

**DON'T OVERLOOK YOUR LARGEST ASSET CLASS:
VALUE CREATION THROUGH
ENTERPRISE REAL ESTATE
OPTIMIZATION**

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ABSTRACT

Enterprise real estate assets are one of the largest largest balance sheet assets and second largest operating expense, after only human capital. Despite being material to the capital stack and financial performance, many public and private enterprises have not historically prioritized optimizing real estate. The strategic importance of enterprise real estate has elevated dramatically with the recent COVID-19 pandemic, with operating costs, utilization, and the workplace being re-evaluated by almost every entity. This newfound materiality has created a monumental opportunity to contribute new research and theory on real estate optimization relating to financial performance, productivity, talent retention, DEI, ESG, and cultural competency. The following research proposal is designed to undertake qualitative and quantitative research through a mixed-methods protocol to develop new insights on how to better align real estate with business strategy, measure the financial impact of real estate's contribution to enterprise value, and apply these findings to enhance workplace culture and productivity. The mixed-methods protocol consists of two related studies. Both are anchored in developing a better understanding of whether real estate optimization is being proactively executed in public and private enterprises as a driver of financial performance, shareholder value, and productivity, and how optimization is being measured in terms of real estate and human capital optimization. The proposal includes an introduction, literature review, data approach and methods, data analysis, discussion of the results from both studies, expected contribution, timeline for completion of the dissertation, and concludes with new theory and insights on an under-explored frontier in corporate strategy. In Study One, semi-structured interviews were conducted with 10 subjects producing key themes from the literature review, interview codes, and

practical experience, and theoretical assertions that optimization is possible when there is: 1) a centralized real estate function; 2) alignment between real estate and business unit strategy; 3) real estate has a seat at the table for long range planning, and; 4) a financial dashboard to measure the financial and earnings impact of real estate optimization.

In Study Two, a Qualtrics survey was used to gather quantitative data from 48 subjects producing results based on dependent variables of: 1) enterprise real estate function contributing earnings and shareholder value, and 2) enterprises having a dashboard to measure the financial and earnings impact of real estate optimization. The key findings from Study Two are that enterprise real estate optimization is not universally mandated, practiced, measured, or prioritized as a driver of shareholder value and earnings. The evidence from the survey in this study reports efforts to foster alignment by providing a “seat at the table” for some real estate teams in long-range planning; however, the operating frameworks necessary to achieve real estate optimization within many enterprises are not in-place, such as financial dashboards, KPI’s, and enterprise real estate team’s mission to deliver earnings and shareholder value. Examples of this factor include survey results for Question 6 (whether there is untapped potential and cost savings, earnings, and workplace productivity in the enterprise real estate portfolio), where over 85% of the respondents agreed that there was potential. However, this one survey question finding could be interpreted as there being a lack of prioritization, or enterprise barriers to facilitating optimization. This possibility is meaningful because there is no logical reason why any enterprise would not want to generate new earning and shareholder value in any area of their business, especially from their largest asset class. Study Two further highlighted this key finding of 85% agreement on the untapped potential coming from a

sample population of experienced corporate real estate and senior management respondents, of whom 80% have more than 10 years of experience, with over 50% having more than 20 years, and where less than 50% have a financial dashboard and data analytics to measure real estate optimization, earnings, and shareholder value from real estate optimization. These combinations of findings are at the core of the primary research question and were significantly helpful in answering why these enterprises are not more proactive about real estate optimization. Through the combination of Studies One and Two, and the synergistic results of both, it is exciting to share new insights and contribute more robust findings and theory on enterprise real estate optimization.

DEDICATION

I dedicate this dissertation to my wife Sharon, sons Tyler and Adam, daughters Aliya and Victoria, granddaughter Ava, grandson Tyler David, grandson David William, daughter's in-law Allegra and Kristin, and son-in-law Michael, whose unconditional love and support were the foundation for my efforts in completing this exciting journey and lifelong goal. I also want to thank my beloved late parents, Dr. Howard and Judith Wilk, my beloved late mother and father in-law, Doris and Abele Minutella, and my incredible grandparents, William and Mary Feinberg, whose collective belief in me and unconditional support in everything I have done in life, is forever cherished.

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CHAPTER 1

INTRODUCTION

“Real estate is the largest single component of wealth in our society” (Archer & Ling, 2019, p.1). This statement is further validated by the chart below (see Figure 1) from Savills, which reports that “the value of the world’s real estate reached US\$326.5 trillion,” far exceeding the next category of financial instruments (2021). Savills’ research indicates that of the total world real estate value, US\$258.5 trillion is in residential real estate, US\$32.6 trillion in commercial, and the remainder, US\$35.4 trillion, comes from agricultural real estate (Savills, 2020).

