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IN THIS ISSUE

ARTICLES

THOUGHT PIECE

CASE STUDY

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Contents

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From the Editor

June 2023

Welcome to the 45th issue of the *International Leadership Journal,* an online, peer-reviewed journal. This issue contains three articles, one thought piece, and one case study.

In the first article, Santiago assessed the data collected for a qualitative case study of an innovation project through the lens of idea generation, promotion, adoption, rejection, and implementation. The resultant information on innovation process stages; a leader's ambidextrous behaviors that are needed to foster idea generation, promotion, and implementation; and the transition of ideas through the stages will help practitioners and scholars transition ideas through innovation process stages.

While the number of women in science, engineering, and math occupations has increased over the years, the same cannot be said for the field of technology. Ballaro, Russell, and Meade sought to understand what factors Generation Z women consider when considering a career in technology. They studied a sample of Gen Z women in their first two years of undergraduate study who had not chosen an IT program and found strong relationships between gender bias, gender pay, and required courses in technology as reasons why these women did not choose a technology career field.

Leary, Alderman, and Leary studied Adobe Inc.'s approach to remote work required by the COVID-19 pandemic. They found that Adobe provided an atmosphere of greater flexibility and autonomy. which led to a very positive, strong association among engaged/invested workers with enhanced profitability and business results. They conclude that Adobe's workplace modifications should serve as a prototype for other companies, especially during uncertain times.

In his thought piece, Howe follows up on his 2020 ILJ piece "Leadership Is Dead(?)" with a call for other researchers to join him in exploring what leadership is (or what it means) and whether it is still a useful word/concept today.

Finally, my teaching case study discusses the way a nonprofit leader seeks to create continuous sustainability for his nonprofit organization to fulfill its mission. His goals are rather ambitious and broad, so there are questions that he must answer before he can set out to achieve them.

Please spread the word about *ILJ* to interested academics and practitioners and remember to visit http://internationalleadershipjournal.com. Also, feel free to propose a topic and be a guest editor of a special issue by contacting me at jcsantora1@gmail.com.

Joseph C. Santora, EdD
Editor

ARTICLES

From Idea Generation to Implementation: Transitioning Ideas Through Innovation Process Stages*

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The purpose of this article was to assess the data collected for a qualitative case study of an innovation project through the lens of idea generation, promotion, adoption, rejection, and implementation. Findings are important to practitioners and scholars looking for ways to enhance creativity and innovation. Six team members completed open-ended questionnaires. Responses were analyzed using theoretical thematic analysis, and organizational documents were analyzed using qualitative document analysis. The data indicated a path through which ideas navigated innovation process stages. Leader behaviors were linked to innovation process stages and the transition of ideas through stages. The results increased knowledge and literature on innovation process stages; a leader's ambidextrous behaviors that are needed to foster idea generation, promotion, and implementation; and the transition of ideas through the stages. The findings led to the conclusion that practitioners and scholars could transition ideas through innovation process stages by providing project mission, vision, roles, and effective information and communication systems.

Keywords: ambidextrous behaviors, idea generation, idea implementation, innovation process stages, qualitative case study

The ambidexterity theory of leadership for innovation is partly grounded on the principle that a leader has direct and frequent interactions with employees during innovation processes (Rosing et al., 2011). Through interactions, leaders might influence team members, innovation processes, and the outcome of ideas offered by individuals. Mascareño et al. (2021) studied the relationships that leaders' opening and closing behaviors might have with idea generation, promotion, adoption, and implementation in innovation processes. Mascareño et al. (2021) believed that for an organization or team to attain idea implementation, such ideas would be promoted, accepted, and adopted. However, different individual behaviors, skills, and environmental characteristics affect how or if an idea will advance through these stages (Mascareño et al., 2021).

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One can postulate that behaviors, skills, environmental characteristics, and other factors vary at all organizational levels and the different levels at which innovation projects may be carried out (e.g., group or individual). A probable factor at play might be the way leaders exert oversight over innovation teams. For example, leaders may influence the way team dynamics and innovation processes occur (Acar et al., 2019), which points to the likelihood of a leader affecting creativity and innovation (Hughes et al., 2018).

The way that team members react to a leader's influence might lead to the rejection of ideas or shape the innovation project outcome. Non-selection of ideas, specifically, often goes unnoticed by researchers and organizations (Keum & See, 2017). As to environmental characteristics, the nature of team member interdependence may influence the quality of team member interactions (Runhaar et al., 2014). One may also consider that the nature of the interdependence of innovation process stages might affect the innovation process or, indeed, the entire project.

By focusing on the idea and the way it evolves from generation to implementation, Mascareño et al. (2021) deviated from the traditional focus of the ambidexterity theory of leadership for innovation. Rosing et al. (2011) stressed the three characteristics of ambidextrous leadership: opening leader behaviors that foster employee exploration, closing leader behaviors that nurture employee exploitation, and leader temporal flexibility to switch between the two behaviors. Mascareño et al. (2021) also focused solely on the individual level, whereas Rosing et al. (2011) focused on both the individual and team levels.

However, both studies offered interrelated proposals for future studies that align with other calls to increase understanding of contextual ambidexterity (Raisch & Birkinshaw, 2008) and assess interactions of supervisors and employees related to innovation (Caniëls et al., 2017). Rosing et al. (2011) called for studies to inspect the ambidextrous behaviors of leaders and followers. Mascareño et al. (2021) asked for research that explores a leader's flexibility in switching between ambidextrous behaviors, the ability to switch at the appropriate time, as well as the role that leaders might endure for idea generation, promotion, and realization. In a related request, Gerlach et al. (2020) asked for studies that assess the interplay

between opening leader behaviors and creativity requirements and the interplay between closing leader behaviors and implementation requirements. Hence, the recommendations from Caniëls et al. (2017), Gerlach et al. (2020), and Mascareño et al. (2021) relate to Rosing et al.'s (2011) theoretical position that innovation research should account for the particulars of an innovation process to attain reliable predictions on leaders' influences on innovation.

Mascareño et al. (2021) stressed that the literature on the effect of leadership on innovation did not discuss leaders' behaviors that are needed to foster idea generation, promotion, and implementation, and their study findings did not indicate whether ideas were successfully transitioned through stages. Hence, researchers (Caniëls et al., 2017; Gerlach et al., 2020; Mascareño et al., 2021; Raisch & Birkinshaw, 2008; Rosing et al., 2011) are still asking for more studies that link leaders' and employees' ambidextrous behaviors related to creativity and innovation and how ideas are handled. As such, the problem for this research article was that the literature lacks descriptive data to assess the way ideas transition through the stages of an innovation process, links between a leader's ambidextrous behaviors and the transition of ideas through the stages, and the degree of interdependence of the innovation process stages. To address this literature gap, it is key to assess aspects of an innovation project either in progress (e.g., project activities) or completed close to the period of data collection so that the details of the innovation process and the project outcome can be obtained.

Thus, the aim of this research article was to assess the data collected for Santiago and Terrell's (2022) qualitative case study through the lens of idea generation, promotion, adoption, rejection, and implementation. The objectives were to assess the way ideas transitioned through innovation process stages, links between a leader's ambidextrous behaviors and the transition of ideas through the stages, and the interdependence of the stages. The investigated case was a nonprofit organization with its main office in the southeast United States, and the unit of analysis was a team carrying out a call center innovation project (Santiago & Terrell, 2022). The constructivist approach was adopted for this article.

Research Questions

The principal and sub-questions used in this research article were as follows:

Principal Research Question

Research Question: *How do ideas progress through the stages of the innovation process?*

Research Sub-Questions

Research Sub-Question 1: *How do team leaders and their team members facilitate the advancement of ideas through the stages of the innovation process?*

Research Sub-Question 2: *How are the ambidextrous behaviors of team leaders linked to the transition of ideas through the stages of the innovation process?*

Research Sub-Question 3: *How is the interdependence of the stages of the innovation process described?*

Literature Review

The literature review produced three major topics. The first topic is the stages of an innovation process. The second topic is a leader's positive influence on creativity, innovation, and innovation processes. The third topic is a leader's negative influence on creativity, innovation, and innovation processes.

Stages of an Innovation Process

There are many types of innovation (e.g., new product or process; Gupta, 2018) and innovation process stages—also referred to in the literature as facets, phases, or steps. Appleyard et al. (2020) underlined the innovation steps of discovery, interpretation, ideation, and implementation. Keum and See (2017) described the innovation process phases as idea generation or search, evaluation, selection, and implementation. Meanwhile, Mascareño et al. (2021) addressed idea generation, promotion, acceptance, and implementation as facets and steps. Hence, the order of the stages also varies within innovation processes.

Setting goals, organizing the innovation process, and recruiting are key activities of innovation processes (Boer & During, 2001). These activities may fall within an

earlier stage of an innovation project, such as Dziallas and Blind's (2019) product strategy—the first stage of their innovation process. Setting goals, innovation roles, and information and communication technology are strategies leaders may implement to give people implementing innovation processes the information processing capacity to endure complexity, interdependence, and uncertainty (Boer & During, 2001).

Task interdependence refers to the workflow among members of a team that makes the task performance of one member dependent on the performance of another (Le Blanc et al., 2021). During high task interdependence, with members facing team-level tasks, leaders should emphasize mission and vision and encourage them to perform well (Le Blanc et al., 2021). Task interdependence may encourage team members to give each other advice (Runhaar et al., 2014).

Stock et al. (2017) split the early phase of the innovation process into problem detection, problem analysis, problem solution, and solution selection—with creativity, motivation, and knowledge acting as innovation drivers. This problem-solving orientation is driven by the manifestation of a complex problem that requires the generation of alternatives (Keum & See, 2017). In fact, at the stage of idea generation, individuals would attempt new ways to solve work-related problems and improve existing products or services (Muchiri et al., 2020). Often, companies will engage in open innovation practices to generate or obtain ideas from outside the firm (Frishammar et al., 2019; O'Reilly & Binns, 2019).

Once the phase of idea promotion is reached, those engaged in innovation work behavior should promote ideas to build support and a coalition of allies (Muchiri et al., 2020). The implementation phase may be divided into redefining the innovation (e.g., changing duties of existing staff), clarifying the innovation to better acquaint employees with it (Supriani et al., 2022), and routinizing to make the innovation part of the organization's daily activities (Muchiri et al., 2020; Supriani et al., 2022). During this period, leaders should employ opening behaviors to inspire employees to be open to the latest innovation or management approach (Luu, 2017).

Mascareño et al. (2021) called the implementation of ideas *idea realization.* This view aligns with a prior conceptualization that *innovation* constitutes implementing

what was created (Alghamdi, 2018; Rosing et al., 2011; Thayer et al., 2018). In turn, these studies sustain a much earlier view that innovation needs a construct that fosters new ideas and helps them be instituted (Caldwell & O'Reilly, 2003). Atitumpong and Badir (2018) added to idea realization by offering that a leader's support to members is critical to idea realization. Muchiri et al. (2020) provided a different angle, noting that generating, promoting, and implementing an idea together constitutes employee innovative work behavior.

A Leader's Positive Influence on Creativity, Innovation, and Innovation Processes

Leaders may enhance creativity and innovation by developing and preserving high-quality exchanges with team members (Atitumpong & Badir, 2018), setting positive group norms, delegating authority, and reinforcing respectful information sharing (Kremer et al., 2019). To sustain a high-level exchange, leaders can provide support, feedback, resources, and chances to improve competence and efficacy (Chow, 2018). Self-efficacy, specifically, was positively correlated with high leader–member exchange (LMX; Kariuki, 2020).

Gerlach et al. (2020) concluded that opening leader behaviors positively influence performance if creativity is needed, and closing leader behaviors drive better implementation performance. Inconsistently, though, Gerlach et al. (2020) found that the ambidextrous behaviors of the leader they evaluated had no general effect on performance, irrespective of task requirement. The absence of effect possibly resulted from individuals lacking the self-efficacy or initiative to seek out what was needed for idea implementation (Atitumpong & Badir, 2018). Hence, a leader's behaviors are only effective in the presence of creativity or implementation requirements (Gerlach et al., 2020). Welcoming risk-taking and mistakes may lead employees to try other ways to fulfill tasks (Caldwell & O'Reilly, 2003) and solve problems with creativity (Muchiri et al., 2020)—all while creating a collaborative and productive atmosphere for implementation (Santiago & Terrell, 2022).

