Harnessing Business: Decision-Making and Innovation in the US Army

A Monograph

by

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Abstract

Harnessing Business: Decision-Making and Innovation in the US Army, by MAJ Joseph V. Vesnesky, 43 pages.

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The capacity to adapt and innovate is a key component of any organization operating within complexity. Consequently, how decisions are made regarding innovation becomes a critical aspect that directly contributes to success or failure of organizations. Multinational companies such as Google and Garmin have proven capable of inculcating cultures of innovation and executing effective decision-making in order to succeed in a hypercompetitive business environment. This research paper seeks to examine innovation and decision-making within these organizations and asks what the US. Army can learn from the findings.

Contents

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Introduction

Background of the Study

The *2018 United States National Defense Strategy* was principally conceptualized around the idea that the United States faces an "increasingly complex global security environment."[1] Complex inter-state competition was identified as the primary concern facing United States national security.[2] This environment will be marked by competition between nations as they seek to expand their national influence on a global scale, and increasingly contest international order.[3] A defining feature of this environment is the technology-enabled, instantaneous information space which degrades and undermines the public's shared understandings of events.[4] This environment has enabled competing nations to challenge United States' interests on a strategic level at thresholds below armed conflict.[5]

Distinct and complex trends have emerged that will characterize future battlefields. Advances in technology have increased lethality and tempo, which shorten decision-making timeframes. The utility and speed of information processing has enabled the synchronization of effects across all domains, and increased the interdependence of actions within domains. Additionally, emerging technologies such as artificial intelligence, machine learning, and hypersonic weapons indicate evolutions in the fundamental character of armed conflict.[6] If left

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[1] US Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America* (Washington, DC: Government Publishing Directorate 2018), 2, accessed October 28, 2019, https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf.

[2] Ibid., 1.

[3] Ibid., 7.

[4] National Intelligence Council, *Global Trends: Paradox of Progress* (Washington, DC: Office of the Director of National Intelligence, 2017), ix.

[5] US Department of the Army, Training and Doctrine Command Pamphlet (TRADOC PAM) 525-3-1, *The U.S. Army in Multi-Domain Operations 2028* (Washington, DC: Government Publishing Directorate, 2018), Foreword.

[6] US Department of the Army, TRADOC PAM 525-3-1, vi.

unaddressed, this increased complexity will challenge the US Army's ability to deter potential adversaries, and if necessary, fight and win in future conflicts. As such, the 2018 National Defense Strategy prescribed a "more lethal, resilient, and rapidly innovating Joint Force."[7]

As a component of the Department of Defense, the US Army must evolve in conjunction with the changing character of warfare to meet these challenges. The ability to innovate and make effective decisions concerning innovation are critically important to the ability to operate within complexity. The National Defense Strategy said as much when it stated, "Current processes are not responsive to need; the Department is over-optimized for exceptional performance at the expense of providing timely decisions, policies, and capabilities to the warfighter."[8]

In the endeavor to improve innovation and decision-making processes, it is important to seek insight from organizations external to the US Army that face similar challenges. As Richard A. D'Aveni and Robert Gunther described in their work *Hypercompetition: Managing the Dynamics of Strategic Maneuvering*, technology and aggressive competitors have escalated how businesses evolve and compete. Companies can no longer sustain positions in business through traditional methods of creating a strategy for a stable environment. They state, "the environment is one of disruptions punctuated by rare stable periods. Sustainable advantages have been shown for what they were all along-temporary; and they are becoming more temporary every day."[9]

Much like inter-state competition, hyper-competition recognizes the need for companies to continually evolve and innovate, or risk becoming irrelevant. Acknowledging this, the National

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[7] US Department of Defense, *Summary of the 2018 National Defense Strategy,* 1.

[8] Ibid., 10.

[9] Nate Freier, James Hayes, Michael Hatfield, and Lisa Lamb. "Game on or Game Over: Hypercompetition and Military Advantage," US Army War College, May 2018, accessed December 21, 2019, https://warroom.armywarcollege.edu/articles/the-new-defense-normal-nine-fundamentals-of-hypercompetition/.

Defense Strategy recognized corporations as opportunities for collaboration and partnership.[10] Additionally, the 2018 United States National Defense Strategy stated "Delivering performance means we will shed outdated management practices and structures while integrating insights from business innovation."[11]

There are few studies which seek to answer the question of what can the US Army learn from corporate innovation and decision making, especially within the context of complexity. Organizations such as Google and Garmin have demonstrated the ability to successfully adapt to this dynamic and complex environment.[12] The study sought insight from Google and Garmin relevant to the US military. Specifically, the study sought to examine how decisions were made in regard to innovation within Google and Garmin that may be applicable to the military. This analysis served as understanding of organizational decision-making within complex environments that commanders and staffs can use in future organizational models of decision-making.

Future challenges to the US Army will be complex, and necessitate innovation that addresses complexity. Considering this challenge, it is important to improve organizational structures that promote innovation and decision-making within the military. Understanding how successful business organizations like Google and Garmin innovate and make decisions can provide key insights.

Definition of Terms

Where applicable, US Joint and Army definitions are used in order to describe key terms. In all other cases, a common empirical definition of the concept was selected. TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, is the primary reference

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[10] US Department of Defense. *Summary of the 2018 National Defense Strategy*, 3.

[11] Ibid., 10.

[12] Bernard Girard, *The Google Way* (San Francisco, CA: No Starch Press, 2009), 75-77.

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utilized in the conceptualization of how the US Army will operate in the future, especially in regard to addressing complex environments.

Decision Making

Joint Publication 5-0, *Joint Planning*, defines decision making as "In an estimate of the situation, a clear and concise statement of the line of action intended to be followed by the commander as the one most favorable to the successful accomplishment of the designed mission."[13] This definition refers to a singular action made by the commander within a specific context. While commander decision-making is important, this study focused on a broader definition than that described in JP 5-0.

This study referred to decisions made by any member of an organization. This process consists of individual steps that begin with identifying and defining a problem. The decision-maker must then structure objectives aimed at solving the problem. Then, alternate actions aimed at achieving the identified objectives are generated. Finally, the decision-maker must select an action. Generating different actions and exploring their viability to achieve the objective is essential to effective decision-making.[14] In some cases when decisions involving more resources are made, the term strategic decision-making is used. Strategic decision-making refers to decisions which address "complex and ambiguous issues that involve large amounts of organizational resources."[15]

Complexity

As defined by David J. Snowden and Mary E. Boone in A *Leader's Framework for Decision Making*, complexity implies an environment which is in flux and unpredictable. Correct

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[13] US Department of Defense, Joint Staff, Joint Publication (JP) 5-0, *Joint Planning* (Washington, DC: Government Publishing Directorate, 2017), GL-8.

[14] Domenec Mele, "Practical Wisdom in Managerial Decision Making," *Journal of Management Development* 29, no. 7/8 (2010): 637-645.

[15] Richard O. Mason and Ian I. Mitroff, *Challenging Strategic Planning Assumptions* (New York: John Wiley and Sons, Inc., 1981), 75.

answers are unclear, there are many competing ideas, and there are unknown unknowns. Importantly, a complex environment creates the need for innovative approaches. Leadership within this context must utilize interactive, innovative approaches in which the practitioner probes, senses, and responds. In a complex environment, action is taken based on emergent practice as opposed to good practice, or best practice.[16]

Innovation

Defined by Rosabeth Moss Kanter in *The Change Masters: Innovation for Productivity in the American Corporation,* innovation is "the process of bringing any new, problem-solving idea into use." This definition includes ideas for reorganization, improvement of communication, and cost cutting. Additionally, it is the "generation, acceptance, and implementation of new ideas processes, products, or services."[17] Central to this definition are the ideas of application and implementation.