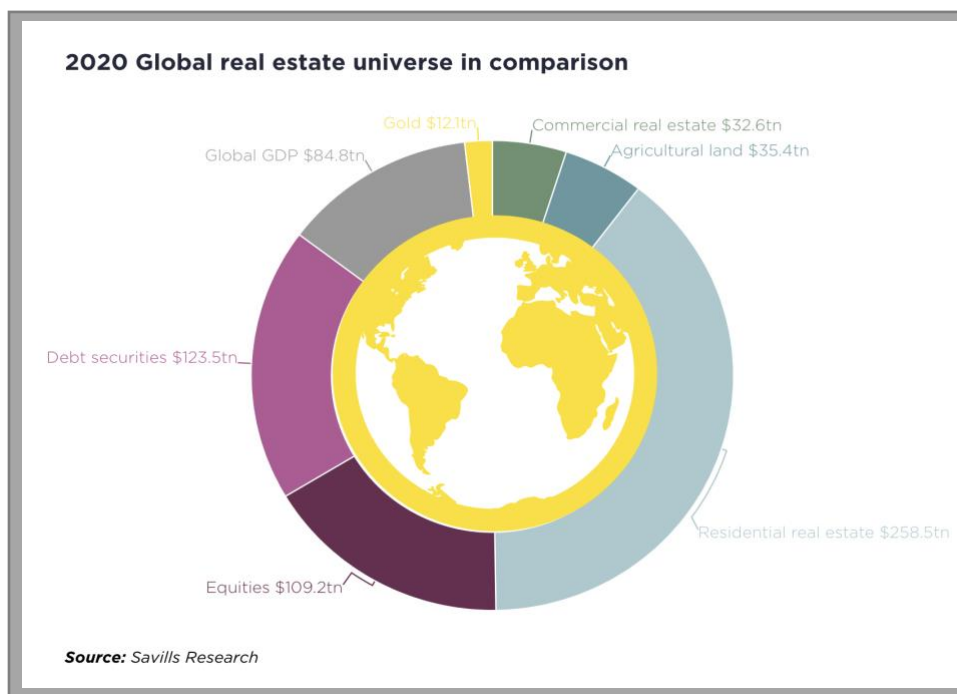


Figure 1. Global real estate universe in comparison to other asset classes.

According to a 2020 Zillow study, the total market value of all the real estate assets in the United States is around \$70 trillion, with \$33.6 trillion of market value comprised of residential homes, an amount equal to the world’s two largest annual

GDP's, U.S., and China (Zillow, 2020). Based on NAREIT data in the chart below (see Table 1), the total value of institutional commercial real estate in the U.S. is about \$16 trillion (NAREIT, 2019). This leaves a remaining value for real estate assets owned by public and private enterprises, not in the real estate business, of approximately \$20 trillion (Zillow, 2020).

Table 1
Estimated of Commercial Property Value: 2018Q4

Sector	Square Footage (Millions)	Price per Square Foot (\$)	Value (\$ Trillions)
Multifamily	17,541	\$165	\$2.9
Office	11,266	\$218	\$2.5
Retail	13,646	\$179	\$2.4
Health Care	2,705	\$864	\$2.3
Specialty, Sports and Other	N/A	N/A	\$2.2
Hospitality	2,625	\$617	\$1.6
Industrial	20,749	\$73	\$1.5
Flex	2,401	\$145	\$0.3
Self-Storage	N/A	N/A	\$0.2
Towers	N/A	N/A	\$0.1
Total	70,933		\$16.0
High Estimate			\$17.0
Low Estimate			\$14.4

Source: Nareit calculations using the CoStar All Properties database 2018:Q4 and CoStar's Commercial Real Estate Market Size Estimates 2018Q4.

Table 1. Total value of institutional real estate

Corporate real estate assets are usually the first or second largest balance sheet item and second biggest operating expense in enterprises after human capital (Apgar, 2009). Knowing there is \$20 trillion of capital and value dedicated to real estate value sitting on the balance sheet of public and private enterprises should trigger higher levels of strategic management to optimize these assets. The core of this research is to determine why the recognition of real estate optimization as a financial driver has been slow to permeate the C-suite. Real estate is, after all, the “connective tissue” within

enterprises in terms of change management, workplace and corporate culture, IT infrastructure, supply chain and logistics, corporate image, ESG, DEI, and productivity.

Real estate optimization is defined by iOptimize Realty as “both a process and a way of doing business. It spans multiple disciplines but has two primary goals -- lowering your overall occupancy costs while also improving the productivity of your company's space” (Catalano, 2018).

Our research explores the following overarching question: Why aren't public and private enterprises more proactive about optimizing real estate and providing data analytics that measure real estate's contribution to earnings, shareholder value, and productivity? To answer this, we use inductive reasoning and interpretive paradigms, and discover there is operational alignment between business strategy, real estate strategy, and long-range planning.

Using a mixed methods approach, starting with qualitative research, and following with quantitative, we aim to better understand the potential impact of real estate optimization on enterprise value and whether there may be barriers to realizing these benefits. Semi-structured personal interviews with executives, board members, and real estate directors of public and private enterprises will be conducted, coded, and analyzed to try and establish a new theory on this topic. The qualitative phase was augmented by quantitative research using a Qualtrics survey tool presented in Chapter 4 and Appendices A and B. Study One developed new theory around strategic alignment of enterprise RE optimization as a pathway to greater earnings and shareholder value, through centralization and real estate having a “seat at the table” for long-range planning. It also highlighted gaps in being able to measure the impact of optimization through data

analytics and financial dashboards, which should be highly valuable to senior management. The discussion of real estate alignment was enhanced by including “Strategic Alignment Frameworks and Methods from Strategy Hero” (Minsilo, 2022), as well as Balanced Scorecard and Deloitte 5 Key Questions methods. These insights formed a great foundation for the Study Two analysis where we further explored and tested strategic alignment, centralization, data analytics and KPI’s, the real estate team’s mission of contributing earnings and delivering shareholder value, and the level of data analytics and financial dashboards being used to measure optimization through the survey.

Study Two provided exciting new insights on measuring the impact of real estate optimization on financial performance, and what levels of adoption there were in developing data analytics that impact enterprise value and earnings. These results should provide strong benefits to the C-Suite and Board room, corporate real estate managers, commercial real estate practitioners, academics and researchers, and shareholders and investors in public and private enterprises.