To deal with changing requirements, people need to regularly change behaviors; thereby, behaving ambidextrously (Gerlach et al., 2020). In the process, opening leader behaviors may help employees fulfill their creativity requirements, while

closing leader behaviors may help employees meet implementation requirements (Gerlach et al., 2020). Transformational leaders can support employees through intellectual stimulation, individualized consideration, motivation, and idealized influence during idea generation, promotion, and implementation (Muchiri et al., 2020). Innovation leaders may foster employee voices to embolden them to freely convey ideas, nurture knowledge sharing (Kremer et al., 2019), and be loyal, supportive, and trustworthy (Atitumpong & Badir, 2018).

A Leader's Negative Influence on Creativity, Innovation, and Innovation Processes

Leaders can also have negative influences on creativity and innovation. First, the hierarchy of authority established by an organization can be detrimental to the idea-generation phase (Keum & See, 2017). Second, how leaders design and staff teams (e.g., organizing style and tenure) might adversely affect the promotion of employee voice and knowledge sharing (Kremer et al., 2019). For instance, newer employees tend to speak less than people with more tenure (Kremer et al., 2019). Some organizations allow idea generation to occur anonymously (Keum & See, 2017), which may be a viable method to encourage employee voice in newer employees.

Methods and Procedures

The virtual execution of both the call center innovation project and the research study enabled anonymous data collection, while the use of purposive sampling produced substantive responses to the research questions (Santiago & Terrell, 2022). A qualitative case study (Yin, 2018) design was suitable for this paper given the data were collected while the innovation process was unfolding. The initial unit of analysis, a team, was also suitable because of the need to assess the interplay between the leader's ambidextrous behaviors and those of team members. This enabled the evaluation of the influence a team leader may have throughout the innovation process stages. The research problem was studied using a conceptual framework (see Figure 1) grounded on stages through which an idea might navigate, namely: generation, promotion, acceptance/rejection, and implementation.

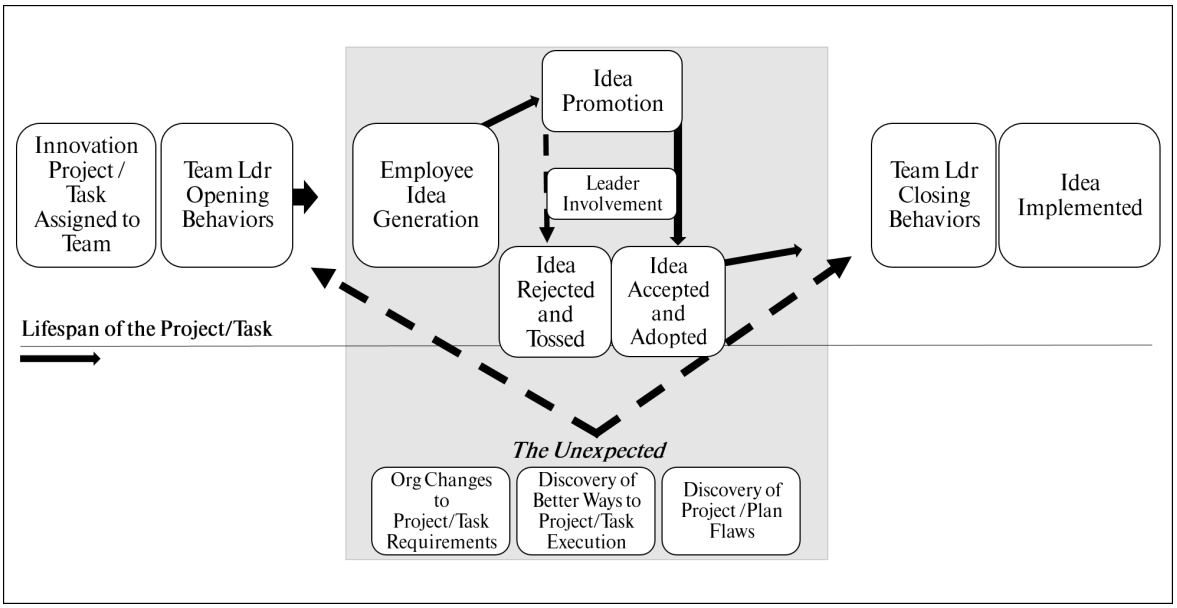

Figure 1: Conceptual model for idea generation, promotion, acceptance or rejection, and implementation

Data Collection

Recruitment, followed by data collection, began after the institutional review board approved the conduct of the study (Santiago & Terrell, 2022). Two sources of evidence were obtained from the organization. The first source was data provided by the six participants (all members of the innovation project) through their completion of an anonymous open-ended questionnaire offered in English and Spanish. The second source was the company's documents linked to the project: a call center overview file and a draft call center protocol.

Only the 10 individuals who participated in the call center innovation project were considered for recruitment and participation (Santiago & Terrell, 2022). Access to the questionnaire was preceded by an anonymous informed consent process that required individuals to accept or decline the description and conditions of the research study. Eight people completed the anonymous informed consent process, of which three completed the team-member questionnaire (labeled M1 to M3) and three completed the team-leader questionnaire (labeled M4 to M6). Responses written in Spanish were sent to a linguist to be translated into English

so that they could be analyzed with the rest of the data. All questionnaires and the informed consent process were created on SurveyMonkey.com.

Data Analysis

Theoretical thematic analysis (Jørgensen & Becker, 2017) was utilized to assess questionnaire responses related to the research questions and the conceptual model shown in Figure 1. Questionnaires were handled one at the time from M1 to M6, with each questionnaire initially read two times followed by search of evidence directly or indirectly related to each research sub-question. Search and documentation of evidence followed the order of the research sub-questions, and all relevant evidence was consolidated in a single Microsoft Word document. Each sub-question was followed by its corresponding evidence, reflective notes, and the response of the sub-question supported with quotes. The evidence found was marked and a note was written next to it denoting its relation to a specific research sub-question.

After drafting responses to the research sub-questions, a response to the principal research question was drafted, supported by quotes. The questionnaires were assessed once more to look for evidence of activities related to the innovation process stages to make sense of the innovation process. Responses associated with an innovation process stage were recorded, following the order of questionnaire questions, and reflective notes about the innovation process stages were jotted down. The company's documents were assessed using qualitative document analysis (Wood et al., 2020), considering the research sub-questions and the conceptualization model. This process permitted the linking of documents to the call center innovation project.

Trustworthiness and Triangulation

Employing two data collection methods combined with triangulation of data collected enabled the attainment of credibility. Collecting data while the innovation process was in progress produced substantive descriptions of project activities. Consequently, the final report contained detailed findings and results in the aggregate that were appropriately supported by quotes. Additionally, the data

review and analysis processes generated a robust chain of reviewable evidence and a database, thereby achieving dependability.

Confirmability was reached by noting reflections of the understanding gained from the analyses of responses aligned with each research sub-question, and those linked to the innovation process stages. Transferability was gained by drafting a final report containing findings and results that were adequately descriptive and supported by quotes. Different types of triangulation were conducted, including triangulation of questionnaire responses followed by triangulation of company documents. The outcomes of these two triangulations were then triangulated.

Results

Responses to the research questions are provided in the aggregate, starting with the principal research question. Questionnaire responses shed light on the way ideas were presented for consideration, whether they were accepted and adopted or rejected, how a team leader's behaviors were linked to the innovation process stages, and the interdependence of those stages. A discussion of inconsistencies found in questionnaire responses follows.

Response to the Principal Research Question

How do ideas progress through the stages of the innovation process?

Ideas navigated the innovation process stages through the execution of strategies and procedures that carried out the project, which ultimately made the innovation process stages interdependent. Preceding these strategies, the big idea arose, as indicated by team member M2's comment that "the call center started as an idea from the founder." As the first strategy, a mission and vision were crafted for the call center, and project participants were briefed on them; M2 said that "we began conducting orientation meetings on the call center mission and vision."

For the second strategy, roles and tasks were assigned based on individuals' capabilities, and leaders were directly involved throughout the process. For instance, team member M1 stated that "tasks [were] assigned based on knowledge and readiness," and team leader M6 indicated that "another leader worked on the

implementation and training of the communication system." The third strategy was establishing the information and communication platform—the vehicle through which everyone's ideas were passed on for all project participants to evaluate and either adopt or reject, draft an implementation plan, and execute it.

Response to Research Sub-Question 1

How do team leaders and their team members facilitate the advancement of ideas through the stages of the innovation process?

Participants of the call center innovation project advanced ideas through the innovation process stages using the information and communications platform established for the project. For instance, M2 said that "from the start of the call center project, a participatory communication procedure was implemented to allow all team members to exchange ideas, make recommendations, and stay up to date on everything related to the call center." M2 went on to say that "each idea is heard, weighed, and evaluated for possible implementation to continue improving the services provided by the call center." One leader, M4, reinforced M2's remarks by saying that "our meetings provided [everyone] with an opportunity to share their ideas to improve and refine the processes."

Response to Research Sub-Question 2

How are the ambidextrous behaviors of team leaders linked to the transition of ideas through the stages of the innovation process?

The ambidextrous behaviors of innovation team leaders were linked to the transition of ideas in various ways, beginning with encouraging members to offer ideas. For instance, team member M1 said that "[the team leader and call center director] both welcomed suggestions and kept the communication channels opened." One leader, M5, delineated the steps for the handling of ideas by stating that "the steps were: 1. Conceptualize the idea. 2. Determine if it was feasible. 3. Determine if it was in line with the vision and mission of the organization. 4. Make a plan. 5. Execute the plan." These steps suggest that leaders initially

employed opening behaviors to encourage idea generation, then transitioned to closing behaviors to draft the implementation plan and execute it.

Response to Research Sub-Question 3

How is the interdependence of the stages of the innovation process described?

The innovation process stages were generally integrated and interdependent, predominantly the stages of idea promotion, evaluation, adoption/rejection, and implementation. Given the all-embracing information and communication procedure, all participants learned of everyone's ideas at once, partook in idea evaluation, and collectively decided whether to adopt and implement or reject. But what supported the interdependence of innovation process stages was the instituted strategies which included establishing a mission and vision, innovation roles, and the information and communication platform. M2 spoke about the project's strategy by declaring that "we began conducting orientation meetings on the call center mission and vision." Regarding innovation roles, M1 said that "tasks [were] assigned based on knowledge and readiness," and M6 stated that "another leader worked on the implementation and training of the call center communication system with the team."

Inconsistencies of Questionnaire Responses

When asked about the way setbacks, mistakes, and modifications were handled, responses varied with respect to setbacks. M1 noted that "the greatest setback to implementing the project was the COVID-19 pandemic, which forced a delay. Nevertheless, the change was accepted." Another team member, M3, said that "the project had several setbacks with construction and the pandemic. However, . . . we [had] a team huddle and [kept] moving forward." M5 stated that "we had no major setbacks," but M6 wrote that "in the design and development phase, . . . I encountered only common communication and task-completion setbacks, which were resolved with follow-up."

Discussion

The participants' responses to the questionnaire were relevant and descriptive, enabling direct answers to the research questions. The two company documents—the call center overview file and the draft call center protocol—represented two major activities conducted by the team. The former related to the pursuit of the call center communications system, and the latter comprised the formal operating protocols of the call center once it was approved.

Interpretation of Findings

With respect to the principal research question, the leaders of the call center innovation project effectively set conditions for project participants to transition ideas through the innovation process stages. The key factors were leaders' encouragement of team members to offer ideas combined with the information and communication platform created to collectively evaluate ideas and decide whether to adopt and implement or reject. If adopted, steps were defined to create and execute an implementation plan. The strategies set for the project were key to the integration and interdependence of project activities and stages. It is worth pointing out that ideas were evaluated in relation to the established mission and vision.

Concerning the first research sub-question, responses clearly indicated that team leaders and members were directly and actively involved in the processing of ideas. Because all project participants were tuned into the information and communication platform, they conceivably received ideas offered for consideration simultaneously. The fact that the information and communication platform was implemented early in the project timeline suggests that the pursuit of ideas also began early in the innovation process. Moreover, leaders were also open to ideas that would improve what was already implemented.