Organizational Structure

As defined by Mary Jo Hatch in *Organization Theory: Modern, Symbolic, and Postmodern Perspectives,* organizational structure is generally divided into two types, physical and social. The physical structure of the organization refers to spatial relationships of the buildings, locations, designs, and the symbolic meanings they represent. The organizational social structure refers to the members of the organization and the roles that they fulfill. This includes their responsibilities, and the sub-groups in which they function.[18] This study focused predominantly on organizational social structure, however, occasionally the physical structure of an organization was important, especially in regard to the creation of innovative spaces.

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[16] David J. Snowden and Mary E. Boone, "A Leader's Framework for Decision Making," *Harvard Business Review,* 85, no. 11 (2007): 68-76.

[17] Rosabeth Moss Kanter, *The Change Masters: Innovation for Productivity in the American Corporation* (New York, NY: Simon and Schuster, 1983), 20.

[18] Mary Jo Hatch, *Organization Theory,* 4th ed. (Oxford, United Kingdom: Oxford University Press, 2018), 106.

Executive Leadership

This study primarily referred to executive leadership as a specific position within an organization. Both the chief executive officer of a business, and the commander of a military organization are referred to as executive leaders. In instances where executive leadership is referred to as a practice, this study utilized the definition of executive leadership as outlined by Stephen J. Zaccaro's *Models and Theories of Executive Leadership* as "that set of activities directed toward the development and management of the organization as a whole, including all of its subcomponents, to reflect long-range polices and purposes that have emerged from the senior leader's interactions within and interpretations of the organization's external environment."[19]

In order to examine decision making within organizations, the study was based on a theoretical framework representative of organizations. The study utilized Mary Jo Hatch's *Organization Theory: Modern, Symbolic, and Postmodern Perspectives* to guide it in structuring research questions, methodology, and analysis. Hatch's five core concepts of organizations include organization-environment relations, social structure, technology, culture, and the physical structure of built space in organizations. Specifically, this study focused on the organizational social structure and organizational culture impacts on innovation and decision-making.

This study sought to test three hypotheses to determine how successful organizations make decisions. First, successful businesses make decisions in ways that promote the implementation of new ideas. Second, businesses promote effective decision-making through investing resources in employee quality of life. Third, businesses that invest resources in executive leadership make effective decisions.

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[19] Stephen J. Zaccaro, *Models and Theories of Executive Leadership: A Conceptual/Empirical Review and Integration* (Arlington, VA: US Army Research Institute for the Behavioral and Social Sciences, 1996), 14.

Research Questions

This study asked the primary question, what lessons can the US Army learn from businesses to improve decision-making? Three secondary questions sought to guide the research. First, how did the organizational social structure support decision-making, especially in regard to implementing new ideas? Second, how did the organization invest in employees to make effective decisions? Third, how did the organization make effective decisions through investing in leadership? To conduct a structured, focused comparison, this study asked six research questions of each organization. First, how many innovative programs did the organization maintain? Second, how did the organizational leadership address innovation in its annual report to employees and/or shareholders? Third, what quality of life programs did the organization maintain to support its employees? Fourth, what incentives did the organization offer to employees who innovate? Fifth, how many executive leaders were hired from outside of the organization? Sixth, how many leadership development programs did the organization provide to its employees?

Proprietary and sensitive information regarding the internal processes and procedures of businesses was safeguarded for understandable reasons. As such, this study was limited to publicly available information that organizations were openly willing to share. This study is limited in that it did not contain other internal information that companies keep safeguarded in order to maintain competitive advantages. The applicability of this study relied on the assumption that successful organizations such as Google and Garmin make good decisions, and that their success is correlated to decisions that the organizations make. Within these organizations, this study relied upon the assumption that good employees make good decisions, and that good leadership makes effective decisions, and is correlated with successful organizations. This study also assumed that conflict will continue to evolve and that the US Army's current doctrine,

organization, training, materiel, leadership and education, personnel, and facilities must evolve to effectively function in future conflict.

Two organizations, Google and Garmin were examined to gain insight into decision-making and organizational structure. This study consisted of six sections. Section I included the background of the study, statement of the problem, purpose of the study, definition of terms, theoretical framework, research questions, limitations, delimitations, and the assumptions of the study. Section II presented a review of the relevant literature, focusing on organizational design, the importance of high-quality employees in decision-making, and the value of executive leadership in organizations. Section III described the methodology used for the research study. It included the selection of the qualitative case studies examined within the structured, focused comparison as well as procedures for analysis. Section IV presented the Google and Garmin case studies and analysis. Section V presented the final comparative analysis of the study, addressed the hypotheses, and answered the research questions. Finally, section VI provided a summary of the entire study, discussing the findings, implications of the finding for theory and practice, recommendation for further research, and conclusions.

Review of the Literature

Organizational Social Structure and Decision-Making

As explained by Hatch, "The historical development of theorizing about organizational social structure begins with Weber's theory of bureaucracy."[20] Max Weber was the first person to study bureaucracy formally. His work popularized the concept of bureaucracy and provided an early conceptual framework that described the structure of bureaucratic organizations. Some principal characteristics of bureaucracy include a fixed division of labor, promotions based on merit and performance within the organization, a clearly defined hierarchy of offices, and a set of

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[20] Hatch, *Organization Theory,* 106.

general rules governing the performance of offices.[21] Weber's theory of bureaucracy is a construct reflected in many organizations, including most governments, universities, and many corporations. When considering these characteristics, it is clear to see the US Army is a bureaucratic organization. In fact, Weber used the military as a prototype in his study of bureaucracy.[22]

The amount of bureaucracy within organizations, and the processes of decision-making and leadership represent prominent areas of organizational research.[23] The common argument submits that bureaucratic organizations, specifically public organizations, do not operate within a competitive market, and as such cannot achieve the same decision-making efficiency as private organizations.[24] This reasoning suggests that when there is a greater amount of bureaucracy in an organization, the less effective the organization is at making decisions. Gary Hamel and Michele Zanini supported this view in conducting a poll of Harvard Business Review readers utilizing the Bureaucracy Mass Index (BMI) tool. From a population of over seven thousand, the poll showed that two-thirds of respondents believed that bureaucracy is a significant drag on the pace of decision-making in their organization.[25] This population increased to over eighty percent of respondents who had experience in large companies. Additionally, ninety-six percent of respondents who worked in companies of more than one thousand people believed it was "not

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[21] Max Weber, *The Theory of Social and Economic Organizations,* (New York: Oxford University Press, 1947), 329-41.

[22] Patricia M. Shields, "The Bureaucracy in Military Sociology." in *Armed Forces and International Security*, ed. Jean Callaghan and Franz Kernic, (New Brunswick: Transaction Publishers, 2003), 181-184.

[23] Runo Axelsson, Geoffrey R. Mallory, and David C. Wilson, "Bureaucracy, Decision-Making and Leadership in Private and Public Organisations," *Journal of Management Studies* 3, no. 3/4 (1987) 185-195.

[24] Axelsson, Mallory, and Wilson, "Bureaucracy, Decision-Making and Leadership," 189.

[25] Gary Hamel and Michele Zanini, "What We Learned About Bureaucracy from 7,000 HBR Readers," *Harvard Business Review*, August 2017, accessed December 21, 2019, https://hbr.org/2017/08/what-we-learned-about-bureaucracy-from-7000-hbr-readers/.

easy" or "very difficult" for a front-line employee to launch a new initiative, suggesting that bureaucracy in organizations stifles innovation.[26]

Despite the drawbacks to bureaucratic organizations and their ability to make decisions, the amount of bureaucratic processes in the United States are growing.[27] At least one reason is the advantages that the construct presents as an organizational social structure. Weber noted that when organizations are large and operate in fairly stable environments, the benefits of bureaucracies are adequate for many societies to continue to create and maintain them. Additionally, the bureaucracy provides consistently reliable organizational construct for decision-making.[28]

David Wittenberg provides an additional perspective on decision-making in large organizations, and highlights that the important concept lies in where the decisions are made within the organization, and not how they are made. He explains "Likening effortful, reflective thinking to bureaucracies misses the mark. Bureaucracies are focused on decision rights, not decision making. They are not created to deliberate or think."[29]

Organizational Culture, Investing in Employees, and Decision-Making

Mary Jo Hatch's *Organization Theory* offers multiple definitions of organizational culture, including John Van Maanen's, "Culture refers to the knowledge members of a given group are thought to more or less share; . . . and account for the routine and not-so-routine activities of the members of the culture. . . . Culture is not itself visible but is made visible only

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[26] Hamel and Zanini, "What We Learned About Bureaucracy."

