looked over if a White woman comes in the same way. I feel like for interviews, per se, I need to cover up. I need to possibly take my nose ring out. I don't do a lot of makeup. I think we're judged by that a lot. Whereas to my White counterpart, she can come in with purple hair, tattoos, a blouse, slacks, and flats, and she's considered the face of a program. I don't have that option. I see a lot of that. I think it's more so for the African American women than it is for even Asian women. I feel like we have to go the extra mile for promotions and to be seen to get leadership roles on just programs. (PM10).

So, to combat these barriers, participants expressed various strategies and best practices to prepare for the work environment as an African American woman project manager. Two participants expressed the importance of branding and creating a signature image that differentiates you from your peers to lessen the barriers of perception in the workplace. PM5 expressed the significance of how you dress in the workplace despite how others present themselves. As an African American woman seeking to advance your career, dressing, and presenting yourself for the next level is imperative. PM5 stated:

People say, "Oh, yeah, we have casual Friday." Well, there's no casual Friday to me. Every day, you keep yourself together. How I got there was I would dress up and have on a suit or dress every day, Monday through Wednesday. And, these gentlemen said, "man, you always look so nice, but then you get a little bit more casual on Thursday or Friday." When you say that I'm like, "Oh, no, no! I need to fix that." My brand counts and I want people to look at me like I'm always together when I show up for a meeting. You want people…when somebody says your name, because your brand is so strong because your work product is so strong, it's like, "Oh, I know her." Even if when that one person doesn't know your name, somebody else in that room knows you because your reputation proceeds yourself. If your name is synonymous with this great reputation and great brand, people are willing to take a chance on you. (PM5).

Seven participants expressed the importance of self-confidence and knowing your worth as an African American woman in the workplace. Two participants expressed being confident in who you are and speaking with confidence. PM3 voiced,

You have to be so confident in who you are, that no one can change your opinion of you. Like, you have to be so locked in that I am the subject matter expert in the room, period. No buts, no ands, no commas, period. That's the sentence. (PM3).

PM3 continued with,

Honestly, I started speaking more confidently. I stopped justifying my responses. "The response I gave is the response it is, and if you're not gonna accept it from me, I'll say it one more time, and then I'm gonna call in the backup that's appropriate to address you. (PM3).

PM6 spoken on knowing her worth and why she continues to pursue career advancement,

My motivating factor is I have my own goals and aspirations, and that's what propels me forward to continue. Knowing my value, my worth, and knowing that this is something I enjoy doing, and I'm not gonna let these barriers prevent me from being successful. Just keep pushing through and keep educating people from the DEI perspective so that they can expand their network and give people opportunities. And then when we do get these opportunities, making sure that we show up the way we need to. (PM6).

Participants expressed the importance of taking your seat at the table in meetings and not sitting in the back of the room or on the wall. PM2 expressed how a mentor provided her with guidance on having presence in the room,

When all of her colleagues and everyone else was not around, she and I would have one on one conversations. She would just lay it out. "Here's the thing you should watch for. Never sit in this seat. Always sit in the middle." This is why I sit in the middle seat of the table. "Like that person. I need you to be as animated as this person," or those kinds of things. I think having that kind of advice when you haven't been at that table before at that level is always important. (PM2).

In addition to taking your seat at the table, two participants expressed the importance of being prepared. Five participants were proponents of asking questions and not being afraid to do so. PM5 stated,