For the second research sub-question, responses stressed the fact that team leaders were actively soliciting ideas and team members continually responded to that call. Once ideas were offered, the group followed a five-step process instituted by one of the leaders to transition the idea from the evaluation phase to the

implementation phase if adopted. Responses also indicated that the leaders wanted project members to maintain open communications.

As for the third research sub-question, the interdependence of project activities and the innovation process stages was stressed by the five-step process that everyone took part of. Each idea was conceptualized, assessed for feasibility, and determined if it was in line with the mission and vision. If the idea met the criteria, it would transition to the planning phase and drafting of the implementation plan. Having a clear mission and vision, assignment of roles, open information and communication platform, and formal process to submit and assess ideas for implementation led to the interdependence of the innovation process stages.

Relating Study Results to the Literature

The findings showed that the leaders inspired team members to freely offer ideas, and that a leader defined the steps that would enable the transition of ideas from promotion to implementation. These findings align with Acar et al.'s (2019) view that leaders may influence the way team dynamics and innovation occur. The findings aligned with Mascareño et al.'s (2020) study by showing the leaders' behaviors that fostered idea generation, promotion, and evaluation, signifying a path for ideas to navigate the innovation process stages.

The key innovation process activities and strategies suggested by Boer and During (2001), such as goal setting and innovation roles, were evident in the data. The findings from this study suggest that the call center project arose from a need identified by a leader, which speaks to the problem-detection phase (Stock et al., 2017) of the innovation process. Meanwhile, the findings differed from Muchiri et al.'s (2020) point that individuals try to build a coalition of allies during the idea-promotion stage. Instead, the findings showed a formal process by which all project participants received each other's ideas at the same time and partook in the evaluation of ideas for adoption and implementation. The findings also indicated that a leader was responsible for the training and implementation of the call center's automated system, which reflects Atitupong and Badir's (2018) view that a leader's support of employees is critical for idea implementation.

As the leaders in this study inspired their team members to create new ideas and guided them through the idea evaluation, adoption, and implementation stages, the findings align with Gerlach et al.'s (2020) conclusions in two ways. First, opening leader behaviors positively influence performance if creativity is needed. Second, closing leader behaviors influence performance for implementation. However, the findings did not show evidence of detrimental hierarchy of authority (Keum & See, 2017) or of team design and staffing adversely affecting team voice and knowledge sharing (Kremer et al., 2019).

Implications

Organizations are encouraged to formalize the practice of giving individuals opportunities to freely offer ideas and allow those involved in innovation projects to partake in the evaluation of ideas. As such, teams and individuals can both contribute to the transition of ideas through the innovation phases, including the implementation phase. Project managers and team leaders should remain flexible and allow for the recommendation and implementation of ideas that enhance or improve a previously implemented idea within the same project unless project limitations will not allow it. Innovation leaders should be actively involved at all stages of an innovation project and institute a positive and collaborative atmosphere that successfully fosters creativity and innovation.

Organizations should identify required strategies for innovation projects and integrate them in a way that they guide all efforts toward effective innovation process interdependence and the innovation as a whole. Moreover, organizations and project managers should ensure the right hierarchy of authority, team design, and staffing is established to avoid adverse influence on innovation teams. Innovation leaders should identify whether idea promotion, evaluation, adoption, and rejection stages need to be conducted solely by the team or incorporate input or involvement of individuals outside the team. Doing so accounts for the possibility of having to build a coalition of allies during the idea-promotion phase. Researchers should engage in purposive sampling to increase the likelihood of

capturing highly relevant descriptive data that facilitate direct responses to research questions.

Limitation to the Study

The limitation of this article was that it addressed a different research problem than the original study. Consequently, the original research was not designed to collect data to assess the fate of ideas offered while an innovation process is in progress, links between leaders' ambidextrous behaviors and the stages of the innovation process, and the interdependence of the innovation process stages. Fortunately, the data collected for the original study remained highly relevant because the data directly related to an innovation project that was in progress during the period of collection.

Recommendations for Future Research

A qualitative case study is recommended that focuses on capturing descriptive data to assess a leader's behaviors related to specific innovation process stages, particularly idea evaluation, acceptance, and adoption. This approach could shed light on the degree of a leader's influence on the decision to either reject or accept and adopt an idea, plus the criteria used to evaluate ideas. A factor analysis study is recommended for the purpose of identifying factors other than a leader's ambidextrous behaviors that might influence the transition of ideas from one stage to another and the degree of influence of each factor.

Conclusion

The purpose of this research article was to assess the data collected for Santiago and Terrell's (2022) qualitative case study through the lens of idea generation, promotion, adoption, rejection, and implementation. It assessed the way ideas transitioned through the innovation process stages, links between a leader's ambidextrous behaviors and the transition of ideas through the stages, and the interdependence of the stages. This research article contributes to the existing body of knowledge and literature on ambidextrous leadership, innovation process stages, a leader's ambidextrous behaviors in relation to the innovation process stages, and the transition of ideas through these stages. The findings will be useful

to leaders at all organizational levels, practitioners, and scholars looking for ways to enhance creativity and innovation at the team and individual levels. The findings can also help establish criteria for consistent, successful implementation in innovation projects.

Leaders and practitioners can apply the results of this research article in many ways. First, they should ensure that the stages of innovation processes are well defined with conditions that mark the start and end of each stage and flexibility to return to -previous stages when necessary. Doing so may help isolate project activities by stage and then identify and evaluate leaders' and employees' behaviors at each stage. Second, organizational leaders, project managers, and innovation leaders should draft a clear mission and vision for innovation projects, ensure project participants understand them, and revisit the mission and vision often to ensure they continue to guide innovation project efforts. Third, leaders should gain or maintain a clear understanding of the employment of ambidextrous behaviors and how to use them to encourage idea generation.

Fourth, all participants of the innovation project should have roles assigned based on knowledge, skills, and abilities. Leaders should assess those roles periodically to ensure they are still needed and can help the project move forward and modify as warranted. Fifth, it is imperative that organizational leaders, project managers, and innovation leaders institute an effective information and communication system for innovation projects and encourage all participants to use the system freely and continually. This communication system should also be used to make communication transparent, build trust, offer and exchange ideas, and transition ideas from the generation stage through the implementation stage. Together, mission, vision, innovation roles, and information and communication systems may be the key to ensuring a successful innovation project implementation.

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Future Leaders in Technology Careers for Generation Z University Women*

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While the number of women in science, engineering, and math occupations has increased over the years, the technology career field has not reaped the same rewards. The goal of this correlation study was to learn the factors that women consider before deciding on a career in technology. The sample consisted of 106 Generation Z women in the United States between the ages of 18 to 25, in their first two years of postsecondary study, who had not chosen an IT program at a university offering information technology courses in degree programs. The findings revealed a stronger understanding of how women's learned experiences affect their career choices. The results from this study disclosed a strong relationship between gender bias, gender pay, and required courses in technology as reasons why these women did not choose a technology career field.

Keywords: gender bias, gender pay, Generation Z, STEM careers, technology courses

Women have played essential roles throughout history as rulers, inventors, mathematicians, pioneers, and soldiers, as well as in critical support roles in times of war (American Association of University Women [AAUW], n.d.-a; Katz et al., 2005, McEuen, 2011). The breadth of these roles speaks to women's success in any number of fields, though for many years, roles in—and the study of—STEM (science, technology, engineering, and mathematics) fields were not only male dominated but sometimes even off-limits to women. Today, researchers report that the majority of both undergraduate and graduate students in STEM are women (Perry, 2018). Despite accounting for around half of the employed U.S. workforce, women made up only 34% of those employed in STEM occupations in 2019 (National Science Foundation [NSF], 2022). While some STEM areas have seen gains in the number of women employees, the percentage of women in technology

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is declining (Ashcraft et al., 2016; Daley, 2021; U.S. Bureau of Labor Statistics, 2022). According to Urwin (2023), women currently remain highly underrepresented in computer-related jobs (25% of the total workforce).

The goal of this study was to determine the level of influence that gender bias, gender pay, and required courses in technology had on the career decisions of undergraduate women not selecting a technology career in the United States. Understanding more about women's attitudes and motivating factors offered greater insight into how to address these problems. We analyzed data directly collected from Generation Z women (between the ages of 18 and 25) who were enrolled in their first two years at a university to understand the factors that led to their decisions for selecting a career program other than the information technology field.

The *social cognitive career theory (SCCT),* based on Bandura's (1997) general social cognitive theory, is an influential theory on cognitive and motivational processes that include academic performance, health behavior, and organizational development (see also Lent et al., 1994). The SCCT was the underlying theory supporting how women's beliefs in this study were motivating factors for choosing a career field other than technology. The belief of a person in their own ability to succeed in a specific situation has been shown to be the most central and pervasive means of the personal activity of all the social–cognitive variables (Sax et al., 2017). Throughout history, women have not been equally represented in the public work environment in general, and more specifically, women were less represented in the technology industry (NSF, 2018). Women continue to lack recognition regarding the knowledge, skills, and capabilities they possess to succeed in the technology industry (Daley, 2021; NSF, 2018). Despite the lack of recognition, women represent a group of contributing, educated, and well-qualified workers who can positively affect the corporate balance sheet (AAUW, 2020; Barker et al., 2014).

Literature Review

Women's Historical Contributions to Technology

Women have played an important role in technology from the 18th to the 21st centuries (Abbate, 2003; Kenney, 2016). The common fallacy that men were better than women in math and science was disproven numerous times (Isaacson, 2014). Ada, Countess of Lovelace (1815–1852), was a mathematician who related mathematics to poetry, giving her the ability to envision the beauty of a computing machine (Isaacson, 2014). Lovelace was the first person to create a theorized method for a process known as *looping,* which computer programs use today (Women in Tech, n.d.). The concept of a general computer that could do anything, given the right programming and inputs, was an extraordinary leap for Lovelace to make and one that many of her male peers struggled to understand; she was 100 years ahead of her time (Charman-Anderson, 2015; Toole, 2010).

Lovelace elaborately defined a *computer operation* as any process that can change a common association between two or more factors (Isaacson, 2014). The factors expanded beyond numbers to objects having shared fundamental associations that could be expressed by the abstract science of operations (Isaacson, 2014). For her contributions to technology, a structured programming language named Ada was developed in the 1980s for the U.S. Department of Defense (Women in Tech, n.d.).

Grace Brewster Murray Hopper (1906–1992) was a U.S. Navy rear admiral, mathematics professor, and computer pioneer (Issacson, 2014). Hopper was the 11th female to earn a doctoral degree in mathematics from Yale University (Isaacson, 2014). Issacson (2014) posited that Hopper was responsible for developing the first computer compiler in 1952 and that her approach to programming was very systematic, breaking down every physics problem or mathematical equation into small arithmetical steps. One of the first Harvard/IBM Mark I programmers, she coined the word *bug* to describe a computer malfunction (Norwood, 2017). As Norwood (2017) emphasized, Hopper authored the 500-page *Manual of Operations for the Automatic Sequence-Controlled Calculator,* in which she outlined the fundamental operating principles of computing machines. Hopper

and her Navy officers worked on top-secret calculations essential to the war effort, computing rocket trajectories, creating range tables for new anti-aircraft guns, and calibrating minesweepers (Yale News, 2017). Hopper is well known and respected internationally, and in 1973, was named a distinguished fellow of the British Computer Society; the first and only woman to hold the title (Norwood, 2017). In the United States, she was posthumously awarded the Presidential Medal of Freedom in 2016 (Norwood, 2017).

The electronic numerical integrator and computer (ENIAC) intelligence was the arduous and ground-breaking programming work of a team of six women during World War II (Kim, 2016; Schwartz, 2019). Media stories about the ENIAC spread across the globe, taking center stage, and it was often referred to as a *man-made robot brain*. The six women studied the machine's blueprints to understand its circuitry, logic, and physical structure (Minoff & Goyette, 2015; Schwartz, 2019). The six ENIAC women oversaw configuring, wiring, and programming for the U.S. Army without the assistance of a programming language, operating system, or other tools, since none had yet been invented (Kim, 2016; Minoff & Goyette, 2015). The 30-ton behemoth covered 140 square meters and used more than 17,000 vacuum tubes, 70,000 resistors, 10,000 capacitors, 1,500 relays, and 6,000 manual switches (Schwartz, 2019). The six women operators did not think twice about crawling through the machine's wires and vacuum tubes for the sake of machine intelligence (Schwartz, 2019). Even though women were not encouraged to take an interest in a technological career, they began computing competently and enthusiastically with limited education and job opportunities (Abbate, 2003). These educational achievements of women were not well reflected in STEM, particularly in the technology fields (Sassler et al., 2017).