[27] Gary Hamel and Michele Zanini, "The End of Bureaucracy," *Harvard Business Review,* December 2018, accessed December 21, 2019, https://hbr.org/2018/11/the-end-of-bureaucracy/.

[28] Hatch, *Organization Theory,* 108.

[29] James L. Heskett, "How Much Bureaucracy is a Good Thing in Government and Business?" *Harvard Business School,* January 2017, accessed December 21, 2019, https://hbswk.hbs.edu/item/how-much-bureaucracy-is-a-good-thing-in-government-and-business#commentsAnchor/.

through its representation." Hatch goes on to describe culture as "two-way relationships that link individuals to their organizations."[30] As part of organizational culture, quality of work life has been closely associated with productivity and decision making.[31]

The concept of quality of work life first became popular in the 1970s.[32] As technology advanced in the twenty-first-century, economies became more global and increasingly focused on services and information technology. Machines and production lines that were emphasized during the industrial revolution were no longer the most important factors in organizational productivity. This evolution meant that the individual employee was an organization's most valuable asset. The human resource became the most important resource.[33]

As such, quality of work life became one of the most important priorities in an organization. Quality of work life can be defined as "an extent to which an employee is satisfied with personal and working needs through participating in the workplace while achieving the goals of the organization."[34] Additionally, the United States Office of Personnel Management defines work life as "the business practice of creating a flexible, supportive environment to engage employees & maximize organizational performance."[35] Some components of quality of work life include adequate and fair compensation, reward systems, and even participation in decision making. In fact, a considerable amount research regards employee participation in decision-

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[30] Hatch, *Organization Theory,* 192-195.

[31] Neal E. Chalofsky, "Work-Life Programs and Organizational Culture: The Essence of Workplace Community," *Human Management International Digest* 16, no. 5 (2008): 11-19.

[32] Diogo Jose Horst, Evandro Eduardo Broday, Roberto Bondarick, Luise Filippe Serpe, and Luiz Alberto Pilatti, "Quality of Working Life and Productivity: An Overview of the Conceptual Framework," *International Journal of Managerial Studies and Research* 2, no. 5 (2014): 87-98.

[33] Horst, et al, "Quality of Working Life and Productivity," 88.

[34] Devappa Renuka Swamy, T. S. Nanjundeswaraswamy, and Srinivas Rashmi, "Quality of Work Life: Scale Development and Validation," International Journal of Caring Sciences 8, no. 2 (2015), 281-299.

[35] US Office of Personnel Management, "Work Life," 2020, accessed January 03, 2020, https://www.opm.gov/policy-data-oversight/worklife/.

making as a component of quality of work life.[36] Swamy notes employee's morale and

productivity can increase when they are involved in decision-making processes.[37] Additional

research has a shown a correlation between quality of work life and organizational productivity.

Particularly "… good management of QWL makes employees healthier, more committed, living

more, working and producing more, wherefore reducing organizational spending."[38] Because of

this, quality of work life programs can play an important role in increasing labor productivity in

many organizations.[39]

Organizational Culture, Investment in Leadership, and Decision-Making

Continuing with Hatch's framework of organizations, an important aspect of

organizational culture that affects decision-making is leadership. Effective leadership within

organizations can enable innovation, respond to changes in environments, address challenges, and

sustain high performance. Additionally, effective leadership can create an organizational culture

that promotes focus, energy, and spirit.[40] Given the importance of organizational leadership, it

follows that in order to be effective at decision-making, organizations must devote resources to

developing leaders.

According to Jeff Turner, leadership development is a dynamic undertaking that weds

three critical components: 1) the organization's specific mission and culture; 2) the individual's

personality and strengths; and 3) organization-specific leadership behaviors, skills and

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[36] Swamy, Nanjundeswaraswamy, and Rashmi, *Quality of Work Life*, 291-293.

[37] Ibid., 285

[38] Horst, et al, "Quality of Working Life and Productivity," 95.

[39] Ibid., 93.

[40] Jeff Turner, "Developing Executive Leadership in the Public Sector" *Public Manager* 36, no. 4 (2007), 50-55.

knowledge. Executive leadership programs can include exposure to senior leaders, cross training

assignments, and after-action reports and case studies.[41]

Applicability of Business to the US Military

Important to this study is the applicability of processes within commercial organizations

to the military. One significant dissimilarity between business and military organizations is

mission criticality. As Drs. Alex Kalloniatis and Paul Wong state, "mission criticality can require

that individuals or teams in military organizations devise novel solutions or by-pass standard

procedures to meet unexpected contingencies."[42] They go on to note that this non-linear process

is difficult to capture and is in contrast to business process modeling. There are, however,

significant similarities between business and the US military.

James D. Eggensperger notes that both military and business organizations have specific

measurements and goals, motivated leaders, established structures and communications

processes, and are under pressure to produce results.[43] Additional similarities and applicability of

business concepts to the military have been noted in terms of the operational environment. In fact,

the US Army War College utilizes the concept of hypercompetition, a concept modeled after

business markets, as it applies to US military strategic context.[44] Therefore, any insight sought

from businesses for the purposes of this study must be focused through the lenses of goal

achievement, leadership, organizational structures, and complex environments.

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[41] Turner, "Developing Executive Leadership," 53.

[42] Alex Kalloniatis and Paul Wong, "Application of Business Process Modelling to Military Organisations," *Proceedings of the SimTect Conference*, Brisbane, Australia, June 2007.

[43] James D. Eggensperger, "How Far is Too Far? Lessons for Business from Ultra-High-Performing Military Teams," *Team Performance Management* 10, no. 3/4 (2004), 53.

[44] Freier, Hayes, Hatfield, and Lamb, "Game on or Game Over."

Complexity

First studied specifically in the 1970s, complexity science has since described systems that have been undefined by traditional scientific approaches.[45] Complexity science addresses adaptive, living, and interactive systems such as stock markets and human bodies. These systems, called complex adaptive systems, consist of multiple, interactive agents, each with their own bodies of knowledge and objectives.[46]

The new ways in which we understand complexity science as described by David J. Snowden and Mary E. Boone in the article *A Leader's Framework for Decision Making,* are beneficial to help decision-makers comprehend more intricate problem sets. These problem sets are much like the problems that will be faced in the future operational environment of the US Army. Snowden and Boone describe these evolving problem sets as the results of "advanced technology, globalization, intricate markets, and cultural change."[47] Some characteristics of a complex system include a large number of interacting elements, nonlinear interactions that produce disproportionate consequences, and dynamic systems whose solutions arise from circumstance, also known as emergence.[48] Snowden and Boone also note that complexity is "more of a way of thinking about the world than a new way of working with mathematical models."[49]

Snowden and Boon prescribe that in order to make effective decision within a complex environment, the decision-maker must probe, sense, and respond. Thus, a complex environment requires more interactive communication, innovative environments, and constant monitoring for

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[45] V. Vemuri, *Modeling of Complex Systems: An Introduction* (New York: Academic Press, 1978).

[46] Brenda Zimmerman, Carl Lindberg, and Paul Plsek, *Edgeware: Lessons from Complexity Science for Health Care Leaders* (Dallas, TX: VHA Inc., 2008), 49.

[47] Snowden and Boone, *A Leader's Framework for Decision Making,* 70.

[48] Ibid., 72.