When you are asked to come and support a meeting, you have been invited to a space you are supposed to be in that space. I used to be the type of person, early in my career where I would sit in the outskirts. I wouldn't sit at the main table. I would sit on the outskirts where the seats were against the wall. I would try to blend into the wall because I didn't want anyone to call on me. It was because I didn't like to speak. I didn't want to be put on the spot. I didn't enjoy impromptu speaking. And a mentor of mine said, "you were invited to be in that room. You need to take a seat at the table. You deserve to be at the table, and you deserve to speak up and say something, and people will listen. But if you go and you blend into the wall, how will they know want you have to offer? How will they know that you do have something important to say if you're blending into the wall?" So, I reluctantly did it. I sat at the table, and I was nervous, and I'm like, "Oh, my God! Am I supposed to be here at the table? What if they call me?" And yeah, what if they call you? Well, if they call you, then you have an answer you're supposed to be there. Be prepared when you get there. I'm always prepared before I go into a meeting. If I don't know exactly… a lot of times, people come up with an agenda and sometimes you don't know if they're going to require you to present something or they need something from you. Be sure to ask, "Are you expecting anything from me? Did you need me to present something?" Just make sure you're aware. Always have something to talk about. It's inevitable that somebody's going to call on you about something. So, if you're familiar with that meeting, and what the subject is about, you kind of know what happens in the meeting. Be prepared. Always have a couple of speaking points so that you're not caught off guard. Especially if you're not good at impromptu speaking, then prepare. (PM5).

Lastly, five participants express the importance of championing for yourself and speaking your voice. PM4 voiced that,

I knew that I wanted more for myself. So, once I got promoted up, I felt better with asking. So now, "what do I need to do? Where do I need to go next? You saw that I had the potential to perform in this department. I'm gonna show you I can, and I need you to help me to get to my next level." (PM4).

PM3 conversed about imposter syndrome and how to be better champion for yourself,

We have to acknowledge imposter syndrome. Like we have to have that like 'me talking to me' moment in the mirror that says, "Hey, I know we're still trying to figure out who we are in this environment, in this

office, in this space, but it's okay that we're figuring it out. It's okay we're still figuring out who we can chat with, who we can't, who we can laugh with, who we can't, who we can share with, who we can't." All of those things contribute to imposter syndrome, and we have to call it out. And we have to be okay with saying "Okay, we're working through that. It's fine we're working through it." (PM3).

Theme 2 Supportive and Influential Relationships are Instrumental to Career Advancement

In response to strategies and best practices to increase African American women's representation within the U.S. aerospace and defense industry, Theme 2, supportive and influential relationships are instrumental to career advancement, refers to a uniquely selected network of people who foster support and advocacy against adversity while attaining career advancement. All participants identified mentors, sponsors, advocates, and champions as being instrumental to their career development as project managers and to the attainment or progression to senior or executive-level leadership roles in the workplace. Additionally, participants identified family, friends, and clergy as emotional supporters, encouragers, and motivating factors to their continuous aspirations to attain career advancement. PM7 stated,

I've received encouragement from my circle. My circle are sister friends that I have. We encourage one another, and we just uplift each other. I think that when you are feeling blue and you got one of them, it's empowering and it takes you to that level. Having good spiritual advisors, or deacons or ministers that you could go to and have those encouraging words poured into you to take you through that next barrier. Seeing my mini-mes, my sons, and the progression of their life. That's my encouragement. (PM7).

Nine participants identified mentors, sponsors, advocates, and champions as a means to grow professionally and open the pathway to career advancement. PM5 expressed the significance of "having mentors that can help guide you, help you to prepare yourself in the right way, how you show up to your job, how you come across, help you develop your brand early on, all make a difference." PM10 voiced having a supervisor who advocated for her and provided her feedback on a low rating received on her annual appraisal,

I received all 5 except for one area. I got a 3, and she was brutally honest. She told me where my weakness was and what I needed to work on. She took her time and helping me write my appraisal. I had never had that before. Usually, it's whatever you turn in. If you turn in anything, and the Supervisor just sign off on it and you get what you get, and that's what it is. This supervisor here actually helped me write a good assessment for myself because writing is one of my weaknesses. But she helped me. She advocated for me to get time off and money. I didn't know there was such a thing that I could get both. She helped. She was truly a blessing in that. I don't know if that's gonna be my only experience with having somebody to really advocate and help you see yourself so you can become better. (PM10).

Six participants expressed that networking and employee resource groups were instrumental to gaining exposure to executives, leaders, and peers they did not work with daily. PM8 voiced her appreciation of "not only being able to expand my own network, but tapping into the networks that people like my mentors or my sponsors have access to." For young professionals beginning their careers, PM2 stated the employee resource groups are beneficial for "interns come in, begin creating their village, and know who to go to, instead of sitting in silence." PM5 expressed that employee resource groups in her organization "provide the opportunity to identify the gaps that we have in terms of DEI, from the Black/African American perspective." PM5 continued stating that employee resource groups "create exposure and awareness of top diverse talent and expand people's networks in hopes that when opportunities come available, more diverse talent is considered because leaders have expanded their network."