Women and STEM

The acronym STEM, which groups together the disciplines of science, technology, engineering, and mathematics, including computer science, was used by a number of educators as early as the 1990s but was officially adopted in 2001 by the U.S. National Science Foundation (NSF), which centered on the full educational curricula in these disciplines (Hallinen, 2023). In the United States, the NSF is the

"premier Federal agency supporting basic research at the frontiers of discovery in the STEM fields," with a focus on providing a full STEM education curriculum (NSF, n.d., para. 2; see also ComputerScience.org, 2022; Hallinen, 2023). The NSF's programs and funding opportunities in STEM education research and activities helped sustain the United States' international science leadership and cultivated a diverse STEM workforce (NSF, n.d.). The 2017 National Education Technology Plan (NETP) Update offered a common vision and action plan in answer to an urgent national priority (U.S. Department of Education Office of Educational Technology [OET], 2017): students in the United States were academically behind those in other countries in STEM disciplines. As a result, this inability to compete with other countries could lead to a disaster because of a poorly prepared future workforce (NSF, 2020; Hallinen, 2017). The NSF and NETP provided U.S. learners of all ages the opportunity for personal growth and prosperity that would allow the United States to remain competitive in a global economy (NSF, n.d.; OET, 2017).

In Dennehy and Dasgupta's (2017) study, peer mentoring was conducted with women to evaluate their experiences and retention in engineering during the transition to college; they were randomly assigned to a female, a male, or no mentor. The results revealed that female mentors provided the most effective mentoring, in which growth was realized in areas of self-efficacy and motivation. Most importantly, women who were mentored remained in engineering fields after college (Dennehy & Dasgupta, 2017). The benefits of peer mentoring remained long after the experiment, and inoculated women during the first two years of college, which was a critical time for attrition from STEM majors, and led to success and retention in their careers (ComputerScience.org, 2022).

Dasgupta, a psychology professor and director of the Institute of Diversity Sciences (IDS) at the University of Massachusetts Amherst, spearheaded a program to build a multi-institutional partnership with educators of STEM programs as a strategy to break down barriers (University of Massachusetts Amherst, 2019). A grant from the NSF and IDS provided a way to partner educators with social scientists who studied barriers and solutions for female students (University of Massachusetts Amherst, 2019). The findings from numerous studies on education

and community partnerships encouraged state governors to find methods to graduate every student from high school with vital STEM knowledge and skills to succeed in further educational pursuits and careers (ComputerScience.org, 2022; Dennehy & Dasgupta, 2017; Hallinen, 2023; NSF, n.d.).

Education and Employment

Education. Statistics reveal that women are outranking men in university enrollment. In 1994, 63% of female high school graduates and 61% of male high school graduates immediately enrolled in college the fall following graduation (Lopez & Gonzalez-Barrera, 2014). The U.S. Department of Education reported that U.S. universities' gender degree gap began in 1978 (Perry, 2013).For every 140 women who graduated with a university degree, there were only 100 men who graduated in 2012 (Kirst, 2013). Of all the science and engineering degrees awarded in 2015, women earned almost half of the bachelor's degrees, 43% of master's degrees, and 51% of doctoral degrees (NSF, 2018).

Overall, women continued to have greater postsecondary success than men, with 39% of women ages ranging from 25 to 29 completing bachelor's degrees, in comparison to 32% of men of the same age (Zinshteyn, 2016*).* Women also earn more master's degrees and doctoral degrees than men (Hussar & Bailey, 2016).

Employment. Millions of women joined the workforce in the last several decades. Their educational gains were huge, and too frequently the assumption was that the pay gap was not evidence of discrimination, but alternatively, was a statistical relic (Schieder & Gould, 2016). Women comprise more than half of the U.S. workforce, but in the male-dominated tech industry, they hold only 28% of computing roles, a number that has been largely declining for years (DuBow & Wu, 2022).

Descriptive stereotypes were a problem for women when they were viewed as not being a good fit because women and men were subject to the bias of traditional male and female success in organizational positions (Heilman, 2012). Women were stereotypically viewed as not being achievement-oriented, aggressive, and emotionally tough (Heilman, 2012). In 2016, 44.3% of full-time wage and salary workers were women. Among STEM occupations, women accounted for smaller

shares of employment with only 25% in computer occupations (U.S. Bureau of Labor Statistics, 2017).

A Yale University study was conducted in 2012 with more than 100 science faculty members from academic institutions across the United States (Midura, 2013). Each science faculty member received identical résumés with the exception that the name of the candidate was either John or Jennifer (Midura, 2013). Even though both candidates had the exact same qualifications and experience, the participants perceived John to be more competent and selected him for the fictional lab manager position (Midura, 2013). This was compounded by both female and male science faculty members offering John a higher salary than Jennifer, and they were more willing to offer John opportunities for mentoring (Midura, 2013). The discrepancy between John and Jennifer's treatment displayed the importance of the study, because of the underrepresentation of women in STEM fields, particularly in the fields of computing and engineering (Midura, 2013).

Government Employment. Gender is a critical component of the public sector culture and work life, as government agencies promote efforts to advance social justice and equitable public outcomes (Feeney & Fusi, 2021). During the 2018 Federal CIO Council's Federal Women in Technology event, Suzette Kent, the federal CIO, mentioned that the number of women in federal cyber and IT positions was at 40% (Boyd, 2018). This percentage far surpassed the private sector (Boyd, 2018). The focus of the federal CIO's message was not necessarily on entry-level opportunity; the concern was with the opportunity to excel and promote.

Feeney and Camarena (2019) noted that the public sector is predominantly led by men. This fact plays a role in shaping gendered technology implementation, adoption, and success. Even though the government sector is recognized for striving to protect women in the workplace and reducing gender disparities in areas such as pay, government research indicated they rarely apply a gendered perspective when adopting digital technology policies or practices (Feeney & Fusi, 2021). This information provided the appearance that entry-level positions occupied by female employees within various levels of government IT positions

appear to be improved versus the private sector; however, women remain underrepresented in government technology leadership positions.

According to Chief Information Officers (CIO) Council Operations (2019), Kent shared her vision of having more women in IT leadership roles and encouraged mentorship by tenured female IT leaders. She pointed to examples of female CIOs in the private sector mentoring other female IT employees and how these opportunities are possible within the federal government (CIO Council Operations, 2019). Kent went on to discuss how women in the federal government can create a network of support to guide younger females through the STEM world and how critical resilience is to overcoming challenges to achieve success (CIO Council Operations, 2019). One area that appears to be gaining some ground in women garnering leadership positions is in the government cybersecurity sector.

Survey results conducted by (ISC)² (2018) indicated that women working in cybersecurity account for 24% of the overall workforce. This is a significantly higher finding from 2017, when only 11% of study respondents were women. The study findings revealed that greater percentages of women cybersecurity professionals are reaching positions such as chief technology officer (7% of women vs. 2% of men), vice president of IT (9% vs. 5%), IT director (18% vs. 14%) and C-level/executive (28% vs. 19%) ((ISC)², 2018). The (ISC)² study results also indicated that women were buoyed by higher levels of education and more certifications than their male counterparts ((ISC)², 2018). Women cybersecurity workers appear to be asserting themselves in the profession at a higher level and greater pace than their male colleagues (Goldstein, 2019).

Bias in the Workplace

When it comes to hiring women in the United States, the tech industry lags behind other industries. As the percentage of employed women across U.S. job sectors had grown to 47%, approximately 25% were employed by the five largest tech companies: Amazon, Apple, Facebook, Google, and Microsoft (U.S. Bureau of Labor Statistics, 2017; Richter, 2021). The lack of women in the tech industry is the largest problem tech CEOs are facing, realizing that an organization lacking a diverse and inclusive workforce lags behind organizations that support diversity

and inclusion (White, 2023). McKinsey & Company (2020) note that "for diverse companies, the likelihood of outperforming industry peers on profitability has increased over time, while the penalties are getting steeper for those lacking diversity" (Dixon-Fyle et al., 2020, 3). Funk and Parker (2018) found that 48% of women in STEM jobs reported discrimination in the recruitment and hiring process; 50% of the women stated they experienced gender discrimination at work; and their earnings were less than that of their male counterparts. From 2002 to 2022, the gender pay disparity issue was relatively constant with women receiving an average of 82% of the pay men received for performing the same job (Aragão, 2023). Midura's (2013) study revealed how gender bias contributes to situations in which women were appraised as being less competent, valuable, and hirable than their identically qualified male counterparts.

Workplace differences between men and women are often affected by gender bias (Schieder & Gould, 2016). The U.S. Equal Employment Opportunity Commission's (EEOC) 2019 report revealed that 24,238 (33%) discrimination complaints were filed under gender basis. In a U.S. Government Accountability Office's ([GAO], 2017) investigation, technology companies were a major source of high-paying U.S. jobs, and although the technology workforce grew between 2005 and 2015, women continued to be less represented. Bailey (2022) noted that in a study of GITHub users, code written by women was accepted 78.6% of the time, 4% more than code written by men, this trend; however, only worked when the programmer's gender was not revealed.

In Silicon Valley, men earn 61% more in salary than women, and women who work in computer and mathematical fields earn approximately 85 cents to the dollar compared to men doing the same job, $317 per weekly paycheck and $16,484 less per year than men (Moss, 2019). Even with equal opportunity laws in place, studies show gender, workplace, and pay biases continue in the workplace (Aragão, 2023; Bian et al., 2017; GAO, 2017; Meyer et al., 2015; Schieder & Gould, 2016), and women continue to be underrepresented in the STEM fields, particularly in technology (GAO, 2017).

Generation Z Students

Generation Z students (born between 1995 and 2010) are entrepreneurial, desire practical skills with education, and are concerned about the cost of college (Loveland, 2017; O'Boyle et al., 2017). Generation Z students work hard and take responsibility for their careers (O'Boyle et al., 2017). A Northeastern University study in 2014 reported that 67% of Generation Z students indicated their top concern is being able to afford college (Loveland, 2017). Learning practical skills in college is important to them; 63% believed it was important that colleges teach entrepreneurship, and 85% stated they should learn about financial literacy while in college (Loveland, 2017). Generation Z members are on a different educational trajectory than prior generations. Among 18- to 25-year-olds, 57% were enrolled in a two-year or four-year college, compared to 52% of millennials in 2003 and 43% of Generation X in 1987 (Parker & Igielnik, 2020).

Understanding the different perspectives regarding why young women choose not to select a career in technology was our goal for this study. Generation Z women ages 18 to 25 in their first two years of university studies, who were not in an IT program, were asked questions to help us understand their opinions and beliefs pertaining to technology studies and career choice. The information gained from our research determined if the opinions and beliefs of these young women affected their career choices.

Social Cognitive Career Theory

The SCCT is based on Bandura's (1997) general social cognitive theory, an influential theory on cognitive and motivational processes that include academic performance, health behavior, and organizational development. The SCCT is a social–cognitive process of how individuals develop interests and determine their career-related decisions during their lifetime (Lent et al., 1994; Sax et al., 2017). A more specific model of career-related choice behavior (MCRCB) suggests that personal characteristics (e.g., gender and race); environmental background, such as parents and education; and learning experiences produce possibilities for social feedback messages about which professions are possible and suitable for individuals (Sax et al., 2017). Personal belief functions as a continually evolving

result of the interaction between the environment and a person's self-concept (Lent et al., 1994). Researchers have found that an individual's outcome expectations were vital in motivating behavior and directly affected learning experiences and self-efficacy (Lent et al., 1994; Sax et al., 2017). Self-efficacy and learning experiences regarding activities have a direct effect on developing career interests and, subsequently, decisions about goals and actions (Sax et al., 2017).