Motivation

When considering the total value of enterprise real estate, years of consulting practice and recent academic research confirmed that optimization is an understudied and under-researched segment of the industry, with a significant literature gap as well. Enterprise real estate is still mostly seen as a “necessary evil” when generating business revenues, as opposed to a “strategic resource” capable of driving financial performance and shareholder value (Apgar, 2009). These gaps in practice and literature are further analyzed through our research and development of this dissertation.

The strategic importance of enterprise real estate optimization has elevated dramatically with the recent COVID-19 pandemic, and this is not simply due to employees working from home. The cost, capital dedication, and future utilization of real estate space and work locations, in conjunction with the health, safety, and wellness of workers, is being re-evaluated by almost every entity (Sargent, 2021). At the same time, there is a unique opportunity for enterprises to rethink how real estate can contribute to overall productivity and employee morale (Sargent, 2021). A better understanding of the value creation potential and strategic benefit of scaling-up corporate real estate to enhance earnings, productivity, and drive cost savings, is also synergistic with optimizing human capital, the largest operating expense in public and private enterprises.

Our research findings will contribute to developing new management strategies where real estate optimization creates new enterprise value and earnings. It will also generate strong interest from managers, leaders, and business practitioners seeking to measure the financial impact of real estate optimization on firm performance, post-COVID, align RE with corporate strategy to yield major dividends and value (Arkesteijn, 2019), and implement digitization and workplace strategies that position real estate as a primary driver of financial performance. Showing how real estate optimization using data analytics (KPI's, metrics) can also enhance productivity, supply chain, digitalization, cybersecurity, and workplace strategies, will appeal to a broad audience.

U.S. corporations also have a huge global footprint, occupying many offices around the globe where CRE teams (CoreNet Global & CBRE, 2019) around the world approach workplace strategies and technological changes in different ways and speeds, creating another level of untapped value potential from optimization. Developing more

KPI's and analytics for real estate professionals will be paramount to future survival and profitability. This is the inspiration and motivation for our research contributions.

CHAPTER 2

LITERATURE REVIEW AND STRUCTURE OF DISSERTATION

The current body of research related to enterprise real estate optimization constructs in A-rated journals is lacking, creating an opportunity to develop new management and business theories. (Bullen, 2019). Enterprise real estate optimization should be a major contributor to value, especially given globalization, technology advances, and digitalization. In this section, we discuss several streams of research relevant to our work in contributing new insights and relevance to real estate optimization. These include: (i) alignment of real estate strategy with business strategy, (ii) measuring real estate optimization's contribution to enterprise value through data-driven decisions and analytics that produce customizable key performance indicators (KPI's), and (iii) workplace strategies that foster enhanced productivity and human capital optimization. We also highlight the expected contributions of our study by comparing them to the extant literature.

Alignment of Real Estate Strategy with Business Strategy

The most prevalent enterprise real estate research prior to COVID-19 centers around how enterprises align real estate strategy with business strategy (Arkesteijn, 2019), a discovery that seems almost too simplistic. However, previous practical experience and further research has demonstrated that alignment is not prevalent in most enterprises due to decentralized management between business units, lack of C-suite mandate, and non-practitioner real estate managers who depend on outside sources for real estate strategy (Venable, 2020). Roulac (2001) presented research entitled "How

Corporate Property Strategy is Integral to Corporate Business Strategy,” reinforcing the notion that without this alignment, there is a huge, missed opportunity for value creation in enterprises (Haynes, 2012). To further frame real estate alignment, we widened our research through incorporating insights from www.strategyhero.io, Chapter 5: Strategic Alignment Frameworks and Methods (Minsilo, Inc., 2022).

Shaffer et al. (2006) studied corporate real estate’s alignment with strategy, but advanced the existing research further by addressing “how to provide corporate real estate executives with a measurement tool for pinpointing and enhancing the contribution of corporate real estate to corporate strategy” (Schaffer et al., 2006). This opened the possibility of researching the measurement of corporate real estate to enterprise value creation. One of the possible explanations for why it has historically been so challenging to align real estate and business strategy was developed by Heywood and Arkesteijn (2016) through a meta-analysis on corporate real estate alignment, where they concluded alignment to “be pluralistic and complex...and not a singular, definitive thing” using an interpretive study.

Appel-Meulenbroek and Haynes (2014) added valuable insights and theory about real estate alignment with business strategy because their research pushed to give corporate real estate management an increasing amount of attention, although they wrote that due to the “immobile character and often long-term commitments that accompany CRE this alignment is not as easy as it sounds” (Appel-Meulenbroek & Haynes, 2014).

Compounding the difficulty of implementing enterprise real estate alignment with business strategy, Haynes and Appel-Meulenbroek discussed how enterprise real estate decisions were often made without consulting other business units, such as human

resources, technology, capital, and communication. In a survey of 59 leading organizations, only 40% of the respondents collaborated routinely with HR, IT and finance (Appel-Meulenbroek & Haynes, 2014). In the same study, they reported that 80% of enterprise real estate managers indicated that real estate decisions were dominated by consideration of immediate business needs and not by strategy (Appel-Meulenbroek & Haynes, 2014). Further, “only 55% of these respondents thought their property plan was well (or highly) aligned with corporate strategy” (Appel-Meulenbroek & Haynes, 2014).