Eight participants expressed that expanding their networks was a best practice. PM6 voiced that,

Expand your network. Make sure people know who you are. You really have to be more aggressive about it. I feel like I'm nice to everybody. I was more casual about building my network and being intentional about making sure that people knew who I was. It's also letting people know what you wanna do and being intentional about letting as many people as you know that as well, as you're building and developing those relationships. So, when those roles come available because you're in their network, that's what I really feel like they're using, their using their network. They are not using, "oh, yeah, you have all this list of stuff. You're great. You can be perfect candidate." They're really using the people that they believe that they can trust, and the only way they could do that is by knowing who you are. I feel like having that network really helps. And then the other thing, I would say, is also building a network within the African American community. I think that that's also important. I feel like a lot of us struggle and have the same barriers when trying to reach and attain these roles, and also reach and attain career advancement. But having other people to see, to leverage ideas off of, and expand your network that way also. (PM6).

According to the data analysis, having a supportive and influential relationship is important to the professional growth of African American women project managers in the U.S. aerospace and defense industry. The data showed a significant problem within the African American women professionals' community, and this qualitative inquiry study would be remiss if ignored. The data analysis showed areas of concern regarding how African American women support one another in the workplace. Six participants expressed their experience with mentorship and support from other African American women leaders and executives. Four participants spoke highly of their mentorship experiences and stated their relationships felt more organic and relatable. PM1 expressed,

As an African American woman, while [Organization/Company] itself has all of these programs for mentorship and for development coaching, and things like that, I have found that finding a Black woman in leadership, and just learning more about them and reaching out to them to say, "Hey, I see that you're doing great things, and I'm interested in learning more. Would you mind having a conversation with me?" And then from there asking, "if I could learn more from you know, would you be willing to be a mentor?" I found that that has been helpful. (PM1).

Two participants expressed that their relationship with African American mentors was more surface-level and that conversations were sporadic. PM3 voiced,

So, it's unfortunate. I hate saying this but African American women in executive positions have never really given me much space to even connect with them. Like, I've been in big meetings and it's the director of this, the director of that, realizing she's an African American woman as well. After the meeting, I've tried to catch her for just a couple of seconds to introduce myself in person, and just, "Hi! I'm [PM3], I support XYZ." I just wanted to introduce myself in person to try and open the door to connect and things like that. And it's like, "Oh, hey," and just brushed off. But, with White women, anytime I've done that, a lot of times, it's like, "I've heard about you. You led XYZ, right? Yeah. Oh, your reputation precedes you," and "what do you do here? We need to connect. Put some time on the calendar." Then, different standpoint, they'll feed me projects that are gonna get me visibility, "hey, we have annual metrics and Annual Objective Review, Quarterly Objective Review. I need you to facilitate the data collection and prepare it for presentation." That's like a mini project in itself that they could give to anyone, but they gave it to me. They would let me present it and say, "I didn't collect this data. [PM3], who is our XYZ capacity, collected it. She's prepared to brief." Anytime it's been an African American female in the executive role, I didn't get the same. I don't know why. That's always been a mystery for me, but equally it's been motivation because I don't wanna be like that. I don't think that's gonna be how we get more female PMs, African American female PMs, doing that. So, I just kind of made it my personal oath to anyone that walks in a meeting with me that is an African American PM, Assistant Junior PM, Coordinator. You're gonna have my name. You're gonna know how to connect me. So, unfortunate. (PM2).