[49] Ibid., 69.

emergence. Central to this decision-making process in a complex environment is the need for innovation.

Methodology

This project used a qualitative case study methodology. It followed a structured, focused comparison approach as outlined by Alexander George and Andrew Bennett in *Case Studies and Theory Development in the Social Sciences*. This section provided a description of the case studies and the questions asked of each organization. It provided the sources of the information collected from the case studies, and expanded upon the questions outlined in the introduction. Five parts divide the methodology section. The introduction, case election, instrumentation, data collection, and data analysis.

Case Selection

The first case study is of the company Google, a multinational technology-based company founded in 1998. Google provided internet-related services and products, and generated the majority of its revenue through online advertising. The company generated over $161 billion in revenue in 2019.[50] Its meteoric rise to success and demonstrated adaptability provided an example of an organization that may offer insights on innovation and decision-making to the US Army.

The second case study is of the company Garmin, a multinational technology company founded in 1989. Garmin designed, produced, and marketed global positioning satellite technology for many applications including automotive, outdoor, and sport activities. The

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[50] Alphabet, Inc., "Form 10-K," 2019, 26, accessed December 31, 2019, https://abc.xyz/investor/static/pdf/20200204_alphabet_10K.pdf?cache=cdd6dbf.

company generated $3.78 billion in revenue in 2019.[51] Garmin has demonstrated an ability to adapt its business strategy as technology continues to advance and market conditions change.

In order to provide a framework for data collection, this study utilized a structured, focused comparison methodology as outlined by Alexander George and Andrew Bennett in *Case Studies and Theory Development in the Social Sciences.*[52] The methodology is structured because it asks the same questions of each organization. This enabled data to be gathered which can be compared between individual case studies. It is focused in that it only looks at specific aspects within organizations.[53] The collection of data for this study relied on both primary and secondary sources. Collection focused on analysis of published works of each organization as well as internal products from the organizations themselves. Each organization was examined within a time period beginning with the company's inception, through public offering, until each company's 2019 annual 10-K report.

This study used six structured, focused questions to guide the research and proposed each question to the two organizations. The case study questions were conceptualized to answer the three secondary questions. By utilizing two distinct organizations, the study sought to establish a means that allowed for analysis utilizing systematic comparison between the individual case studies.

The first question was how many innovative programs did the organization have? This question helped determine the extent to which the organization was designed to promote innovation. Innovative programs mainly referred to the ways in which the organization structures its social environment, to include how it manages its employees' time. Innovative programs may also consider how the organization structures its physical environment, such as providing

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[51] Garmin, Ltd., "Form 10-K, 2019," 2019 79, accessed December 31, 2019, https://www8.garmin.com/aboutGarmin/invRelations/reports/2019_Annual_Report.pdf.

[52] Alexander L George and Andrew Bennett, *Case Studies and Theory Development in the Social Sciences* (Cambridge, MA: The MIT Press, 2005), 214.

[53] Ibid., 67.

innovative spaces. The researcher expected to find that successful organizations emphasized innovation through both the social and physical structuring of their organizations.

The second question asked how the chief executive officer addressed innovation in their annual message to employees. This question helped determine how much the organizational leadership emphasized innovation to its employees. The chief executive officer may also address innovation through the ways in which they seek to inculcate a culture of innovation, predominantly in how they structure the business's social environment. The researcher expected to find that leadership in successful organizations promoted innovation.

The third question asked what quality of life programs the organization utilized. This question helped determine the emphasis of the organization on the well-being of employees. This question relied on the assumption that quality employees help the organization make better decisions. The researcher expected to find that successful organizations are able to attract talented employees by offering these types of programs.

The fourth question asked if the organization incorporated rewards programs for good ideas. This question helped determine how the organization promoted innovation. The researcher expected to find that successful organizations supported innovation through incentive programs.

The fifth question asked how many executive leaders have been hired from outside the organization. The researcher expected to find that effective organizations utilize both outside leadership and internal leadership to lead organizations, innovate, and make effective decisions.

The sixth question asked how many leadership development programs the organization supported. This question helped determine the emphasis that the organization placed on individual leadership development. The researcher expected to find that successful organizations emphasized leadership development through the commitment of resources to programs.

Case Studies

Google Case Study

Google was founded in 1998 by Larry Page and Sergey Brin. Through collaboration as graduate students at Stanford University, the two sought to create a better way to search the internet and yield relevant results to queries. The original tools they created, Backrub and PageRank, to search, refine, index, and organize results, were revolutionary to the way people utilized the internet to quickly find answers.[54]

In 2001, Page and Brin hired proven expertise in company management to help run Google from a business perspective and make money. By the end of 2001, the company announced a $7 million profit. The three continued to grow Google to become the most widely used web-based search engine. Through strategic acquisitions, the introduction of new web-based products, and a revolutionary management philosophy, Google has grown exponentially since 1998.[55]

In 2019, Google's parent company, Alphabet, Inc., employed over 100,000 people.[56] Its headquarters in Mountain View, California, consisted of a three million square foot office complex on sixty-eight acres.[57] The company maintained over seventy offices in fifty countries.[58] Since its inception, Google has been ranked as the number one brand in the world. Additionally,

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[54] Anna Crowley Redding, *Google It: A History of Google* (New York: Macmillan Publishing Group LLC, 2018), 18-33.

[55] Ibid., 90-110.

[56] Alphabet, Inc., *Alphabet Q1 2019 Earnings Call*, 2019, accessed 31 December 2019. https://abc.xyz/investor.

[57] Redding, *Google It*, 111.

[58] Google, "Our Offices," 2020, accessed December 21, 2019, https://about.google/locations/?region=north-america&office=mountain-view.

Google has been the only company to demonstrate a true understanding of how to survive and thrive in the complex, technology enabled internet age.[59]

Research Question One: How many innovative programs did the organization maintain? Google maintained an overarching innovative program that incorporates each individual employee within the organization. This program allowed employees to devote twenty percent of their time to individual research and product development of their own choice. This method was based on an approach that 3M adopted in its research centers. Each employee was required to submit three to five sentences on their self-directed work to their peers on a weekly basis. The ideas were peer-reviewed, and employees could form collaborative teams based on ideas they choose to devote their time to. This innovative strategy was beneficial to the organization in that it attracted young college graduates who seek autonomy, and also leads to the emergence of new products.[60] Eric Schmidt noted that the real value of twenty percent time is that it is a process where employees can learn something new outside of their expertise, and also collaborate with others.[61]

Google's twenty percent time is a major example of how the company incorporated innovation into its social structure. Google's AdSense is one example of a new idea that was conceived and implemented through twenty percent time and demonstrated the effectiveness of Google's social and physical structure in regard to innovation. Eric Schmidt articulated that the idea was first invented by a group of engineers playing pool in Google's offices. Schmidt emphasized the importance of brining engineers and scientists together at work in these ways in order to promote new ideas. Schmidt said, "Make your offices crowded and load them with

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[59] Jeff Jarvis, *What Would Google Do?* (New York, NY: HarperCollins Publishers, 2009), 3.

[60] Girard, *The Google Way*, 65-66.

[61] Eric Schmidt and Jonathan Rosenberg, *How Google Works* (New York, NY: Grand Central Publishing, 2014), 230.

amenities, then expect people to use them."[62] The physical organizational structure of the pool

room, together with Google's social emphasis on innovation through twenty percent time, led to

the conception and development of a multibillion-dollar product. This product produced tailored

ads in Gmail accounts, and has been described by Schmidt as Google's flagship product.

Research Question Two: Did the CEO address innovation in their annual message? At

shareholder meetings? Alphabet Incorporated, Google's parent company, addressed innovation

throughout its 2018 annual report to shareholders, and innovation is a major theme of the

document and the company's identity. Specifically, the report stated, "Our vision is to remain a

place of incredible creativity and innovation that uses our technical expertise to tackle big

problems."[63] Additionally, Alphabet mentioned its ability to innovate six times in its 2019 Q1

earnings call.[64] A major theme that Alphabet emphasizes throughout both reports is its increasing

ability to leverage machine learning to innovate.