De Vries, et al. further showed that “ignoring CRE does not only prevent an organization from obtaining its potential benefits but can even have a negative effect on the organization” (De Vries et al. 2008). Their contention was, as earlier posited in the introduction, that enterprise real estate is usually the second largest operating expense behind human capital but questioned whether cost savings is really the most critical real estate strategy (De Vries, et al., 2008). They opined that enterprises primarily focusing on operating costs and building condition is a major reason why enterprise real estate management “still keeps failing to capture full strategic attention” (De Vries et al., 2008).

Heywood (2011) concluded in an ERES conference presentation that “a long-standing issue for corporate real estate management (CREM) practitioners and theoreticians is the alignment of corporate real estate (CRE) strategy with organizational strategy (Heywood, 2011, p1). Heywood further presented that an overview of steps to take (and specific tools to make them successful) in achieving alignment and implementing an aligned strategy are still missing”, and an “informed, flexible adaptive practice to operate as an enterprise real estate professional is key to strategic alignment ... and most needed by CREM practitioners.” (Heywood, 2011, p11).

The literature cited and associated research demonstrate a significant gap in enterprise alignment of real estate and business strategy, further validating and motivating the contribution of answering our research questions. After submitting and completing previous research proposals along the pathway to this dissertation, I dug deeper into recent research and literature on corporate real estate and found two new current perspectives. The first, a May 2022 article written by McKinsey titled “Workplace real estate in the COVID-19 era: From cost center to competitive advantage” discusses how to “use real estate to create competitive advantage, compete for talent and client work, bolster teamwork, and enable fast breakthroughs and ongoing innovation” (McKinsey Insights, 2022). The second, from June 2022, is a report from KPMG titled “A game changer: How corporate real estate drivers are elevating the strategic importance of corporate real estate” (KPMG, 2022).

In addition to providing validation for the results of Study One, these articles clearly tied together the concept of how enterprise real estate is being evaluated in a new light post-COVID, and described ways that various enterprises were recognizing and embracing the strategic importance of real estate in the future success of their companies. KPMG was very informative in the approach they took when summarizing “decision-making in corporate strategy as leaders plan for the new world” (KPMG, 2022). They pointed out three main drivers of corporate strategy are: 1) the race to net zero (sustainability); 2) digitization (urgency), and; 3) the future of work (KPMG, 2022).

The overall takeaways from the KPMG article are presented in Figure 2 below:

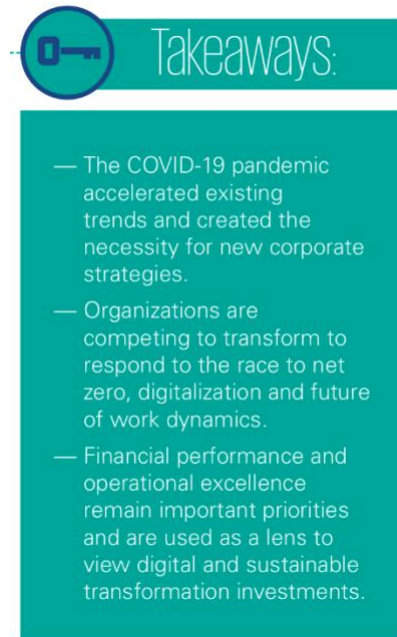


Figure 2. Takeaways from KPMG article

KPMG’s takeaways are that corporate strategy needs to be constantly reimagined to compete more effectively with the race to net zero, digitization, the future of work, financial performance, and operational excellence. This can be achieved by capturing opportunities to reduce spending, becoming more efficient by incorporating disruptive technologies into enterprise productivity, and enhancing brand by leading in sustainability, cultural competency, talent retention, and employee productivity. Corporate real estate lies at the intersection of these priorities, and its potential contribution to these factors, plus supply chain, logistics, and overall profitability are further explored based on the Deloitte 5 Key Questions strategic alignment framework (Minsilo, 2022). These current insights by KPMG, Deloitte, Minsilo, and McKinsey became exciting catalysts for expanding the research in Study Two through further testing

the market for insights on how real estate can be a transformational asset class for enterprises as they navigate through the post-COVID global business world.

Measuring Real Estate Optimization's Contribution to Enterprise Value

Another under-explored area of corporate strategy and real estate research is identifying financial analytics and KPI's that can provide dashboards showing real estate optimization's contribution to shareholder value and profitability (Shaffer, 2006).

Surprisingly, there was limited research found on this topic other than Shaffer, which energized our research investigation and reinforced its contribution.

From our discussion of strategic alignment of real estate and business strategy in the previous subsection, the greatest challenge for real estate optimization (Carn et al., 1999) is developing tools that "show the C-suite the numbers" and gaining buy-in on implementing technologies and workplace strategies that leverage real estate into a financial driver (Bullen, 2019). To address this challenge and expand our research contribution, our literature review and research, we attempted to identify previous studies or reports showing financial analytics, KPI's, and dashboards or scorecards that provides senior management with real estate optimization's contribution to shareholder value and profitability. There was limited research found on this topic which motivated me even more to better understand this gap or potential barriers more intentionally (Bullen, 2021).

Real estate has been shifting for years to new technology management platforms (ERP, IoT, AI) which can be "fracked" into multiple pieces (Sargent, 2019). These technological changes further highlight a critical baseline challenge for enterprises, which is to establish data-driven dashboards for leased and owned properties, KPI's, and productivity measures (Casimir, 2021). Although technology will be a big contributor to

optimization, the biggest takeaway from this research subsection is the imperative to build a new generation of customized analytic dashboards for real estate that unlock hidden shareholder value through optimization (Apgar, 2009), occupier strategies, and capital decision-making, especially as firms recover from COVID. Because of the current gap in literature on analytics of real estate optimization, the expected research contribution should be highly impactful in showing the benefits of this value proposition.