More prevailing revelations in the data analysis is the lack of support between African American women in the workplace. Three participants shared their experience with other African American women. PM10 shared,

> From my viewpoint, working where I am, Black women are not so quick to extend the olive branch. It's sad. When I came back to the [Organization/Company] into program management, I came in on a program, kind of like the palace acquire program. I came in as a [Rank] because I already had a master's degree, and then the next year you get promoted to [Rank]. The next year you get promoted to a [Rank]. Well, the classes that were before me, the people that were in the programs before me, I noticed they don't want to talk about lesson plans. They don't want to talk about the classes or the past. It's kind of like, "well, I already did that." Okay. Well, we know that. Let's hope somebody else get there. There's not a lot of that. So, I try to be that person. If I come across somebody, I'm gonna help you. We're all trying to make it. We're all doing the same thing, whether we wanna admit that or not. But no, African American women are not trying to hold hands. (PM10).

PM2 voiced her experience with African American women in the workplace and how African American women can start the change,

> When we see each other in the workplace, in the same meeting, we need to know we're on the same side. I am not your competition, Sis. We're fighting the same battle. The last thing we need to do is fight against each other. So don't sneak me. I won't sneak. You don't chop me on an email. I won't chop you. If we need to talk through something before you 'per your last email' me, call me so we can talk it through. So, instead of 'per my last email,' it can be 'per our conversation.' "This is what we're doing. Glad we got to sync up. Looking forward to the next meeting." We have to start doing that because I feel like the environment makes us forget it. Yes, it's Dog Eat Dog, but we're not each other's dog. It's somebody else and I think that's hard. I think that's hard because the generations that came before me, they didn't have that support. They didn't have that Black Girl Magic Club, and they were sneaking each other and chopping each other. And if you were the Black girl that became the token, and the White boys like you, like, "Oh, yeah, bring her in for everything," then you're hated, and it doesn't need to be like that. I just I want so badly for the current generation of Black females in program management, especially in the defense space, we gotta be together. We gotta be together. That doesn't mean we get on Zoom, and say, "hey, girl!" We know when, but we gotta start sticking together more. (PM2).

Theme 3 Purposeful Visibility Increases Opportunities for Career Progression

In response to strategies and best practices to increase African American women's representation within the U.S. aerospace and defense industry, Theme 3, purposeful visibility increases opportunities for career progression, refers to intentionally affording opportunities to qualified African American women project managers to increase their visibility in the workplace. Purposeful visibility coincides with having a supportive influential relationship. PM5 expressed the African American women are challenged with gaining visibility because there is a lack of access to executives to make the connections needed to obtain opportunities for advancement. PM5 stated that,

> One of the DEI challenges that we observed is that we don't have enough representation at this company in executive leadership roles, specifically Director and above, you can count them on your hands, which is a problem. I had a dual role where I supported a Caucasian male executive director and also with talking with others in his demographic, the common problem was that a lot of the leaders and executive leaders don't have visibility to African Americans on different levels because they're not in their network. As a result of them not being in their network, when you go identify people to fill these senior level roles, who gets these opportunities, not Black people because they don't know who we are. (PM6).

Two participants expressed that African American women lack opportunities because leaders are providing opportunities to people they know and trust. PM6 voiced that,

> I feel like a lot of it is that people don't trust what they don't know. So, if you don't look like them, then they feel like, "Oh, no! How do I possibly trust them because I had never experienced somebody that doesn't look like me before." So, I try to break down that by really having one-on-one conversations with people so that they can get to know me. Setting up meetings on their calendar, so that they are comfortable coming with me. So, it's always you have to establish this level of trust with people so that they can respect you as somebody they can come to get stuff done. Because essentially what we're doing as program managers are removing barriers for people so that they can be successful and then they can ultimately deliver on their goal and to do that they need to be able to trust you. So, it's really trying to overcome it by implementing those types of things. It's all about relationship building. I use relationship building to overcome the bias barriers. (PM6).

When speaking on gaining comfortability with leaders, PM6 stated that,

> A lot of times people want to be around folks that they know. We're like that too, right? We want to be around people that you're comfortable with. Well, how do you make people feel comfortable? Well, they have to get to know you. It can't be that I'm unapproachable. If I'm unapproachable and a person can't talk to me, I'm talking about White men, then they're not gonna select me. I don't care how good that I am. I don't care how talented I am. They are not comfortable. So, how do you have to make them feel comfortable? You have to make them feel comfortable. (PM6).