Google inculcated a culture of innovation from its executive leadership down to the

individual employee predominantly through the way it structured its social environment. This

culture of innovation emphasizes that anyone in the company could present new ideas for product

development. Google maintained that innovation is everybody's business, and its leadership

created this culture with a formula that consists of five major aspects.[65]

First, the company recruited only the top performing software engineers from

universities. This minimized risk in that the company could more readily accept new ideas from

these employees. Second, Google encouraged collaboration between its employees and internet

enthusiasts. This informed the company as to what products might be the most popular with end-

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[62] Schmidt and Rosenberg, *How Google Works*, 40.

[63] Alphabet, Inc., *Form 10-K,* (2018), accessed December 31, 2019. https://www.sec.gov/Archives/edgar/data/1652044/000165204419000004/goog10-kq42018.htm., 2.

[64] Alphabet, Inc., *Alphabet Q1 2019 Earnings Call*, (2019), accessed 31 December 2019. https://abc.xyz/investor.

[65] Girard, *The Google Way*, 79.

users and provided a cost-free route to innovation. Third, Google employees developed and

maintained contact with competing companies and startups in the software engineering world.

This provided information that Google may otherwise be unaware of. Fourth, Google encouraged

their employees to make an impact. This is the idea that Google employees are motivated by

altruism and how much impact they can have. Fifth, Google enabled a fast-paced information

flow of new ideas throughout the company. One way it did this is through the way it has

organized its physical structure. One example of this is the grand staircase in Google's Brazilian

headquarters. The staircase is fitted with electrical outlets in order for employees to gather and

share ideas in a communal location.[66]

Research Question Three: What quality of life programs did the organization maintain to

support its employees? Findings suggest that Google invested a large amount of resources in

order to maintain quality of life programs for its employees. These programs, at its headquarters

in Mountain View, California, included onsite healthcare services, fitness centers, paid parental

leave, education programs, and nutrition programs.[67] In fact, Google was rated among the best

large companies to work for by Glassdoor from 2009 to 2019, and was consistently rated highly

by its employees for its food programs, health insurance, and 401(k) retirement programs.[68]

Google's investment in employees through quality of life programs helped the

organization make good decisions and attract and retain quality employees. Eric Schmidt called

these quality employees the "smart creatives." These are employees who, simplistically, "think

for a living."[69] Google's ability to attract, retain, and develop smart creative employees through

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[66] Girard, *The Google Way*, 80-81.

[67] Investopedia, "The Top 10 Reasons to Work at Google," *Investopedia*, July 29, 2019, accessed December 31, 2019, https://www.investopedia.com/articles/investing/060315/top-10-reasons-work-google.asp.

[68] Glassdoor, Inc., "Glassdoor: Google," 2019, accessed December 31, 2019, https://www.glassdoor.com/Overview/Working-at-Google-EI_IE9079.11,17.htm.

[69] Glassdoor, Inc., "Glassdoor: Google," 16.

quality of life programs enhanced its ability to innovate, and through its layered decision-making process, make effective decisions.

An important aspect of Google's quality of work life programs in regard to decision-making is that the programs promoted the company's public image in a positive way, and in turn attracted a greater number of potential employees. As such, the organization could hire the best employees who support innovation and effective decision-making within the organization. This suggested that quality of life programs benefited the company in two overarching ways. They generated favorable marketing and public image for the organization itself, while also promoting employee health and retainment within the organization.

Research Question Four: What incentives did the organization offer to employees who presented innovative ideas? Google rewarded employees based on their personal performance in terms of overall wages, and not based on singular actions. Google rejected egalitarian pay systems and rewarded employees based on the products they create, especially in regard to innovation. Erich Schmidt states simply "pay outrageously good people outrageously well, regardless of their title or tenure."[70] Given Google's demonstrated emphasis on innovation, analysis suggests that Google considered innovative employees top performers and rewarded them proportionately to their ability to innovate.

In 2018, Comparably, a web-based company that focuses on workplace culture and market compensation, recognized Google as having the best culture for a technology company. At least one driving factor behind this ranking is Google's reward and recognition program, which was characterized by five major aspects.[71]

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[70] Schmidt and Rosenberg, *How Google Works*, 126-127.

[71] Forbes Technology Council, "12 Reasons Google Deserves Its 'Best Company Culture' Award," February 18, 2018, accessed March 7, 2020, https://www.forbes.com/sites/forbestechcouncil/2018/02/08/13-reasons-google-deserves-its-best-company-culture-award/#2c7d6f3d3482.

First, Google focused on giving non-monetary awards such as dinners, trips to Hawaii, and new tech gadgets. To reward employees in this way made the experience more tangible, so employees may remember it better and believe the reward is more thoughtful. Second, Google did not utilize reward programs that cost a lot of money. Some examples of these are talent shows, massage chairs, mobile libraries, and onsite laundry machines.[72] Third, Google utilized a two faceted approach to bonuses. Bonuses could be awarded by managers or peers. Managers could give awards for on the spot recognition, such as a one-time achievement, or through a manager bonus program which rewarded teams with either monetary bonuses or dinners. Peers could recognize each other for $175 rewards. Fourth, Google took steps to recognize group achievement. This was done largely through team celebrations or team trips. This approach also helped to encourage team bonding. Finally, Google promotes a *gThanks* program. The gThanks program was a peer to peer recognition platform that allowed employees to directly thank each other without going through a formal approval process.[73]

Research Question Five: How many executive leaders were hired from outside the organization? Since it was founded in 1998, Google's executive leadership consisted of four key personnel. From 1998 until 2001, co-founders Larry Page and Sergei Brin ran the company together, with Sergey Brin holding the official position of chief executive officer. In 2001 Eric Schmidt was hired by Page and Brin to join the company. Eric Schmidt had previously led strategic planning, management and technology development as chief executive officer of Novell, Inc.[74]

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[72] Jillian D'Onfro, "Here are all of Google's employee perks, and how much they cost the company," Business Insider, April 7, 2015, accessed March 7, 2020. https://www.businessinsider.com/cost-benefit-of-google-perks-2015-4.

[73] Bucket List, "Best Employee Rewards and Recognition Programs. Reward and Recognize Employees Like Google," 2019, accessed March 7, 2020, https://bucketlistrewards.com/employee-recognition/best-places-to-work-on-earth-tips-to-reward-and-recognize-your-employees-like-google/.

[74] Girard, *The Google Way*, 48.

An important development following the hiring of Eric Schmidt was the institution of a three-party leadership system within Google, known as the triumvirate. The triumvirate structure allowed Larry Page and Sergey Brin to exercise their creative vision and technology development, while Eric Schmidt focused on business management. This structure provided unique advantages to the company's ability to execute effective decision-making including the provision of multiple viewpoints that enabled a quick error-reversal process.[75]

Eric Schmidt served as chief executive officer of Google until 2011, when co-founder Larry Page assumed the position. Schmidt then became executive chairman of Google.[76] In 2015 Google became part of a parent company, Alphabet Incorporated. As part of this restructuring, Google named a new chief executive officer, Sundar Pichai.[77]

Pichai was an example of a leader that was hired from within Google. Pichai began his career at Google in 2004 and was initially a product manager. Pichai's foresight and ability to focus on Google's core products like its search engine and web browser were important to helping him rise within the company.[78] In selecting Pichai as chief executive officer, Page and Brin selected a proven leader within the company that utilizes a sound decision-making process to set priorities.

The hiring of Eric Schmidt and the promotion of Sundar Pichai indicated that Google invested resources to develop leadership internally and also sought to hire proven leadership from other organizations. As outlined in Project Oxygen, Google invested time and resources in both researching and developing management programs for its employees. Additionally, the promotion

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[75] Girard, *The Google Way*, 49.