Conceptions of men and women were not only dissimilar, but oppositional, with women seen as not having what was believed to be the most predominant in men, and men seen as having a lack of what was most predominant in women (Heilman, 2012). The awareness of STEM fields being severely male dominated negatively affects the participation of women. Computer science, specifically, had societal connotations, such as being hackers and reclusive, that discouraged women from pursuing a major in information technology. Literature, individual and environmental factors, and individual relationships among women are influential for career path planning (Sax et al., 2017).

Method

Descriptive statistics are tools researchers can use to conduct meaningful analysis and answer questions with descriptive techniques (Vogt et al., 2014). A survey instrument was used to collect data for this study that measured the attitudes and experiences of Generation Z female university students through hypotheses testing. We selected a correlational design to determine the relationship between the predictor and criterion variables. Correlation design is a non-experimental approach that provides researchers with statistics to describe and measure the degree of relationship between two or more variables or groups of scores (Creswell, 2017). A quantitative method and correlation design were appropriate and compatible to examine factors that influenced career choices for the women in our study.

Research Questions and Hypotheses

The following three research questions and three hypotheses supported this study.

Research Question 1: *What, if any, correlation is there between gender bias in the technology workplace and female university students not enrolling in an information technology degree program?*

Hypothesis 1: *There is no statistically significant correlation between gender bias in the technology workplace and female university students not enrolling in an information technology degree program.*

Research Question 2: *What, if any, correlation is there between gender pay bias in technology positions and female university students not enrolling in an information technology degree program?*

Hypothesis 2: *There is no statistically significant correlation between gender pay bias in technology positions and female university students not enrolling in an information technology degree program.*

Research Question 3: *What, if any, correlation is there between the required courses in an information technology program and female university students not enrolling in an information technology degree program?*

Hypothesis 3: *There is no statistically significant correlation between the required courses in the technology program and female university students not enrolling in an information technology degree program.*

Population and Sample

The goal for our study was to learn about the concern Generation Z women have regarding selecting the field of technology for their future studies and careers. The population consisted of Generation Z female students in the United States who were not enrolled in a technology program, were between the ages of 18 and 25, and were currently enrolled in their first two years at a university or college. Power analysis combines statistical analysis, subject-area knowledge, and the optimal sample size for the study. To determine the correct sample size for our study, a priori computation was used: two tailed, three predictors, a confidence interval of

.05, an effect size of .5, and a power of .95 revealed a recommended minimum sample size of 89. The sample for the study consisted of 106 usable surveys.

Pilot Test

A pilot study was conducted for clarity, completeness, and tested for reliability and validity to reflect the primary research. The five-point Likert-scale survey instrument was tested by five subject matter experts (SMEs) who were experts in survey development and validating data-collection instruments. The SMEs all have earned doctoral degrees in leadership, conducted quantitative research, and participated in previous pilot tests. The SMEs tested the functionality of the survey link in SurveyMonkey, checked to ensure the correct logic was applied to the survey questions, and ensured that the questions were understandable by potential participants. Each SME suggested minor language revisions in several sentences for clarity purposes. The pilot study consisted of three female students in their first two years of college who were not in a technology program. The pilot study was conducted to confirm that the questions were readable and understood by Generation Z female college students using SurveyMonkey. The data collected from the pilot test were not included in the data analysis for our study.

Validity and Reliability

Reliability and validity are essential for a research study. Cronbach's alpha was used for reliability and consistency to verify the internal reliability of the survey instrument. The Cronbach's alpha coefficient threshold indicated a 0.70 or higher is an acceptable score. The result of the Cronbach's alpha test performed on the data was 0.83, indicating a reliable score. Through the pilot test and Cronbach's alpha testing, validity and reliability were supported.

Surveys

The data were obtained using a five-point Likert scale survey containing nine questions focusing on information technology as a career and why the participants were choosing or will choose other degree programs rather than a degree in information technology. The survey questions addressed well-known essential

issues in technology to determine the level to which different types of bias could affect career choices for young women. The surveys from this group of female students generated useful data to determine some of the reasons why technology is one of the most underrepresented STEM fields for women in the United States. Recruitment notices were placed in a participating university's weekly newsletter and on its Facebook page that contained the link to the survey on SurveyMonkey. For the sample,106 usable surveys were received and analyzed.

Data Testing and Analysis

The responses to all nine survey questions were assessed on a five-point Likert scale with 1 = Strongly Agree, 2 = Agree, 3 = Neither Agree nor Disagree, 4 = Disagree, and 5 = Strongly Disagree. The data were compiled from the participants' responses to each question in the survey and cleaned using a Microsoft Excel 6.6 spreadsheet. The data were then transferred to SPSS® Statistics 25 to test the data and determine if there were correlations between the predictor variables—gender bias, gender pay, and required courses in IT programs—and the criterion variable—female university students not seeking a technology degree. The information provided from the collected data was critical for obtaining an understanding of how women's learned experiences, and their opinions and beliefs of publicized gender and pay biases and types of college courses, affected their career choices.

The analysis involved both descriptive and inferential statistics. The outcome variables were measured on an ordinal level; therefore, the descriptive analysis involved generating frequencies and the respective percentages for the gathered information. Inferential statistics were used to test the null hypotheses in support of three research questions. A Pearson's chi-square test was conducted to analyze the relationship between the variables. The demographic information was limited to age, university level, and women who were not in an information technology program. A Shapiro Wilk's normality test was conducted on the variables, and the *p*-value from the test was less than the alpha of .05, indicating that the variables were not normally distributed and a nonparametric inferential test, Pearson's chi-square, was chosen to test the null hypotheses.

Results

The survey data were divided into three groups to address the research questions and hypotheses that were developed for this research. Survey questions 1, 2 and 3 were customized to address Hypothesis 1. Survey questions 4, 5, and 6 supported Hypothesis 2, and survey questions 7, 8, and 9 addressed Hypothesis 3.

Findings for Hypothesis 1

There is a statistically significant correlation between gender bias in the technology workplace and female university students not enrolling in an information technology degree program.

A majority of the survey respondents, 26 (24.5%) indicated that they strongly agree and 42 (39.6%) indicated that they agree that gender bias in the technology workplace is an important factor for female university students not enrolling in an information technology degree program. In Table 1, the results of the Pearson's chi-square test for Hypothesis 1 show that there is a statistically significant, strong, positive relationship between gender bias in the technology workplace and female university students not enrolling in an information technology degree program; χ^2 (16) = 108.916, p = .000. The p-value was less than the .05 alpha, indicating a significant finding, and the null hypothesis was rejected. The chi-square statistic of 108.916 indicated an association between the variables. Since the p-value indicated a significant finding, the Cramer's V was conducted to measure the strength of the significance. The strength between the variables revealed a strong relationship, based on the test results from the Cramer's V = .507. The Cramer's V coefficient ranges between 0 and 1. The further from 0 indicates the stronger the strength. A chi-square statistic greater than zero indicated an association between the two variables. The p-value determines whether the association is statistically significant, and the Cramer's V measures the strength of the association: weak, moderate, or strong (see Table 2).

Table 1: Chi-Square Test and Symmetric Measures for Hypothesis 1

	N	*Df*	χ^2	*P*	*V*
Hypothe 1	106	16	108. 916	.000	. 507

Table 2: Cramer's V Effect Size (Rea & Parker, 1992)

Cramer's V	Effect
.00 and under .10	Negligible association
.10 and under .20	Weak association
.20 and under .40	Moderate association
.40 and under .60	Strong association
.60 and under 1.00	Very strong association

The trends in the distribution of the responses to the three survey questions regarding gender bias in the technology workplace and female university students not enrolling in an information technology degree program are illustrated in Figure 1.

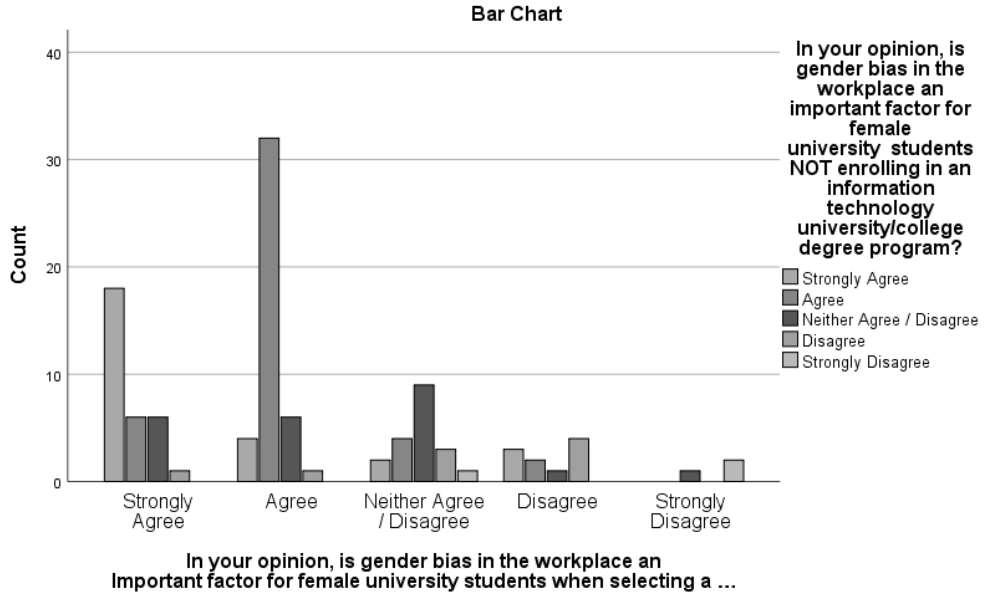

Figure 1. Trends in distribution: Gender bias

Findings for Hypothesis 2

There is a statistically significant correlation between gender pay bias in technology positions and female university students not enrolling in an information technology degree program.

The majority of the survey respondents, 37 (34.9%) indicated that they strongly agree and 40 (37.7%) indicated that they agree with the statement that gender pay bias in technology positions is an important factor for female university students not enrolling in an information technology degree program. In Table 3, the results of the Pearson's chi-square test for Hypothesis 2 show that there is a statistically significant, strong, positive relationship between gender pay bias in technology positions, and female university students NOT enrolling in an information technology degree program; χ^2 (16) = 90.167, p = .000. The p-value was less than the .05 alpha indicating a significant finding, and the null hypothesis was rejected. The chi-square statistic = 90.167 indicated an association between the variables. Since the p-value indicated a significant finding, the Cramer's V was conducted to measure the strength of the significance. There was a strong relationship between the variables, based on the test results from the Cramer's V = .461.

Table 3: Chi-Square Tests and Symmetric Measures for Hypothesis 2

	N	***Df***	***χ^2***	***P***	***V***
Hypothesis 2	106	16	90.167	.000	.461

Trends in the distribution of the responses to the three survey questions regarding pay bias in technology positions and female university students not enrolling in an information technology degree program are shown in Figure 2.

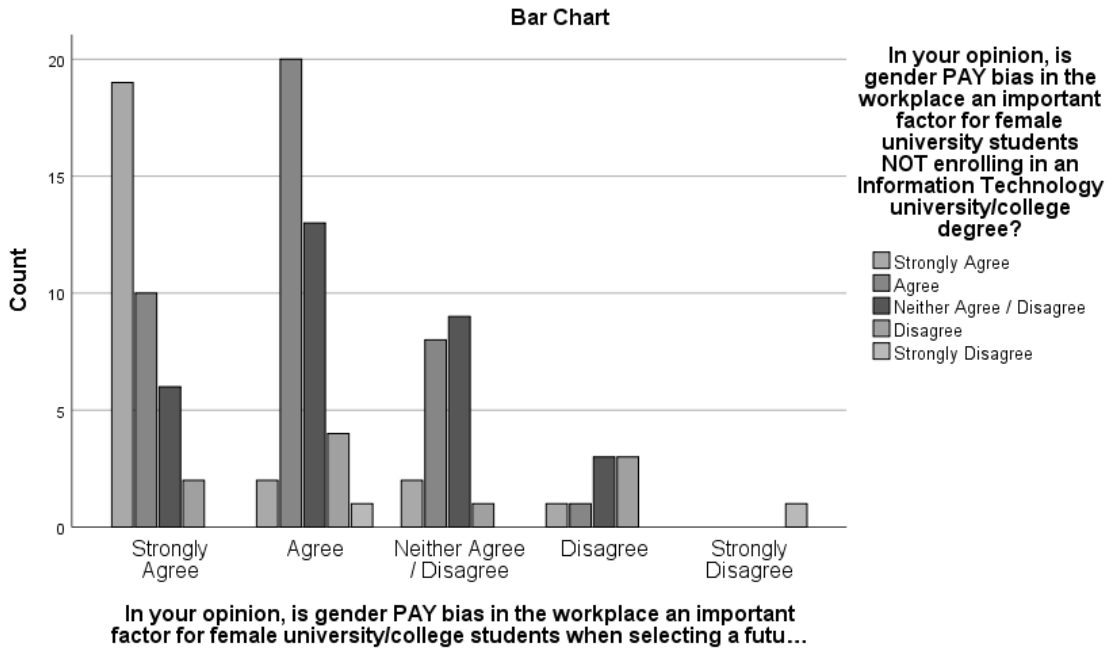

Figure 2. Trends in distribution: Gender pay bias

Findings for Hypothesis 3

There is a statistically significant correlation between the required courses in the technology degree program and female university students not enrolling in an information technology degree program.