Theme 4 Inclusive Hiring Practices and Processes When Selecting Diverse Leaders

In response to strategies and best practices to increase project success and profitability within the U.S. aerospace and defense industry, Theme 4, inclusive hiring practices and processes when selecting diverse leaders, refers to having more inclusive measures when seeking to hire in leadership positions. Eight participants voiced the significance of having diverse teams and leadership, with diversity of thought being a key phrase that emerged from the data by five participants. Regarding project success and profitability, PM6 stated that having diverse teams has produced great results and created an environment where team members feel empowered to bring their ideas and expertise to our program, which has proven successful. Four participants voiced how diversity drives efficiency and innovations and enables the workplace to be more open to ideas and problem-solving. PM3 voiced,

> Having diverse teams, not just from a race perspective, but from a gender and age perspective, I think, has definitely contributed to a lot of my successful programs and projects. Simply, you had that generational blend mixed with creativity. That comes from having mixed gender teams and mixed generations. So, I definitely think that it's contributed to our agility to get things done with. You know, having some folks step outside of comfort zones, and some folks stay in, and vice versa. I think it's definitely contributed to the amount of diversity on the team. (PM3).

Seven participants stated that having diverse leadership in their organizations has influenced the career progression. PM8 voiced that "it's nice having a person of diversity or a person with a diverse background on your leadership staff, but one is not enough and there needs to be more." PM10 stated that in the working environments that she has experienced, diversity is not very strong, and it is sometimes challenging to not be the norm with an idea or suggestions." Six participants expressed that they have experienced being the only African American woman in the workspace. One participant, PM3, noted she has experienced being the only African American and the only woman project manager in her workplace. PM1 stated,

> I would venture to say that if it had not been for the diverse leadership that I've had the opportunity to work with and support, I might not be where I am today. There is uniqueness that comes with having women who are in charge, women who are running operations who are in senior leadership positions, and there is a unique opportunity in having Black women who are in those roles. (PM1).

With the lack of opportunities, participants voiced developing their pathway to career advancement through advanced education, certifications, and leadership development training. The data emerged that nine participants believed that the advanced education and qualifications only get African American women in the door for interviews. When it comes to competitiveness and marketability compared to their counterparts, all participants voiced those educations and qualifications gave them an advantage to career opportunities. PM8 expressed,

> Education does increase marketability. However, I don't think if I just had the same degree, other certifications, GPA, XYZ, as said White person, I would be in the position that I'm in. I just don't. I knew that long before I started working that I would have to be better than just to be considered equal, and as much as I think that's something that needs to change. I don't see it changing anytime soon, at least. Because again, if I could just hire one, that means I've hired all, right. So yeah, it's unfortunate. It's very unfortunate. I know what I've witnessed, and people like my younger brother, who are coming up and I about to start working, I can only tell him the same thing. My parents told me like you've got to be here, even if they're there. You got to be here just to even meet somewhere in the middle. (PM8).

PM3 stated her journey of career advancement started with certifications,

> I started asking questions about certifications and I had heard about the PMP. Anytime, I brought it up in my workspace, to just be frank with you, it was around middle-aged White men and we're talking about trainings and things like that. Anytime I would voice my interest, and researching, not even doing it. I just wanna know more about it. Shot down. "You don't have the experience." Okay. So, I started saying, okay. I started writing and presenting myself differently after that because it's hard to…For me, it was always hard to accept I didn't have the experience because outside of work, my career, I ran an entire cheerleading program. So, what do you mean I don't have…my experience doesn't look like yours, but that doesn't mean it's not there. So, I just would start to use that as my motivation and push. When I was going for my Scrum Master certification, I remember telling my PM at the time, who was a White male. Because, let's face it, that's what that realm looks like, especially in defense. He told me, "I don't even know what that is. You don't need to be pursuing that." I wasn't approved for it to be reimbursed. Anything. So, I said, "Okay, I'm gonna do it on my own," and I did, and I took the course, past the test. Cool. I put it in my weekly report, because, as a contractor, you know, you have to put that in your weekly report. "What is this? Why is that in there?" "Well, you asked me what I did this week. Part of what I did." Fast forward like 4 months, our [Organization/Company] oversight was asking, "Do we have any scrum masters on the team?" So, when I'm unmuted myself, I said, "I'm a scrum master." "How did we not know that?" Well, I said, "well, my company was aware that I took the training." (PM3).