[76] Redding, *Google It*, 171-172.

[77] Ibid., 174-175.

[78] Bhaskar Chakravorti, "What the CEO of the "New" Google Needs to Do Next," *Harvard Business Review*, September 2015, accessed January 7, 2020, https://hbr.org/2015/09/what-the-ceo-of-the-new-google-needs-to-do-next.

of Sundar Pichai to Google chief executive officer in 2015 was an example of Google internally promoting employees to the highest positions within the organization.

Google also sought to hire proven leadership from outside of the company. Google considered leadership experience when hiring new employees, and considerably weighted this experience in relation to other qualities. Candidate evaluations at Google were broken down into four categories consisting of leadership, role-related knowledge, general cognitive ability, and *googleyness*.[79] When Page and Brin hired Schmidt from an external organization in 2011, they brought in a proven leader with demonstrated decision-making skills.

Research Question Six: How many leadership programs did the organization offer to its employees? Google emphasized leadership development programs in two main ways, through leadership research, and leadership development. In 2009 Google began a leadership research program called Project Oxygen which analyzed over ten thousand employee performance reviews, feedback surveys, and management award nominations. This data was used to determine the behaviors of effective managers within the company. Ultimately, Project Oxygen identified eight behaviors of effective managers. The company then sought to institute programs which cultivated these behaviors through training programs.[80]

Google provided new managers with a robust network of leadership training programs. These programs began forty-five to ninety days after the manager has begun their new role and consisted of a thorough curriculum. The curriculum included manager development and support, vision development and communication, professional and personal team care, results orientation, empowerment, great manager identification, feedback support, and coaching training. Based on

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[79] Schmidt and Rosenberg, *How Google Works*, 120.

[80] David A. Gavin, "How Google Sold Its Engineers on Management,":" *Harvard Business Review*, December 2013, accessed December 31, 2019, https://hbr.org/2013/12/how-google-sold-its-engineers-on-management.

the framework of these leadership guides, Google utilized eight different management training programs.[81]

Garmin Case Study

Garmin was founded in 1989 by Dr. Min Kao and Gary Burrell. Their objective was to integrate global positioning system technology into navigation devices in multiple markets.[82] Importantly, one of Kao and Burrell's first hires was Clifton Pemble, who worked for the company since its second day of existence. From inception, Garmin enforced a vertical integration strategy in which the company controlled all facets of product inception, development, and manufacturing. The company grew over the next eleven years, and held an initial public stock offering in 2000. In 2003, Garmin sales reached $573 million.[83] Garmin's total revenue for 2019 was $3.758 billion.[84] Garmin is a global company with thirty-seven offices in thirty-six countries, and over thirteen thousand employees.[85]

Garmin has demonstrated a resilient ability to innovate, generate profit, and grow despite uncertain markets. When cell phone technology began to incorporate global positioning systems in 2003, Garmin faced a crisis. To incorporate this new technology, the company made the decision to shift their strategic focus to wearable devices. This move meant Gamin could further expand their product base to various other markets including running watches, cycling equipment,

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[81] Google, "Managers," 2019, 2019, accessed December 31, 2019, https://rework.withgoogle.com/ subjects/ managers/.

[82] Garmin, Ltd, "Garmin Board of Directors," 2019, accessed December 31, 2019, https://www.garmin.com/en-US/company/leadership/directors/.

[83] Alex Knapp, "How Garmin Mapped Out a New Direction in Fitness Wearable," Forbes, September 14, 2016, accessed March 7, 2020, https://www.forbes.com/sites/alexknapp/2016/09/14/how-garmin-mapped-out-a-new-direction-with-fitness-wearables/#4b9bcf4527b9.

[84] Garmin, Ltd., *Form 10-K*, (2019).

[85] Forbes, "#350," 2020, accessed March 7, 2020, https://www.forbes.com/companies/garmin /#525304b7d0b8.

swimmers, golfers, and hikers.[86] These actions were indicative of Garmin's ability to innovate and make strategic decisions in a hypercompetitive business environment.

Research Question One: How many innovative programs did the organization maintain? Garmin approached innovation primarily through its research and development branch. New products were conceptualized by an engineering and development staff consisting of approximately 4,200 people worldwide, including over twelve locations across the United States.[87] The staff was comprised of industrial designers, software engineers, electrical engineers, mechanical engineers, and cartographic engineers. Utilizing a teamwork mindset, Garmin's engineering and development team worked with its manufacturing team in the development of new products to ensure manufacturability and cost control.[88] To move products from conceptualization to manufacturing, Garmin stated there is a project approval process, however it does not publicly outline how this process is executed.

Additionally, Garmin structured its physical workspace in ways that promote innovation. At its headquarters in Olathe, Kansas, engineers who designed and built marine electronics did so at work stations that were co-located with their office spaces. Also on the same floor are the software engineers who wrote coding for the systems being designed. To complete the product lifecycle, a 300,000 square foot warehouse was also located on the Olathe, Kansas campus. The warehouse stored aviation electronics and distributed products from Garmin's three Taiwanese factories.[89] This co-location of office and work space served to help employees in innovating. In fact, a product designed at the Olathe, Kansas location won best of show overall at the sport

[86] Knapp, "How Garmin Mapped."

[87] Robert Evatt, "GPS Maker Garmin Opens Tulsa Research, Development Facility," *Tulsa World*, July 26, 2012, accessed December 31, 2019. https://www.tulsaworld.com/business/gps-maker-garmin-opens-tulsa-research-development-facility/article_8a156952-5b08-5e05-b3a5-83a5f7a4242f.html.

[88] Garmin, Ltd., *Form 10-K*, (2018).

[89] Ben Ellison, "A recent trip to Garmin HQ offers a glimpse of how Garmin's marine electronics are built," Cruising World, April 29, 2010, accessed March 7, 2020, https://www.cruisingworld.com/tour-garmins-skunk-works/.

fishing trade show in 2019. This marked Garmin's first venture into the trolling motor industry and demonstrated success against more than a thousand new products.[90] The innovation necessary to achieve this within Garmin was undoubtedly influenced by the physical space at the Olathe, Kansas location.

Research Question Two: Did the CEO address innovation in their annual message? At shareholder meetings? In Garmin's 2019 Code of Conduct, CEO Clifton Pemble's message addressed innovation in two ways. First, the messages stated it is the people who innovate new products that ensure the company's success. Second, the Code of Conduct reflectd the business's commitment to innovate.[91] Pemble's remarks suggest that the Code of Conduct is important to both outline a vision for how the company operates within a social structure, and to ensure that this social structure is marked by innovation.

Overall, Garmin's 2019 Code of Conduct reflected an organization which sought to inculcate innovation into its culture. In outlining five specific factors of Garmin's mindset, continual pursuit of innovation is listed first, stating, "We surround ourselves with creative minds and passionate spirits. We invest in in innovation through the worldwide collaborative efforts of colleagues. Innovation drives our success now and in the future."[92]

Garmin also stressed innovation throughout its 2018 annual report to investors. The document articulated that Garmin is committed to increasing its capacity to innovate .[93] The 2018 annual report stated "if unable to successfully develop and introduce competitive new products,

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[90] Fishing Tackler Retailer, "Garmin Crowned Back-to-Back ICAST King," July 11, 2019, accessed March 7, 2020, https://fishingtackleretailer.com/garmin-crowned-back-to-back-icast-king/.

[91] Garmin, Ltd., "Code of Conduct of Garmin, Ltd. And Subsidiaries," 2020, 1, accessed December 31, 2019, https://www8.garmin.com/aboutGarmin/invRelations/documents/Code_of_Conduct.pdf.

[92] Garmin, Ltd., "Code of Conduct, 2.