After evaluating the participants' responses about courses such as mathematics and programming being important factors for female university students not enrolling in an information technology degree program, more than half of the students, 17 (16.0%) strongly agreed and 47 (44.3%) agreed with the statement. In Table 4, the results of Pearson's chi-square test indicate that there is a statistically significant moderate positive relationship between the required courses and female university students not enrolling in an information technology degree program; $\chi^2(16) = 46.686$, $p = .000$. The p-value was less than the .05 alpha, indicating a significant finding, and the null hypothesis was rejected.

The chi-square statistic of 46.686 indicated an association between the variables. Since the p-value indicated a significant finding, the Cramer's V was

conducted to measure the strength of the significance. The strength between the variables was moderate, based on the test results from the Cramer's V = .332.

Table 4: Chi-Square Tests and Symmetric Measures Hypothesis 3

	N	*Df*	χ^2	*P*	*V*
Hypothesis 3	106	16	46.686	.000	.332

The trends in the distribution of the responses to the three survey questions regarding the required courses and female university students not enrolling in an IT degree program are illustrated in Figure 3.

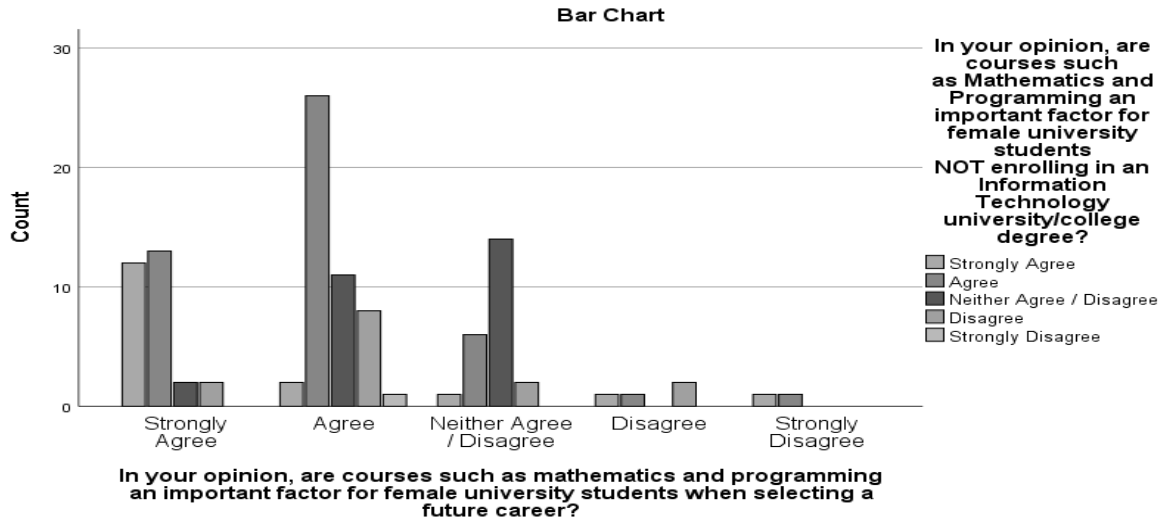

Figure 3. Trends in distribution: Specific courses

Limitations

This study was limited to Generation Z female students between the ages of 18 and 25 who were in their first two years of study at a university in the United States and who had not chosen an IT program. Due to COVID-19 and the closure of many colleges and universities, recruitment notices were placed in the university's monthly newsletter and on its Facebook page to generate participant interest in the study.

Implications

A majority of the survey respondents, 26 (24.5%), indicated that they strongly agree, and 42 (39.6%) indicated that they agree that gender bias in the workplace

is an important factor for female university students not enrolling in an IT degree program. Jobs in STEM have grown 79% since 1990, while other employment has only increased by 34%. Despite the national attention, women have disproportionally missed this employment boom (White, 2023). One reason is the male-dominated workplaces (White, 2023). The Pew Research Center reported that 50% of the women polled said they experienced gender discrimination at work, compared to only 19% of men. In the same report, 36% of the women also said that sexual harassment was a problem in their workplace (White, 2023). Technology had distinctive growing issues to resolve with the lack of women within its workforce. Statistics revealed that the number of women decreased in the technology field while other fields gained women workers (Catalyst, 2022).

The percentage of women in the field of technology decreased by 6% from 1990 to 2015 (Ashcraft et al., 2016). The decrease is magnified by the fact that the percentages of women in the science, engineering, and mathematics workforces were increasing (Ashcraft et al., 2016). More than half of the survey respondents in this study, 37 (34.9%), indicated that they strongly agree, and 40 (37.7%) indicated that they agree with the statement that gender pay bias in the workplace is an important factor when selecting a future career. Millions of women joined the workforce in the last several decades, and their educational gains were huge, but too frequently, the assumption was that the pay gap was not evidence of discrimination and was a statistical relic (Schieder & Gould, 2016). Based on the findings from this study, occupational differences between men and women were the factors often affected by gender bias (Schieder & Gould, 2016). From 2004 to 2019, the gender-pay disparity issue remained relatively constant, and women in technology fields earn only 87% of what their male counterparts earn (Moss, 2019; White, 2023). STEM workers are typically paid more than non-STEM employees, but there is also a gender gap that is wider in STEM occupations than in non-STEM occupations (White, 2023).

After evaluating the participants' responses about courses such as mathematics and programming being an important factor for female university students not enrolling in an information technology degree program, more than half of the

students, 17 (16.0%), strongly agreed and 47 (44.3%) agreed with the statement. For several years, the literature has been focusing on theories and studies that women face about their intelligence and mathematical abilities in information technology (NSF, 2018). The belief that mathematics are courses that women may not have the ability to complete, directly relate to the belief that men have superior intelligence (Meyer et al., 2015). The theory that men have superior intelligence to and abilities over women is reinforced by psychological barriers from the media and beliefs of teachers, parents, and peers (Blackburn, 2017). The findings from this study support the findings from Barth's et al. (2018) study, in which career interest models indicated that career decisions may be influenced by gender stereotypes that were related to perceived abilities as they pertained to occupation-required skills.

Summary

The purpose of our research was to determine the level of influence that gender bias, gender pay bias, and required courses in technology had on the career decisions of Generation Z undergraduate women in the United States. Having a better understanding of Generation Z women's attitudes offered greater insight into addressing these problems. The primary focus of multiple prior studies on this subject appeared to be on gender bias, pay bias, learned experiences, and the belief that men were smarter and more capable than women (Bian et al., 2017; Meyer et al., 2015; New York University, 2018). Our study differed from prior research because we focused on Generation Z female students in their first two years at a university who were selecting a career program other than information technology to enter the workforce. Generation Z students work diligently, take responsibility for their careers (O'Boyle, 2017), and are on a different educational trajectory than the generations before. Among 18- to 25-year-olds, 57% were enrolled in a two-year or four-year college, compared to 52% of millennials in 2003 and 43% of Generation X in 1987 (Parker & Igielnik, 2020).

The most critical knowledge gained from our research is that the gap continues to widen for women in STEM, particularly in computer and information sciences

and engineering (Lovell, 2019). Employment forecasts in STEM job growth from 2014 to 2024 show that only 6% will be in physical or life sciences, while 73% will be in computer occupations (U.S. Bureau of Labor Statistics, 2017); however, as of 2020, the percentage of women in computer and mathematical occupations is still at a stifling 26.7% (U.S. Bureau of Labor Statistics, 2022). The information provided from the collected data was critical for confirming how women's learned experiences, and their opinions of publicized gender and pay biases, affects their career choices. To realize an increase in technology careers for Generation Z women, changes to remove workplace gender and pay biases must occur.

The AAUW is the nation's leading voice promoting equity and education for women and girls since 1881 (AAUW, n.d.-b). According to the AAUW (2020), educators and parents must work together to help female students maintain their confidence and curiosity in STEM subjects while in Grades K to 12; to attract, recruit, and retain women into STEM majors and fields in colleges and universities; and improve job hiring, retention and promotion pathways, and intentionally inclusive cultures. Professional women already in the field can become mentors, while men can help create a more inclusive workplace (ComputerScience.org, 2022). Our findings contributed to the literature by revealing that the majority of the women in this study agreed that their decision not to select an IT program was due to gender pay bias, gender bias, and the math and science courses designated for the IT program.

Recommendations for Future Research

To improve the gender gap in technology careers for Generation Z women, one recommendation would be to conduct a mixed-methods study to combine the quantitative and qualitative data to provide powerful and reliable results. By using both the quantitative and qualitative methods, the cumulation of information could prove to be very valuable for understanding the problems regarding the reasons young women do not choose technology as a career.

Another qualitative approach would be to interview young women who are juniors or seniors in high school to learn more about their college objectives and how they

feel about studying information technology and why they would or would not consider a major in technology. Quantitative research could be accomplished by surveying women who have left technology. The data gathered could provide valuable information to address some of the reasons why young women choose other fields of study for their careers. Having direct contact with women from different age groups could provide a broader range of knowledge regarding why women are currently underrepresented in information technology.

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An Effective Implementation of Remote Workplace Practices to Address Unprecedented Challenges During the COVID-19 Pandemic: The Case of Adobe Inc.*

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The COVID-19 pandemic made it imperative for businesses to function remotely to both protect the health of their employees while staying afloat and preventing a global recession. This article highlights the success of Adobe Inc. in pre-empting the detrimental effects of the pandemic on workplace issues. Adobe provided an atmosphere of greater flexibility and autonomy through the effective modification of workplace practices to achieve this goal. This led to a very positive, strong association among engaged/invested workers with enhanced profitability and business results. The outcome of these modifications provides a prototype for other organizations to enhance both employee engagement and profitability, especially during perilous times.

Keywords: COVID-19 workplace challenges, effective leadership, employee engagement, virtual teams

By March of 2020, the COVID-19 pandemic had gained momentum across the world. For months, individuals were forced into isolation while government leaders partnered with epidemiologists to determine and implement necessary guidelines to combat the detrimental effects of the virus on the public's health. Two years later, nations continue to fight through rampant surges of new variants despite the creation and growing availability of vaccines. The onset and continuing spread of this highly communicative virus made it imperative for many businesses to learn to function remotely to protect the health of their employees while staying afloat and preventing a global recession.

This case highlights the association of effective leadership modifications to working remotely (e.g., employees working at home vs. in a traditional office setting) during an unprecedented global pandemic and their relationship to

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enhanced employee engagement and increased profitability. The scope of these changes, implemented by the multinational software company Adobe Inc.'s leadership during the COVID-19 pandemic to enhance productivity, included the deployment of requisite tools/equipment for employees to successfully perform duties, enhanced self-leadership-selection of more flexible scheduling options to accommodate diverse preferences, and the opportunity for greater collaboration via virtual teams. The outcomes from these modifications provide a prototype for initiating change during perilous times that enhances employee engagement (one's level of emotional investment in a job) and, ultimately, profitability.

Operationally, employee engagement is characterized by increased vigor (motivation), greater absorption with work, and greater enthusiasm and purpose, allowing employees to express themselves physically, cognitively, and emotionally during role performance (Leary et al., 2013). By contrast, the deleterious effects of its antithesis, employee disengagement, negatively affect productivity through increased employee turnover, loss of vigor, and loss of enthusiasm and purpose, especially during perilous times (Leary et al., 2013; Leary & Miller, 2021). Adobe's successful implementation of key factors for enhancing productivity preempted the negative effects of disengagement, such as job abandonment, burnout, and "the Great Resignation" (Brown, 2021, para. 1).