PM6 stated how being in a leadership development program to increase her leadership skills and business acumen,

> I've been in a lot of leadership programs to help increase my business acumen. So, I was in [Leadership Program]. [Leadership Program] really focused on the soft skills, not necessarily your technical skills. How do you lead? How do you lead yourself, and how do you lead others. I really enjoyed that because it was so fluffy. It was so people-focused. Even though I am a technical leader, that area, people development, people leadership, is really a place that excites me and is very enjoyable for me. So, I really enjoyed that program. I was part of a program called [Leadership Program]. This one was a hard program. This program was sponsor by the Business Unit President. At the time, it was [Name], and so we had to work together on a business plan. It was a big project. What I did to stand out in that program is I decided I was going to be

one of the speakers to present it to the Business President. I was so nervous, cause again, I didn't like speaking. But, hey, I'd knock it out the park because I said this is what I'm gonna do when I practice, and I prepare. So, I think that I've grown a lot by being in those programs, but I've also grown my network. (PM5).

The opportunities for African American women in the project management field is minimal. When it comes down to inclusive hiring practices, the data analysis showed there an exclusion of African American women project managers. Five participants verbalized being looked over for promotions into career progressive positions and leadership roles. PM6 expressed her experience with being looked over for a promotion,

My goal was to get promoted by the end of the year last year. My manager knew that that was my goal. He was on board for helping me get promoted and told me that I would be great for a specific program that included the next level of responsibility. However, when it came time to apply for the role, he told me to apply, I received a 30 min interview where HR wasn't present and then hired his friend, a White female that previously worked on the program as a risk manager and who didn't have previous program manager experience. When I questioned him, he stated, "She had a little more experience than you." Again, the other lady was a department manager with no PM experience, and this was a senior PM role. My manager gave the job to that lady, a White female in his network, and did not give it to me, a Black female who was already on his team. This same manager stated previously that I was a high performer and was doing a great job as a Program Manager. This practice has happened for the almost 15 years that I've been in this company. I call it internal nepotism. They hire people that they know and that look like them, these people are friends and other people in their network, and they do this hiring or providing opportunities at the expense of people that look like me. So, and they knowingly do that repeatedly. (PM6).

PM5 expressed her experience and how she chooses to not settle for a position and champion for herself,

When I took the program management role for [Program], that's a big role. That's a covenant position and I really believe that some of my peers thought it was given to me, but nothing was given to me. I had to work really hard for that job. I had to interview twice. The first time I interviewed. I didn't get the job and I had to wait a whole year to reinterview. The second time I interviewed for the job, they wanted me to be a program integrator. And I said, "You know what? Nope, no, thank you. I'm not interested in being a program integrator. I'm interested in being the program manager, and I need a promotion. If this does not come with the promotion and it doesn't come with the title program manager, I'm not interested." I am not taking something that's below my experience level. I know I deserve it. I've worked hard for it. I have the experience for it. So, you're not gonna lessen me. You're not gonna put me in this role at a lower level and then I'm gonna knock it out the box, and then you're gonna go and give it to somebody else. No, I'm sorry. (PM5).

In support of this theme, PM8 expressed the importance the disparities of the workplaces and the lack of representation of African American women project managers in the U.S. aerospace and defense industry,

When I look around at the makeup of who my peers are, I still think that there are room for improvement. I know African American women that I work with, but in my opinion, there's so much more where that came from. They're phenomenal women that I know, who have applied for positions that I have said, "you should apply for this," and they don't even get an interview and then you see the candidate who they did offer walk in the door. It's unfortunate because you know our possibilities. You know what this person brings to the table. I would say absolutely there's a lot of room for improvement. I'm one of a few women, Black women in senior leadership, but I think there should be more. I still think the numbers are very skewed. (PM8).