[93] Garmin, "Code of Conduct," 18.

and enhance existing products, our future results of operations would be adversely affected."[94] Specifically, Garmin's innovation focuses on the development of new products as well as the expansion of existing markets and incorporation of new markets.[95] Using budgeting as a measure of emphasis on innovation, Garmin has steadily increased its research and development expenses since 2006, and showed a yearly average increase of 9.96% in research and development expense from 2016 to 2018.[96]

Research Question Three: What quality of life programs did the organization maintain to support its employees? Garmin has attributed its ranking as a top American employer to a great work environment.[97] Some quality of life programs that Garmin provides employees include full health coverage, retirement savings and 401K plans, a wellness program that aims to increase awareness of personal health and nutrition, a pilot certification program in which Garmin subsidizes pilot training, tuition reimbursement, and civic outreach programs.[98] It is important to note that many employees have noted lower pay at Garmin as a negative aspect of working there, but have attributed the quality of life programs as a reason for lower pay.[99] Garmin ranked fifth on the Forbes 2019 list of America's best large employers, and 350 on Forbes's 2019 worldwide ranking.[100] These results were based on employee feedback, in which employees were asked how

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[94] Garmin, "Code of Conduct," 22.

[95] Ibid., 44.

[96] Macrotrends, LLC, "Macrotrends: Garmin," accessed December 31, 2019, https://www.macrotrends.net/stocks/charts/GRMN/garmin/research-development-expenses.

[97] Lily Lieberman, "Garmin Jumps 32 Spots on Forbes' Ranking of Best U.S. Employers," Kansas City Business Journal, April 25, 2019, accessed January 3, 2020, https://www.bizjournals.com/kansascity/news/2019/04/25/forbes-garmin-best-us-employers-ranking.html.

[98] Garmin, "Careers," Garmin, accessed January 3, 2020, https://careers.garmin.com/en-US/.

[99] Garmin, "Glassdoor: Garmin," Glassdoor, Inc., accessed January 3, 2020, https://www.glass door.com/Reviews/Garmin-Reviews-E12667.htmb

[100] Vicky Valet, "America's Best Large Employers," Forbes, April 17, 2019, accessed January 3, 2020, https://www.forbes.com/best-large-employers/#4b4dc651fb3e.

likely they were to recommend their employer to friends. The results represented how well employees liked working at Garmin.

Findings suggested that Garmin's investment in employees helped the organization make good decisions, and that Garmin employees consistently regard the organization a good place to work. The majority of Garmin employees would recommend the organization to a friend, and rated the chief executive officer highly. This high employee satisfaction within Garmin promoted retention, and also attracted quality personnel. Additionally, chief executive officer Cliff Pemble's message attributed the success of the company to its innovative and committed work force.[101]

Research Question Four: What incentives did the organization offer to employees who presented innovative ideas? As outlined in its 2019 Code of Conduct, Garmin sought to inculcate a culture of respect and teamwork, and recognize and reward the accomplishments of its employees.[102] Additionally, Garmin has historically given its employees bonuses for overall company performance. In 2006, the company gave nearly all of its employees a bonus in recognition for the substantially increased revenues it brought in that year. In recognizing all employees, Garmin sought to emphasize the idea that the entire organization was important, and no single individual was the reason for their success.[103]

Findings did not indicate an individual reward program within Garmin for employees who present innovative ideas.[104] As a company, Gamin has placed an emphasis on promoting innovation. As such, it would follow that Garmin promotes employees who innovate.

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[101] Garmin, "Code of Conduct," (2018), 1.

[102] Garmin, "Code of Conduct," (2019), 1.

[103] Charlie Anderson, "Garmin plans big bonus to practically all employees," Kansas City Business Journal, November 1, 2006, accessed December 31, 2019, https://www.bizjournals.com /kansascity/stories/2006/10/30/daily24.html.

[104] Garmin, "Code of Conduct," "Glassdoor: Garmin," Glassdoor, Inc., accessed January 3, 2020, https://www.glassdoor.com /Reviews/Garmin-Reviews-E12667.htm Ibid.

Research Question Five: How many executive leaders were hired from outside the organization? Since it was founded in 1989, Garmin has had three major personnel make executive leadership decisions within the company. The company was initially founded by Gary Burrell and Dr. Min Kao. Gary Burrell served as the chief executive officer until 2003, when Dr. Kao took the position. Dr. Kao served as the chief executive officer until 2013 when Clifton Pemble assumed the role.

Clifton Pemble is an example of an executive who rose within a company to its most senior level, much like Sundar Pichai. Pemble joined Garmin it its early days in 1989, and was one of the company's first employees. He has served at multiple leadership positions within the company to include systems engineering and software engineering management.[105] The promotion of Pemble to chief executive officer indicated that Garmin is committed to promoting employees from within the company, even to its highest levels of executive management.

Research Question Six: How many leadership programs did the organization offer to its employees? Findings show that Garmin emphasized a strategy of growing leadership internally. The company instituted a policy of promoting from within, and also utilized internal recruitment measures. Additionally, Garmin reimbursed tuition and training resources for employees for up to $7,000 annually.[106]

Important to these findings is the idea that when Garmin was founded as an organization in 1989, global positioning devices were a new industry. From 1989 until this study's completion, Garmin was a leader within the global positioning industry. This dominance meant executive leaders from outside the company with subject matter expertise and proven decision-making abilities may be scarce. Additionally, all three executive leaders within Garmin brought

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[105] Garmin, "Executive Team," Garmin, accessed December 21, 2019, https://www.garmin.com/en-US/company/leadership/executive/.

[106] Garmin, Ltd., "Life at Garmin," 2020, accessed March 7, 2020, https://careers.garmin.com/en-US/#lag.

experience from previous positions, however short their tenure. This previous experience undoubtedly contributed to their abilities to make decisions. These findings show that although Garmin has proven itself as an innovative organization, it values the decision-making processes that it has traditionally utilized.

Findings and Analysis

This section presented analysis and discussion of the structured comparison between the case studies of Google and Garmin. The comparison presented three parts, primarily focused on three research sub-questions: How does the organizational social structure support decision-making, especially in regard to implementing new ideas? How does the organization invest in employees to make effective decisions? And, how does the organization make effective decisions through its leadership?

First, how does the organizational social structure support decision-making, especially in regard to implementing new ideas? Analysis of the findings showed that both organizations utilized a broad population base to innovate and make decisions concerning innovation. The organizations incorporated multiple review processes and filters which assess the viability of and develop new ideas. These processes helped mitigate the risk of making bad decisions concerning new ideas and also expedited the decision-making process, faster than traditional bureaucratic approaches.

It is important to note where each organization incorporated these decision-making processes into the idea's development. Google and Garmin both showed decision-making processes that were inherently flexible and minimized bureaucracy. Google utilized a simple Venn diagram approach, which assessed new ideas from three aspects. First, the idea must be something that addressed a big challenge or opportunity. It must affect a great amount of people. Second, the idea must be a solution that is different than anything currently on the market. Third, the idea must be at least feasible and achievable within the short term.

Within Google, an idea was scrutinized from inception, through implementation, and afterwards. Importantly, the organizational culture within Google allowed for products to be critiqued from everyone within the organization, and quickly fixed, even after the product was released. Google referred to this broader process as "ship and iterate" and Garmin names its similar process "concurrent engineering." It is important to note that software, as in Google's case, could be updated faster and easier after it had been introduced to market than the products that Garmin predominantly produces.

Analysis of the findings suggested that both organizations attempted to draw upon the widest population base possible to innovate. Google sought to utilize its entire workforce, with its twenty percent time program. Garmin predominantly utilized its research and development branch; however, it consistently emphasized innovation throughout its workforce, and took s steps to structure its social and physical environment in ways that promoted innovation. Important to each population bases' ability to innovate is the concept of diversity. Don Tapscott and Anthony D. Williams, authors of *Wikinomics,* note that the effectiveness of crowdsourcing depends on the diversity of those who submit ideas.[107] Considering this, it is important that each organization sought to innovate from its entire population base.