Historic Perspective

Working from home is no longer a luxury for most industries. Prior to the 1980s, a strong interest emerged regarding flexible hours and work-from-home initiatives. The term "remote" learning was introduced in 1973 and subsequently mandated and legitimized in 2000 via the Department of Transportation Appropriations (Notman, 2021). More recently, the executive branch of the federal government implemented the Telework Enhancement Act (U.S. Office of Personnel Management, n.d.), which requires agencies to accommodate additional remote working opportunities. Following the incipient stage of the COVID-19 pandemic (circa March 2020) business owners, for survival purposes, sought alternative methods to enable employees to fulfill their respective job duties while protecting

their health. This action set the stage for a remote work-from-home initiative for many industries globally. Employees who embraced this initiative (e.g., working from home) by demonstrating greater flexibility (e.g., quick adaptation to change) accelerated a favorable long-term outcome—greater employee engagement—which is linked with profitability (Harter & Mann, 2017; Harter et al., 2002, Leary et al., 2013). As a result, leaders could now *prioritize* employee engagement as a key strategic initiative linked to business success.

Engaged employees are critical to a productive workplace (Harter & Mann 2017; Harter et al., 2002; Leary et al., 2013). Logically extended, companies like Adobe that prioritize employee engagement (e.g., provide employees with flexible boundaries to self-lead) will compete more effectively. In fact, Gallup researchers Harter and Mann (2017) noted that embracing engagement as a business strategy yields better results, such as a reduction in absenteeism, increased productivity, greater customer satisfaction, increased sales, and greater profitability (Harter & Mann, 2017; Harter et al., 2002, Leary et al., 2013; Leary & Miller, 2021). Therefore, to compete effectively, successful companies actively pursue new methods to increase employee engagement (Harter & Mann, 2017; Harter et al., 2002; Leary et al., 2013; Leary & Miller, 2021). Alternatively, disengaged employees are a detriment to business success. For example, disengaged, unmotivated employees cost companies in the United States more than $600 billion a year, including approximately $100 billion related to turnover (Beheshti, 2019; Brown, 2021; Leary & Miller, 2021). Logically extended, Adobe's implementation of effective workplace practices (e.g., requisite tools/training to perform duties, empowerment initiatives, focused virtual team collaboration) engages employees and preempts unnecessary costs associated with employee disengagement.

Implementation of Workplace Practices

While many companies struggled to sustain profitability during the height of the COVID-19 pandemic, Adobe was able to increase profits, partly due to effective leadership practices. These included comprehensive deployment of requisite equipment and systems and investment in digital tools to support collaboration,

career growth, and workflow that enabled employees to be productive from anywhere (Chen, 2021). In effect, these were a *quid pro quo* for sustained success. From a virtual teams perspective, Adobe employees developed greater flexibility to work from home, in the office, or in in-person meetings designed for collaboration (Chen, 2021). This made Adobe an exemplar for various industries aiming to achieve similar results amidst a global pandemic. The increased revenue and clear approval of remote settings from engaged employees were apparent from business reports and survey results (Adobe, 2021a, 2021b; Macrotrends, n.d.) For example, one of the most efficacious policies implemented by Adobe was flexible working hours, along with an increase in worker independence that allowed employees to self-govern while fulfilling tasks during the most productive period of the day (Adobe, 2021a). Successful implementation of flex time enhanced both employee engagement and productivity by significantly reducing the time spent on less important tasks. As a result, a significant amount of unproductive idle time (33%) was minimized and re-channeled to more impactful endeavors (Adobe, 2021b). Such findings validate key relationships between greater employee empowerment, self-direction, and productivity gains.

Conclusion

Adobe's ability to recognize the merits of employee engagement/investment and self-direction as key business initiatives likely positively affected business results. Additional results attributed to Adobe's changed leadership strategies include:

- Adobe's annual revenue for 2020 was $12.9 billion, a 15.19% increase from 2019 (Macrotrends, n.d.).
- Adobe's annual revenue for 2021 was $15.8 billion, a 22.67% increase from the previous year (Macrotrends, n.d.).
- For the quarter ending February 28, 2023, Adobe achieved revenue of $4.66 billion, representing a 9.22% year-over-year growth (Macrotrends, n.d.).
- Based on a pre- and post-COVID survey administered by Adobe (2021b) over a 10-month period, workers reported an increase from 79% to 81% of those who felt very invested/engaged in their jobs. This is significant

considering the unprecedented challenges faced during the COVID-19 pandemic. To improve employee engagement during such perilous times was quite a feat.

- We cannot always determine a cause-and-effect relationship between employee engagement initiatives and better revenue; however, in all likelihood, the preliminary results from Adobe's workplace modifications during the pandemic and prior research linking employee engagement to improved revenue (Harter & Mann, 2017; Harter et al., 2002; Leary et al., 2013;) support a highly robust association among engagement, empowerment, and self-directed leadership as it relates to profitability. Despite the paucity of results regarding remote work, recent research from the National Bureau of Economic Research has shown that remote working has actually increased working hours by an average of 48.5 minutes per day, which can add up to nearly 200 additional hours per year for full-time workers (Waltower, 2023).

In summary, Adobe, a California-based software company, successfully developed and implemented a highly effective strategy to enhance employee engagement during the COVID-19 pandemic. With approximately 26,000 employees, Adobe rapidly shifted from a traditional work environment requiring employees to routinely be in the office to a business model that placed an emphasis on employee autonomy (i.e., working independently at home or non-office spaces). Consequently, Adobe evolved into a more flexible company that prioritized individual responsibility and enabled employee-driven remote work, which led to greater productivity and profitability.

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THOUGHT PIECE

Leadership: Wanted Dead or Alive(?)*

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The Situation

Years ago, one of my Leadership Studies students came up to me and declared excitedly, “Dr. Howe, I’ve finally figured out what leadership is: It’s about life itself!” As I recall, I tried to rein him in and suggest that leadership surely had to be something less amorphous and more delimited than life; otherwise, as I put it, we might as well come to class and talk about anything or everything, maybe even just breathe and talk about our breathing or just engage in a random stream of consciousness that could include our immediate perceptions, our memories (connected or disconnected), our actions across our lifespans and the results of those actions, our families and friends, our hopes and fears, and our dreams (conscious or unconscious). Or maybe we could simply meditate and say nothing at all, believing that our energies—a leadership force?—would commingle and exert a collective response of some kind.

It didn’t seem to me that leadership and life were synonymous, coterminous, or even overlapping. We have leadership courses, leadership programs, whole leadership schools, leadership consulting agencies, leadership books and articles (and journals such as *ILJ*), and people we call leaders, not just “livers.” We have news media that repeatedly refer to “leadership” and “leaders”—topics that tend to bolster ratings, which wouldn’t be true of a topic as broad as “life.”

Still, what is this phenomenon we call “leadership,” and should we even bother to define it or draw discernible parameters around it? Is it a distinctive “industry” (Kellerman, 2012, xiii), a discipline, an area of study, a practice, or an enterprise?

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Over the past 30 years, I have read hundreds of books, articles, and dissertations that have begun with a caveat something like this: “Scholars and practitioners have been challenged to develop a consistent, widely accepted definition of ‘leadership,’ which seems to evade them at every turn.” My former colleague Joseph Rost, exasperated by the lack of a clear definition, argued that we need to have and use a definition of the word/concept if we are to conduct acceptable research on it and assess its practice. In fact, he wrote an entire book—*Leadership for the Twenty-First Century* (Rost, 1993)—that elaborates on the definition he offered. Likewise, some leadership scholars have gone so far as to suggest that they are on a quest to find a grand unifying theory (GUT) of leadership, as if they can vie with scientists who seek a GUT of the universe.

On the other hand, a prominent leadership scholar of the past several decades with whom I have corresponded (hereafter referred to as ALS, for anonymous leadership scholar, as he did not want me to use his name) argued that seeking a singular definition of the word/concept is a futile and fruitless pursuit, though he acknowledged that many people in a recent study he and associates conducted fall into a leadership-is-“everything-and-everyone” camp, which would seem to be a modest confirmation of my former student’s “leadership is life itself!”

Personally, I am skeptical of the quest to find a single definition of leadership, a “holy grail” that is suitable for all contexts, all levels and sectors of society, all nation states, and all human pursuits, parenthood included. I’ve spent my career trying to democratize the word/concept of *leadership* so that it is *dispersed* (see Gardner, 1993), inclusive, and available to all people everywhere. And, to be honest, I received greater satisfaction from writing and publishing a poem entitled “The Voyages of the Leadership” (Howe, 1994), which sought to describe the journey of the “field” and my role as a shipmate, than in anything else I’ve written (or read or thought) about leadership over the years. My “leader-ship” ventured forth in search of the joys of the journey itself, not of any singular “white whale” that might, like Moby Dick, destroy the ship and any megalomaniacal Ahabs aboard.

Similarly, ALS argued that asking the question “What is leadership?” is

like going to a conference and having people fumble around trying to define it. I don't see the value in that question. It feels like asking "What is love?" You would get as many answers to that as you would what is leadership, maybe more.

Of particular relevance is a splendid article by Leroy et al. (2022). The authors—or business school directors as noted—concluded that

- Research has demonstrated that "what works" in leadership development is contextual and based upon contingencies (9).
- There are "overly broad definitions for what constitutes leadership and its development" (12, quote from a business school director).
- "'Leadership' is used because it is sexier than 'management'" (12, quote from a business school director).
- "[There is] the assumption that we know what we are doing" (12, quote from a business school director).
- Accreditors don't understand leadership and leadership development (12).
- "The word 'leadership' has become a container that serves as a symbol of anything that seems impactful but, ironically, that ambiguity makes it hard to determine the impact of those developmental efforts. . . . This perspective is labeled as 'everything leadership.' When everything is labeled as 'leadership,' the concept loses meaning and/or gets muddied, undermining our ability to provide quality development and our understanding of what leadership is and how it is measured" (13).
- "Leadership and its development are typically viewed as a domain that cuts across many fields often to such an extent that it is 'owned' by everyone in the school (e.g., accounting, marketing, operations, and finance). . . . The field of leadership is certainly cross-disciplinary but this suggests the term is being used too loosely" (13; N.B.: The school is a business school only, and disciplines in the social sciences, arts, and humanities are not considered, which seems shortsighted to me).
- "Without clear boundaries, anything can be considered as leader development, and anyone as a leader developer" (13).

- "In the absence of clear definitions and boundaries, leadership center directors can find themselves continually 'herding a thousand different cats all of which call themselves leadership developers'" (13, quote is from a business school director).
- "The leader development field should develop a more common understanding of what is leadership and its development, so that center directors have an agreed-upon standard to start from" (14).
- "Leadership is just a word needed for the outside world" (17, quote is from a business school director).
- "Leadership development often seems to be the 'Wild West' of the professional services sector (Beer et al., 2016; Sherman & Freas, 2004): There are little to no laws or rules of professional accreditation in place nor a sheriff to enforce agreed-upon standards of quality" (21).

Though the authors seem to want a "science of leadership" that will bring order and sustainability to the "Wild West," they seem to admit, too, that leadership is contextual, multidisciplinary, and replete with boundaryless perspectives and opinions. They seem to valorize leadership as a legitimate "science," but that position always seems to be undermined by the vagueness and contextuality that they admit are endemic to the field. Leadership and leader development may be more art than science, despite efforts of scholars to tame it and measure it. One could argue that to try to corral leadership and leadership development into rigorous, scientific "pens" is not to strengthen them but to assist in their very demise.