Final Answer to Research Question

Table 4 provides potential solutions to the research question based on the opinions and perspectives of the participants of this qualitative inquiry. The research question of this qualitative inquiry is, *"What are the perspectives of African American women project managers in the United States aerospace and defense industry regarding strategies and best practices that can increase African American women's representation, project success, and profitability?"*

Table 4

Strategies and Best Practices to Increase African American Women's Representation, Project Success, and Profitability

Question elements	Solutions
Strategies and Best Practices to Increase African American women's representation, project success, and profitability	African American Women must have an executive presence that exude self-confidence, worth, and value to overcame barriers in the workplace.
	African American women project managers must have supportive and influential relationships are instrumental to career advancement.
	Purposeful visibility of African American women project managers to increase opportunities for career progression.
	Inclusive hiring practices and processes when selecting diverse leaders provides space for educated African American women project manager to be considered.

Contributions

This qualitative inquiry study sought to explore the perspectives of African American women project managers in the U.S. aerospace and defense industry regarding strategies and best practices that can increase African American women's representation, project success, and profitability. Utilizing the thematic analysis approach developed by Braun and Clarke (2006), the research question was answered based on the perspectives of African American women project managers within the U.S. aerospace and defense industry. The findings from this qualitative inquiry derived from inductive analysis reveal four major themes: (a) display an executive presence that exudes self-confidence, worth, and value to overcome barriers in the workplace, (b) supportive and influential relationships are instrumental to career advancement, (c) purposeful visibility increases opportunities for career progression, and (d) inclusive hiring practices and processes when selecting diverse leaders. There is an acknowledgment that diversity and inclusion training and implementation are occurring within aerospace and defense organizations. However, the data collected from this qualitative inquiry contribute to theory, literature, and the practitioner knowledge base by assisting U.S. aerospace and defense industry leaders to understand the challenges and adversities hindering African American women project managers from advancing their careers. The following section addresses how the findings of this study contribute to the theory, literature, and practitioner knowledge base.

Contribution to Theory and Literature

The contribution to theory and literature originated from the applied framework of this qualitative inquiry. The Black women project manager's representational intersectionality framework was adopted from the intersectionality and the Black feminist thought frameworks. The Black women project managers representational intersectionality

framework provided the foundational concepts that correspond with the research question. The themes derived from the data analysis supported the key concepts of the framework, identifying that social identities overlap and intersect, potentially causing complex identities that challenge the inclusivity of African American women project managers on project teams and with opportunities for career advancement in the U.S. aerospace and defense industry. The themes of strategies and best practices that influenced African American women project managers' career advancement confirmed and aligned with the research literature regarding the intersectionality of gender, race, and education and qualification in the workplace. The concepts of the Black women project managers representational intersectionality framework formed the foundation for understanding that obstacles continue to exist for African American women in the workplace, more specifically for African American women project managers seeking career advancement. Themes 1 through 3, executive presence, supportive and influential relationship, and purposeful visibility, increases opportunities for career progression aligned with the gender and race concepts of the applied framework and the intersectionality and the Black feminist thought frameworks. The data provides evidence that African American women must present themselves in a certain manner and have advocates and champions to be seen in the workplace. African American women are perceived differently as professionals and continuously marginalized in the workplace. The gender bias combined with systemic racism in the workplace continues to cause barriers of visibility and access to leaders that can assist with career progression. Theme 4, inclusive hiring practices and processes when selecting diverse leaders, aligned with the education and qualification concept of the applied framework because disparities with hiring diverse leadership still exist. African American women are attaining advanced degrees and obtaining certifications to show themselves competitive and marketability in the workplace while their counterparts are advancing without credentials. African American women are subjected to having to go above and beyond but are still not considered for leadership position.

Contribution to Practitioners Knowledge

The data from this qualitative inquiry contributes to the practitioner's knowledge by using the findings to explore career advancement programs specific to African American women in the project management field. Little to no research has been conducted on African American women in project management or employed in the U.S. aerospace and defense industry. Being one of the least represented demographics in project management, the findings of this qualitative inquiry can initiate much needed conversations to identify elements that are hindering the career progression of African American women and how changes can be implemented to increase the representation and improve inclusion factors in project management and within the U.S. aerospace and defense industry.