Analysis of the findings showed that Garmin arranged its organizational social structure in ways that promoted innovation and the implementation of new ideas. The organizational social structure within Garmin emphasized skill diversity and innovative process in that it purposefully included multiple specialty areas in research and development operations. These specialty areas included industrial designers, software engineers, electrical engineers, mechanical engineers, and cartographer engineers.[108] Additionally, Garmin's annual increase in its research and

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[107] Don Tapscott and Anthony D. Williams, *Wikinomics: How Mass Collaboration Changes Everything*, (New York: The Penguin Group, 2008), 46-54.

[108] Garmin, Ltd. *Form 10-K*, (2018), 18.

development budget indicate that the company placed an emphasis on the continual growth of its ability to innovate.

Garmin instituted a decision-making process concerning the implementation of new ideas which spans multiple skill areas. Manufacturing engineers and design engineers worked in conjunction in order to ensure the practicality of product development and also to implement cost control measures.[109] This decision-making process is much like the layered process found in the company Google which scrutinized new ideas from multiple perspectives.

Google also made decisions concerning new ideas through the "ship and iterate" approach. Utilizing this approach, Google released products following a minimal internal review process. The products were then monitored on the market for performance, and subsequent design and implementation decisions were made. Schmidt prioritized the use of data concerning this decision-making process, stating that "products that get better and gather momentum should be rewarded with more resources; products that stagnate should not."[110] The product is then re-released. Eric Schmidt highlighted the speed of ship and iterate as an advantage, and that the traditional way of designing and implementing products can affect decisions. He stated, "by the time a product has gone to market there has been a significant amount of resources and emotion invested in it, which can get in the way of good decisions."[111]

Garmin made decisions concerning new products during the early production phase, much like Google's "ship and iterate" strategy. During this phase, Garmin utilized "concurrent engineering techniques" in order to modify products in early design. These decisions to modify were based on initial product feedback and enabled Garmin to optimize product design before going to full production. This strategy was enabled by Garmin's internal manufacturing capacity

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[109] Garmin, Ltd. *Form 10-K*, (2018), 18.

[110] Schmidt and Rosenberg, *How Google Works,* 235.

[111] Ibid., 235.

and helped Garmin reduce its time to market for new products.[112] Garmin referred to these internal development and production capabilities as "vertical integration."

In the study of Google, the researcher expected to find that the organization made decisions in ways that promoted innovation and the implementation of new ideas through how it organized its social structure. Analysis of the research indicated that the company organizes both its physical and social structure in ways that promote innovation, and it incorporated layered, and effective decision-making procedures to implement new ideas. Additionally, the company implemented and maintained an organizational culture that emphasized innovation. This enabled the company to continually innovate and mitigate the risks associated with new ideas at an organizational level.

New ideas at Google had to endure a great deal of scrutiny from within the company before implementation. Committee's met weekly to review individual employee's twenty percent self-directed work, then critique the works from various aspects of viability. Ideas were then either developed further, incorporated into other projects, or abandoned. This process incorporated multiple points of view that could each contribute to the decision-making process. This in turn led to better decisions about whether and how new ideas were implemented. This layered and consensus-driven decision-making process has proven effective for Google in regard to the implementation of new ideas.

<u>Second, how does the organization invest in employees to make effective decisions</u>? Google and Garmin invested considerably in quality of life programs for their employees. This attracted quality employees, and helped current employees contribute to make better decisions within the company. One way that Google accomplished this is through developing the physical structure of its workplaces. Amenities such as pool tables and massage chairs both help foster a greater quality of life, and they also bring people together to spur innovation.

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[112] Garmin, Ltd., "*Form 10-K, 2009*," 20.

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Eric Schmidt noted that providing for an employee's quality of work life was important due to the nature of work that Google employees conduct. Often, programmers work compulsively for extended periods of time. Providing amenities that contribute to quality of work life, including meals and exercise facilities, enable these prolonged periods of uninterrupted work. This enables employees to work to their fullest capacity without normal distractions of health and fitness.[113]

These findings suggest that, through investing in employees and workspaces, both Google and Garmin created a culture that is attractive to work in. This accomplished two important functions. First, the organizational culture helped the company attract talented employees and college graduates, contributing to the overall effectiveness of its workforce, including the ability of the workforce to make good decisions. Secondly, this culture also positively influenced the quality of work life of employees, which contributed to the organization's overall ability to make decisions, and helped retain quality employees.[114]

Third, how does the organization make effective decisions through its leadership? For Google, the hiring of Eric Schmidt, and the promotion of Sundar Pichai, indicated that the company invested resources to develop leadership internally while also seeking to hire proven leadership from other organizations. Each of these job placements were intended to achieve a specific goal. Schmidt was brought in to help Google in its public release, while Pichai's role was to keep the company grounded in its traditional technology role.

Garmin's executive leadership was sourced internally since the company was founded. This suggested that the organization favored traditional knowledge it its core business model. This may also be a byproduct of Garmin's global position system market dominance, as it is

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[113] Girard, *The Google Way,* 67-68.

[114] D'Onfro, "Here are all of Google's employee perks."

difficult to outsource leadership since the company operates within a specific market in which few other businesses have had as much success.

These findings suggested that organizations must take a multifaceted approach to supporting decision-making through leadership. They must seek to develop leaders internally while also outsourcing effective leadership. The extent to which an organization is able to outsource its leadership depends on what the organization's goals, as well as what the organization is lacking in current executive leadership.

Conclusion

This study examined Google and Garmin in order to better understand what the US Army might learn from businesses to improve decision making. This analysis highlighted three primary concepts. First, organizations that operate within complex environments and also seek to innovate quickly benefit from less bureaucracy in decision-making. Each organization endeavored to innovate from a broad base, however the results of this innovation were only as effective as the decision-making processes which sought to refine and develop ideas. A culture of less bureaucracy in Google allowed decisions to critiqued and developed from perspectives within entire organization. This positively contributed to the overall success of the product. As such, Army organizations seeking to innovate may benefit in seeking ways to further incorporate employees into the product feedback and decision-making process. Programs such as "Soldier-centered design" are the start of this and should be further implemented.

Secondly, investing in employees is beneficial to the decision-making process in two ways. It attracts talented employees to organizations, and it helps retain quality employees. To reap the full benefits of investing in employees, US Army organizations must seek ways to incorporate employees into innovative and decision-making processes. Traditional bureaucratic organizational social structures such as those found in the US Army can stifle the benefits that employee quality of life programs seek to provide.

US Army organizations invest considerably in employees, especially when comparing federal employees to private-sector employees. In order to take full advantage of this employee investment, it is important that Army organizations seek ways to incorporate employees into the non-traditional, less bureaucratic and open-feedback decision-making processes like that seen at Google. This can be addressed through the structuring of social organization and climate to encourage input and feedback from all employees, not just those involved in the decision-making process. Additionally, the Army must seek ways to reap the full benefits of investing in employees such as exploring new reward mechanisms, restructuring environments in order to allow greater collaboration, and inculcating a culture of innovation. Importantly, these changes may only apply to unique organizations within the Army, such as Futures Command.

Finally, it is clear that investing in executive leadership can benefit an organization's decision-making effectiveness. Where this executive leadership comes from and the perspectives, they provide to decision-making are key. Due to its unique nature as an organization, the US Army invests significant resources in developing its executive leaders internally and can rarely outsource executive leadership. This suggests outside executive perspectives can and must be sought in different ways than Google and Garmin. As such, it is important that the Army leverages external experts to influence decisions. One such example of this is the Defense Innovation Board. This organization provides Department of Defense executive leaders with new perspectives and recommendations from private sector and academia. These perspectives and recommendations are aimed to create rapid, collaborative, and cost saving concepts to the Department of Defense.[115] Programs which leverage external executive leadership in this way are important and must continue to be implemented in the future.

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[115] Department of Defense, Defense Innovation Board, "Our Work," 2020, December 31, 2019, https://innovation.defense.gov/Recommendations/.

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