I wrote a piece for *ILJ* in 2020 entitled "Leadership Is Dead(?)," with the question mark suggesting that it may or may not be. I used Kellerman's (2012) book and a few other sources as points of departure, but I sought to go further than Kellerman, who still thinks leadership is a viable "industry" (xiii). At this point, I am eager to explore whether the word/concept of *leadership* is a useful pursuit and focus, primarily because I believe it is fraught with embedded baggage and can never escape, at least in the public mind, a one-person, top-down embeddedness, despite efforts to re-fashion it as collaboration, service, followership, foundational humility, self-knowledge, and/or inclusiveness. For the general public, leadership

will, in all likelihood, always remain something that one person does to affect others and cannot be stretched, traduced, re-interpreted, or re-invented to be what scholars and some others try to call it with their constant efforts—and given the norm for originality in academe, in particular—to "build" upon knowledge/practice. During my career, I tried to put leadership on a Procrustean bed and stretch it so that it could include leadership-by-higher-units-of-analysis (e.g., whole organizations, whole organizational fields, whole nation states, leadership-by-and-within-marginalized-populations, leadership-by-other-species). I still look at such efforts as worthwhile, even though I also recognize that "leadership" is probably stuck in the public mind as what an individual does, often through the use of power or position. ALS seemed to think the public will accept a different kind of leadership as the knowledge base evolves; I'm skeptical but want to remain hopeful that he may be right.

Leadership, in brief, is a "problem child" within the scope of the pursuit of human knowledge:

- Some want to make it a science, in which measurement and the application of rigorous research methods predominates, while others argue that it is an immeasurable art that simply cannot be constrained by science or by the methods used within traditional, established disciplines or subject areas.
- Some (including, I believe, the public at large) see it as a one-person phenomenon that is associated with power and influence, while others see it as teamwork, collaboration, shared influence or engagement, inclusiveness, or relationships.
- Some see it as a profession that is largely relegated to the social and behavioral sciences and/or business/management, while others see it as a much broader phenomenon that shares much in common with the arts (vision, imagination) and the humanities (connecting, metaphorical thinking, moral and ethical perspectives) or even with the natural sciences (Do dolphins or ants do leadership? Can robots do leadership?).
- Some argue that we have a clear understanding of leadership but then proceed to deconstruct their own assertion that it is clear or simple. Others

grossly (mis)interpret their predecessors. Still others blatantly contradict themselves, suggesting at one moment that leadership should be a measurable science while admitting at other times that leadership is too contextual to allow for any generic measurement.

- Some believe that we can discover a grand unifying theory of leadership, while others scoff at such a notion and revel in leadership's kaleidoscopic or even amorphous nature.
- Some see leaders as unique special individuals, while others believe that everyone can be a leader.
- Some believe that leadership is mythical, romantic, a fabrication, or mere attribution, while others see it as real empirical behavior with measurable outcomes.

Though we may not want to develop a consistently applied definition of leadership, we surely need to explore some of the above contradictions or inconsistencies that run like fault lines through whatever groundwork we may have established in the "field." Again, we need to consider wiping the slate clean and determine what it is we are investigating, practicing, or teaching. We should question whether that thing is manageable, at least somewhat consistent, and evolving in a productive way, or "Wild West" outlaw-ness, chaotic nonsense, and either embedded conceptions or a Procrustean bed upon which new thinking is being stretched.

A Proposed Study: Help!

Is leadership moribund, dead, and perhaps a useless word/concept at this point? Or is it alive and thriving along hundreds of exciting paths? Or has it in some ways died (reached an *end*, as Kellerman [2012] would have it) but been resuscitated anew several times or perhaps as a Frankenstein-like monster? It is time, I suggest, to clear the slate and look with fresh eyes upon the phenomenon, assuming there is something worthwhile to see at this point. Or, on the contrary, it may be so problematic, confused, and amorphous that we should bury it once and for all, maybe inscribing on its gravestone: "Here lies leadership, which died a long

and slow death after living many lives and despite the fact that some think it is still alive. May it rest in peace forever and haunt us no further."

Please help me clear the slate. Let us explore together what leadership is (perhaps what it *means*) and whether it is a useful word/concept today. Your input for a study would be much appreciated. Feel free to share your ideas with me at wh@san.rr.com.

Here are my preliminary suggestions for a research project that would seek to gather data on the question "What is leadership (or what does leadership mean)?" and also to determine whether that is a viable and important question, which I think is but ALS thinks is not. Even if the project determined that the question is *not* viable and important, it may uncover some valuable insights about the phenomenon, how different kinds of people interpret it differently, and whether it is stuck forever as what-an-individual-does or can be stretched in myriad new ways, or both:

1. We would ask the question "What is leadership (or what does leadership mean)?" (no prompts or additional information, and no follow-up dialogue) to several hundred people—diverse people at various locations, scholars (in business schools, leadership schools, and other schools/departments across many disciplines and knowledge domains), and practitioners (in businesses, nonprofit organizations, social movements, etc.). All of this would be designed systematically and methodically, and the backgrounds/contexts of respondents would be scrupulously recorded. The data (responses) would be content analyzed and coded using rigorous qualitative methods.
2. We would review and analyze previous definitions of leadership, perhaps on a decade-by-decade basis and according to carefully determined criteria.
3. We would review the titles and subtitles of leadership books and articles over, say, the past 30 years with specific criteria in mind—e.g., What concepts are indicated in those titles and subtitles? Do the concepts suggest something new/original or something that adds to the knowledge/practice of leadership, or do they perhaps suggest that leadership can be delimited by laws, rules,

and standardized procedures? Do the concepts seek to expand, constrain, revise, underscore, or re-interpret what leadership is or means?

4. We would review the websites of leadership programs at universities, leadership consulting agencies, and other entities with specific criteria in mind, focusing on "What is leadership (or what does leadership mean)?"

Help me consider other or completely different means of studying the question, and then we could flesh out an optimal and doable design together and implement the study in an appropriate time frame. *I need your help, both because of logistical purposes and for adding collective legitimacy to this project.*

Isn't it time that we put to rest (or perhaps stirred further any unresolvable controversy over) the notion that "leadership is just a word needed for the outside world" or the position that leadership involves "herding a thousand different cats"? Isn't it time for us to determine whether the word/concept of *leadership* is dead or alive, and whether it is useless or useful? Isn't it time to examine the embeddedness of the word/concept of *leadership,* especially if, as I suspect (though I'm open to alternative findings), it is used one way by the general public and another way by the continual stretching and re-inventing of that word/concept by scholars and writers, together with the problematic position that this conflict, if demonstrated, presents if we seek to move forward with the field. Isn't it time to explore, in a systematic fashion, what leadership is or means, especially if business schools, where many leaders are trained, use the word/concept loosely, accreditors don't know what it is or means; and as I believe, the general public is stuck on the idea that leadership is about what one person does to affect others? Isn't it time to explore the idea that "leadership" is just a "sexy" term we use without really understanding what it is and knowing that our readers or listeners don't understand it either? Isn't it time to investigate whether leadership is everything/everybody/everywhere, or something more specific, focused, and usable? Isn't it time that we consider whether leadership is a Humpty Dumpty sitting on a secure wall, a complete "egg" if you will, or whether our Humpty Dumpty has had a great fall and cannot be put together again? Isn't it time to explore whether leadership is a "cult of personality" or a mere attribution, or the "transforming" phenomenon of James MacGregor Burns or later

of Bernard Bass, Bruce Avolio, and others who sought to revise the word/concept or build something new and exciting upon a torpid base? Isn't it time to decide whether the word/concept is viable and alive today or whether it is a crazy pursuit with no parameters, no matter how one tries to modify it, redefine it, give it a series of laws or rules or principles, or stretch it to a Procrustean bed on which it simply doesn't fit?

ALS said:

> I am not interested at all in answering what is leadership. . . . In my view, the answer will never come from that journey, since it hasn't for over 100 years of modern research on what is leadership nor the thousands of years before "science" got its hands on figuring out what is leadership.

But research on the question may well reveal, rather than a singular answer, the conclusion that leadership is either a conflicted, tortured, confused, contradictory, and, among many, an embedded, dead subject that is going nowhere, or that it is a wondrous, thriving, exciting, and, indeed, extraordinarily alive pursuit. *I need your input and your help!*

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CASE STUDY

Hal Browne: Nonprofit Leadership for Self-Sufficiency*

Joseph C. Santora
International Leadership Journal

This teaching case study discusses the way a nonprofit leader seeks to create continuous sustainability for his nonprofit organization to fulfill its mission in a meaningful, lasting way. While many nonprofits rely on corporate donations and government and philanthropic grants, he has designed a strategy that would not only help the nonprofit better serve its constituents but also keep it self-funded. His goals are rather ambitious and broad, so there are several important questions that he must answer before he can set out to achieve them.

Keywords: knowledge, skills, and abilities; nonprofit leadership; nonprofit sustainability

Hal Browne[1], the founder and executive director of VISTA, a nonprofit human and social services agency, could hardly believe his eyes as he gazed at the names of the business, political, and community elites who had accepted his invitation to attend VISTA's 10th-anniversary celebration next month. Had it really been 10 years ago that his idea for a nonprofit agency had become a reality and VISTA was born? *Tempus fugit*, he thought to himself . . . where did the time go? As he continued reviewing the list of dignitaries who would be attending the anniversary dinner, he made some mental notes of what he and his staff had accomplished in the past 10 years. He just kept muttering to himself: "Yes, these accomplishments were indeed rather impressive."

VISTA had evolved from a small start-up nonprofit, funded with a modicum of local and state government, financial institutions, and major corporate support. Yet, he believed he still had much more work to do. The crucial questions that kept popping into his mind were: How could he fulfill VISTA's mission? What new initiatives could VISTA deliver to improve the lives of its constituents? How would he execute these new initiatives?

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[1]N.B: The name of the protagonist and the organization in this case has been intentionally disguised. This case was prepared as a basis for discussion and is not meant to illustrate either effective or ineffective management.

Background

VISTA was in the heart of a depressed, aging industrial urban Northeastern center in the United States. VISTA had evolved since it was founded in a variety of ways. Some changes were considered good, while others were considered cosmetic and less good. Browne initially visualized VISTA as a nonprofit agency with the mission of helping residents gain a better life through community activism. Over the last few years, VISTA had played several prominent activist roles in its community. It had served as an advocate for residents and, as a result of this advocacy role, it had become a major power broker between local and state government agencies and residents who could now gain access to a wide range of social services previously denied to them. In other words, VISTA provided residents with a secure, safe harbor that could offer them a range of social, health, and other services they sorely needed. For example, Browne had brokered a unique arrangement with the city's medical community to deliver some home health care services, such as nurses' aides, counseling, and occupational therapy. There were other health care issues that needed to be tackled, just in case of another pandemic. Many VISTA neighborhood residents were old and suffered dearly during the COVID-19 pandemic. In addition, the charismatic Browne, after a bit of arm-twisting, had also convinced a wealthy entrepreneur to make a significant financial donation to erect a new childcare center, which would be named in honor of the donor.

Browne knew he also needed to focus his attention on other issues to create a better quality of life for the many poorly educated and technically illiterate residents. After much deliberation, he settled on affordable housing and training and employment initiatives. He believed that these initiatives could generate an excellent revenue stream for the agency, creating continuous organizational sustainability, and would have a direct impact on improving residents' lives. Brown proposed the following:

- creating a full-service, licensed real estate company that would buy, sell, and/or lease single- and multiple-dwelling houses and apartment complexes in the community that were abandoned, condemned, or in need of major repairs;

- training and hiring residents as licensed real estate salespeople who could eventually become real estate brokers;
- buying, renting, and/or selling apartments/houses to residents at below and/or reduced market prices;
- establishing and working with local banks and other financial lending institutions to secure low-rate mortgages (including micro-financing) for residents to purchase houses and apartments;
- creating a subsidiary for-profit construction company for housing rehabilitation and new construction on available vacant neighborhood land;
- training and hiring residents in construction-related fields such as carpentry, electrician, plumbing, and bricklaying to create gainful and meaningful employment opportunities;
- working with local and state government agencies and trade unions to ensure residents had training opportunities in the construction trades;
- securing guaranteed employment opportunities for qualified residents on construction sites that were financed with city funding; and
- re-investing profits from for-profit real estate company apartment rentals and sales into the agency.

However, before Browne would be able to launch his nine-point agency sustainability manifesto, he had to have answers to some important questions. He thought for a moment and then typed some questions into his phone. Who would be responsible for leading these two major initiatives? What knowledge, skills, and abilities (KSAs) would that person need to be successful? What would be the major impact of such aggressive initiatives? What would be their possible strengths and weaknesses? To what degree would these initiatives create social and financial value for the organization, its constituents, the neighborhood, and other stakeholders? Once Browne had some answers to these questions, he could move forward.

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