Application and Recommendations

Through the perspectives of the 10 participants, the findings captured in this qualitative inquiry not only provided information on how they navigated barriers as project managers and created a career progressive pathway for themselves, but they also provided insight on the importance of developing diverse teams and leadership within U.S. aerospace and defense organizations. Implementing diversity and inclusion within project teams benefits organizations' success and profitability in the U.S. aerospace and defense industry. Creating a culture where diversity of thought is acceptable provides an all-encompassing path for innovation and a competitive advantage for organizations. However, there is room for improvement regarding increasing the presence of qualified African American women project managers in senior and executive leadership roles within the industry.

The gap in practice for this qualitative inquiry was that leaders in the U.S. aerospace and defense industry are not implementing effective diversity, equity, and inclusion (DEI) strategies or best practices to ensure African American women have opportunities to advance their careers in project management. Business leaders in the U.S. aerospace and defense industry might apply the findings of this qualitative inquiry study to increase the representation of African American women project managers in their organizations and increase the probability of project success and

profitability within their organizations. The following recommendations align with the findings and research literature review of this qualitative inquiry:

- • Recommendation 1. Organizational Leaders must acknowledge, support, and invest in the career development and advancement of African American women project managers seeking to elevate in organizations within the U.S. Aerospace and Defense Industry.

- • Recommendation 2. Workplace initiatives must be reevaluated to ensure that intentional and purposeful diversity, equity, and inclusion measures are being implemented to support African American women, including but not limited to fair and equal compensation, hiring practices, and promotion opportunities.

- • Recommendation 3. Further research is needed on the barriers of African American women in the project management fields, not only in the aerospace and defense industry.

The first recommendation conveys the significance of organizational leaders being advocates and champions for African American women project managers. With the population of African American women project managers, the barriers encountered to advance their careers are often overlooked. African American women project managers should be afforded the same opportunities as their counterparts without constantly having to prove themselves worthy or competent. The second recommendation strives to enhance the systemic inequality that African American women project managers experience when managing projects and programs with their counterparts. The findings of this qualitative inquiry can be advantageous to increasing the representation of African American women project managers. When reevaluating workplace initiatives, it would be significant to survey African American women project managers within each organization to identify other biases and discriminations and bring them to the forefront of leadership. The inferiority of the barriers African American women encountered should not impede African American women from excelling in their project management profession in the any profession. Their comfortability to speak on these adversities should be well received from leadership and there should be assurance provided that African American women are heard and safe in their workspaces. The third recommendation is to further the research on the experiences of African American women project managers in the U.S. aerospace and defense industry. African American women project managers remain one of the smallest demographics in the project management field across all industries. With dual biases of gender and race, additional research can be beneficial to leaders and future African American women project managers on how to navigate barriers and promote career progression.

The information from this qualitative inquiry study is appropriate for distribution to academic and industry publications specific to the project management field and the aerospace and defense industry. The findings and information presented in this study can assist future African American women project managers and business professionals seeking career advancement. This information can also provide insight to organizational leaders on the existing barriers within their organization, allowing them to make changes to the disparities hindering career advancement for their African American women employees. This qualitative inquiry also provides scholars and practitioners with information on African American women in the project management field and aerospace and defense industry to further the research and discussion on barriers and improvement of diversity and inclusion of African American women in leadership.

Conclusion

The purpose of this study was to explore the perspectives of African American project managers on strategies and best practices to overcome barriers while managing complex projects and attaining career advancement within the U.S. aerospace and defense industry. The findings from this study support the literature referencing the underrepresentation of African American women in leadership roles and the adversities encountered when attaining

career advancement. Some African American women are advancing their careers into senior and executive-level leadership roles. However, there is an opportunity for more. A wealth of knowledge was gained from the research regarding project management and creating a diverse and inclusive workspace in the support of African American women project managers in the U.S. aerospace and defense industry. This qualitative inquiry study began with an understanding that gender and racial inequalities and conscious and unconscious biases existed in the work environment. Interviewing African American women project managers who shared similar experiences provided additional clarity that further endeavors are necessary to create leadership space for educated and qualified female project managers in the U.S. aerospace and defense industry.

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