Workplace Strategies and Productivity

The Great Recession was a “wake up call” for enterprises to pay more attention to their first or second largest asset class, and the impact real estate has on firm and employee productivity. In a presentation to commercial real estate professionals in 2011, HOK national workplace leader, Kay Sargent, shared fascinating insights about worker engagement in the workplace including what percentage (80%±) were disengaged as they sat at their desks every day (Sargent, 2011). Ten years later, the impact of COVID-19 has challenged enterprises to address what return to work will look like, while also implementing rapid advances in technological innovations such as AI, blockchain, augmented and virtual reality (A/R, V/R), and the IoT (internet of things) into their future business strategies (CoreNet Global, 2018). Even more exciting is how AI, automation, blockchain, VR/AR, and optimization technologies can be implemented to enhance productivity, information encryption, cybersecurity, workplace strategies, and happiness levels of the workforce through ESG and DEI stewardship and sustainability (CoreNet Global, 2019). Given the trauma and impact of COVID-19, most enterprises are re-evaluating their real estate footprints, shedding excess assets, being more cautious and

flexible in incurring real estate liabilities, and pushing for more data-driven analytics in managing their workplace and real estate portfolios (Faccio, 2021).

These current conditions make the timing ideal to focus on optimization as a major goal in aligning business and real estate strategies around the concepts of resiliency and adaptation to change management (Venable, 2020). Keenan (2015) developed research analysis on how sustainability impacts resiliencies and the firm's adaptive capacity. Using Goldman Sachs as a case study, Keenan reported there was a positive finding that sustainability and adaptive capacity have a significant role in the framework for successful real estate strategy, which is critical to optimization. According to Keenan, "The findings of this case suggest that positive and practical relationships between sustainability, resilience and adaptation do exist. However, the extent to which specific actions or strategies are deterministic of outcomes or capacities remains the subject of future research" (Building Research & Information, 2015).

Adaptive capacity can include a wide array of business and real estate functions such as building design, employee shared workspaces, and new technologies. These types of CRE planning details need to be addressed when firms make strategic decisions. The overall goal of revisiting these topics post-COVID is tying rationalization of space to realignment of business strategy, leveraging technology, and reconfiguring space for maximum resiliency (Mitchell, 2021). There were some theoretical conflicts in the frameworks for sustainability and adaptiveness noted by Mullen (2015). The article acknowledged that sustainability is not perpetual, and adaptive resources depend on sustainable environments, so adaptive capacity is key to a firm's resilience and

optimization. This also comports with Clayton Mitchell from Jefferson Health’s key future workplace priorities (2021).

According to a survey conducted by Deloitte Consulting LLP and CoreNet Global on Workplace Experience, “approximately two-thirds of the 140 national organizations either didn’t have a specific name for their workplace programs, or employees were unaware of the name of their workplace experience program, if it existed” (CoreNet Global & Deloitte, 2018). These findings validate the need and opportunity to increase the awareness for real estate asset optimization and the productivity impact of space utilization within corporate strategy. Tim Venable, Senior Vice President of Research at CoreNet Global (www.corenetglobal.org) shared the following perspective: Corporations need real estate to support the work of their business and adapt to the speed of business, far beyond just knowing where facilities are located and how much they cost. The ‘holy grail’ is for enterprise real estate to become a major contributor to productivity through increased collaboration, creativity, and innovation (Venable, 2020).

The corporate workplace continues to change at a rapid pace due to technological advancements, economic conditions and shifting demographics – factors all enterprises should be aware of. It is also vital to track how and where employees best work to provide the appropriate spaces needed to be more productive, collaborative, and fulfilled (Sargent, 2021). Even before the COVID-19 pandemic, the importance of enterprise real estate was increasing, and according to a JLL 2018 global survey, the need for dynamic workplaces with digital and innovation drivers that promote the wellbeing and health of employees was already in high demand. Space continuously being optimized based on its utility and contribution to the employee experience has been the mantra.

Now that workplace norms have been shattered by COVID-19, enterprises are starting to better recognize the importance of optimizing real estate assets and space utilization in reshaping the corporate agenda or the strategic vision of an enterprise. Departments like finance, HR and legal are already at the table, but surprisingly, many enterprises have been slow to include real estate in long range planning (Bullen, 2021). Most enterprises are not planning to migrate from the current state of working from home to a return to office without significant adjustments to space utilization, employee classifications (in-person, hybrid, remote) and occupancy (Georgetown University, 2021). This creates a major opportunity to reimagine the future of remote working, work/life balance, the overall employee experience, and cost savings, leading to a more efficient future real estate strategy. This context is further reflected in a May 2020 EY publication titled “Work from home: an opportunity for corporate real estate optimization.”

EY team members discuss how cost reduction of the real estate footprint is a key focus of managing disruption, and how alternative workplace strategies are becoming the “new normal” (EY, 2020). EY charted a roadmap towards optimization in Figure 3:

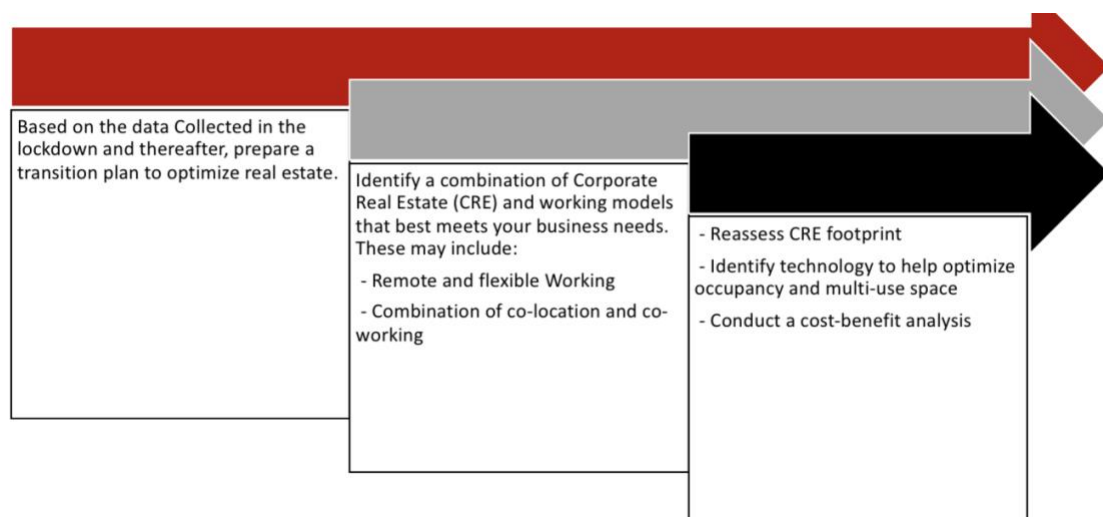


Figure 3. EY Optimization Roadmap (2020)

The primary takeaway from this subsection of my literature review is that workplace strategies seem to be the most prevalent area of activity and attention from public and private enterprises in the short term, due to the massive disruption of real estate space utilization from COVID. In my research, I found a substantial amount of new content in this area and expect this area of research to continue expanding as firms return to more normalized operations with greater urgency and innovation (Mitchell, 2021). However, for this dissertation, the focus is on alignment and measurement constructs.

Summary of Literature Review

The literature on enterprise real estate optimization is fairly well researched in the areas of alignment, but not well established in the areas of measurement, contribution to earnings and shareholder value. Consistently cited are alignment, cost savings, workplace change, and non-financial elements, leaving great opportunities for further contribution to strategy, measurement, centralization of decisions, and the imperative of making business and real estate strategy more aligned. The limited research found on measurement of real estate's contribution to shareholder value and the enterprise real estate function's mission of delivering earnings, sparked the motivation to focus my research on two primary directions; 1) centralization of real estate decisions and whether the enterprise real estate team has a "seat at the table" for long range planning; 2) whether the enterprise real estate function has a mission of contributing earnings and delivering shareholder value, through financial dashboards and key performance indicators (KPI's) that measure the impact of optimization.

With the identified gap in the literature on specific investigation of enterprise real estate optimization, the following research studies investigate centralization of enterprise real estate decisions, alignment of business strategy and real estate strategy as drivers of real estate optimization, and measurement of financial contribution through KPI's and dashboards. In addition, investigating the impacts of alignment and centralization of real estate decisions through having a "seat at the table" in long range planning when part of key enterprise processes, is designed to report findings on the potential to generate significant shareholder value and earnings by the enterprise real estate function. The two research studies conducted examined the phenomena of enterprise real estate optimization and help explain why enterprises might overlook their largest asset class.

Chapter 3 presents a qualitative study using semi-structured interviews to identify prominent themes and propositions that are key drivers of enterprise real estate optimization. The qualitative analysis highlighted the importance of key variables such as centralization, "seat at the table" for real estate decisions, reported the lack of financial dashboards (also addressed in the literature review) for measuring real estate's contribution to shareholder value and earnings, and place that into the context of today's significant change and uncertainty in the workplace and overall productivity.

Chapter 4 presents a quantitative study using a survey tool to examine the data analytics/results that expands the key themes from the qualitative study in Chapter 3. The quantitative study investigates and tests the relationship between dependent variables of "mission of contributing earnings" and "enterprise real estate function delivers shareholder value" and independent variables of "centralized decisions and seat at the table", and "financial dashboards and KPI's", in developing and testing three hypotheses.

In full, the combined research studies provide strong new contribution to the research and literature of measuring enterprise real estate optimization and value contribution.

Structure of the Dissertation

The following section presents a conceptual model illustrating the plan to frame and conduct the research, centered around the following primary research question:

Why aren't public and private enterprises more proactive about optimizing real estate and providing data analytics that measure real estate's contribution to earnings, shareholder value, and productivity?

The conceptual model below in Figure 4 branched out to further support an approach that involved a mixed methodology (qualitative and quantitative) in answering three specific underlying research questions that correspond to the literature review:

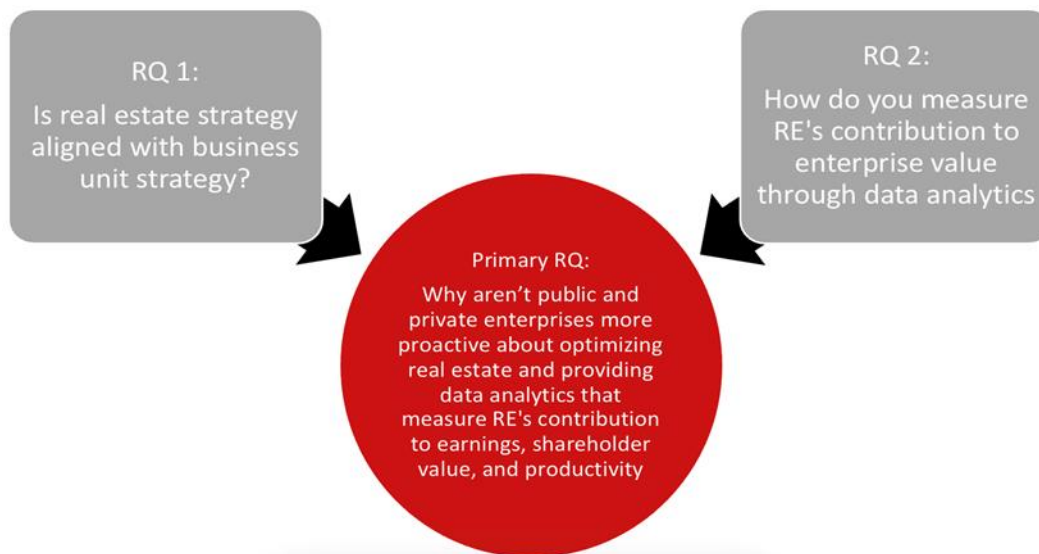


Figure 4. Conceptual Model

Figure 4 presents two sub-research categories and questions that are analyzed through qualitative and quantitative methods using semi-structured interviews and surveys, respectively.

In regard to alignment of real estate strategy with business strategy, I proposed a first research question: *How closely aligned is real estate strategy with long range planning and business strategy?*

In regard to measuring real estate's contribution to enterprise value through data driven decisions, I asked: *How could financial information be presented in a way that would demonstrate how real estate is enhancing earnings, shareholder value, and productivity?*

Through executing this study in two parts following the aforementioned conceptual model, I was able to better understand the potential impact of real estate optimization on enterprise value, whether there may be barriers to realizing these benefits, and where the goal is to optimize, but the tools (or dashboards) to demonstrate or measure the resulting value are not in-place.

Study One, presented in Chapter 3, consisted of a qualitative method involving 10 semi-structured personal interviews with executives, board members, and real estate and finance directors of public and private enterprises, which were coded and thematically analyzed in effort to build new theory on this topic using NVivo and Word.

Study Two, presented in Chapter 4, involved quantitative research deploying a Qualtrics survey tool that was taken by 48 respondents. The results of the survey were analyzed using descriptive statistics, correlations, and regressions, to identify patterns and insights for future analytics on optimization.

Data Approach and Methodology

The research methodology used a mixed-methods approach to better understand the potential impact of real estate optimization on enterprise value. The data approach and methodology included work streams starting with IRB Status and Protocol, followed by qualitative research using inductive reasoning and interpretive paradigms. This was conducted to better understand why public and private organizations are not more proactive about optimizing real estate, and what if any, barriers there are to operational alignment between business strategy, real estate, and long-range planning.

Enterprise participation in the diagnostic survey research was motivated by highlighting the value of developing new data-driven analytics, more accurate financial reporting, digital migration, supply chain enhancements, and technological advancements, as key to gaining competitive market advantage.

Study One consisted of semi-structured personal interviews that were coded and analyzed to better understand key themes and as a foundation to Study Two. The Study One qualitative interviews were followed by quantitative research in Study Two, using a Qualtrics survey tool ([See Appendix B](#)).

The research process resulted in understanding more about management dashboards from the interviews, Qualtrics survey, and coded responses using KPI's that measure optimization. The investigations also created a strategic framework for the potential of introducing an "Earnings Scorecard" and "Payoff Matrix" for enterprises to consider in the future. In summary, the qualitative/quantitative research and resulting findings around financial dashboards and measurement tools (KPI's) fostered a greater understanding of how companies can optimize their portfolios and measure the financial

impact of increased earnings and cost savings through strategic alignment using the “Balanced Scorecard” strategic alignment framework from www.strategyhero.io (Minsilo, 2022). This is portrayed in the exploratory model (See Figure 5) below:

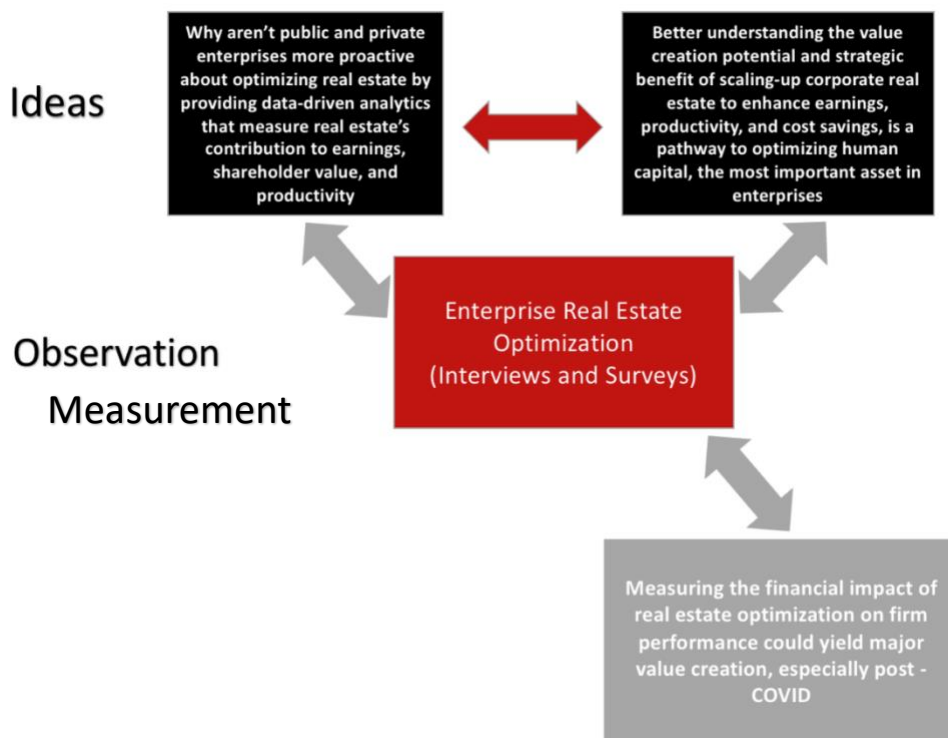


Figure 5. – Exploratory Model of Mixed Method Research

We provide further details and methodological approaches to our study in the forthcoming sections. In the following section, we present the IRB approval. In Chapter 3, we discuss the details of the qualitative research Study One, and in Chapter 4, we discuss details on the quantitative research Study Two.

IRB Status and Interview Protocol

We received IRB approval on January 18, 2022, with the below letter (Figure 6):

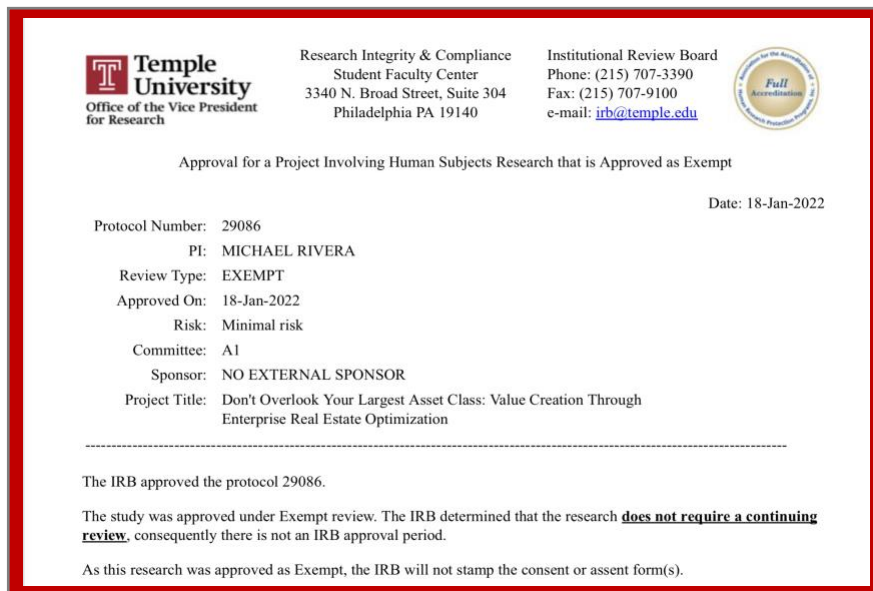


Figure 6. IRB email with approval (exempt, minimal risk)

We received the above approval after submitting the HB 504 minimal risk protocol template and the survey-interview focus group consent form in ERA. The following information summarizes salient details on the IRB submission and overall approach to the study. The setting of the human research (semi-structured interviews) will be in-person or Zoom (if in-person can't be achieved). There are no site-specific regulations on these interviews, and they can occur at the interviewee's choice of location, or at the PI's. For Study One, the researcher identified 10 subjects through professional, academic, and personal relationships.

The interview questions are already prepared and don't need additional staff to complete. No approvals are required for the research other than IRB. Several subjects will be local, others will be remote. Based on the IRB approval in January 2022, the researcher commenced the interview process and has completed ten (10) interviews so far

with the total estimated time for the investigator to complete this study being 60 to 90 days. The duration of a subject's participation in the study will be less than one hour. There will be no procedures involved in human research other than interviews and no specimen banking. Data files will be anonymized and stored on a cloud drive that is password protected and encrypted. No shadow copies of the files will be created nor emailed. Transcribed interviews will be anonymized. The potential benefits that individual subjects may experience from taking part in the research include access to results and new knowledge, increased proficiency in real estate optimization within their current roles, innovation tools which will help create new value for their enterprise, and contributing to industry benefits in the future. Copies of the approved consent form and interview questions are presented in Appendix C and D of the Addendum.

For Study Two, which is a Qualtrics survey, the duration of a subject's participation in the study will be less than ten minutes. There will be no procedures involved in human research other than the surveys and no specimen banking. Data files will be anonymized and confidential. No shadow copies of the files will be created nor emailed. Transcribed interviews will be anonymized. The potential benefits that individual subjects may experience from taking part in the research include access to results and new knowledge, increased proficiency in real estate optimization within their current roles, innovation tools that will help create new value for their enterprise, and contributing to industry benefits in the future.

CHAPTER 3

STUDY ONE

Background

Taking an explorative research approach (Myers, 2013; Dahlberg & McCaig, 2010), this research effort in Study One gathered data through approximately 10 semi-structured personal interviews. The interviews were coded to help identify patterns or ideas within the data. Those insights were then used to help formulate theory and propositions on enterprise real estate optimization and, in certain instances, be incorporated into a case study framework.

Since available literature and related research studies were limited, the qualitative aspect of this research was approached with the goal of describing, explaining, and understanding the current beliefs and practices around corporate real estate from the interviews. Insights were triangulated to identify key themes and propositions that could form a great path forward for quantitative research in Study Two. By utilizing both qualitative and quantitative methods, theory can be built and tested (Myers, 2020). The semi-structured interviews focused on identifying the meaning of real estate optimization and explored how that is actioned in the context of today's business environment, post-pandemic. The research will carefully balance the seven principles of interpretive research as suggested by Klein and Myers (1999), including understanding of iterative process, contextualization, critical reflection of researchers and subjects, balancing abstraction and generalization, reasoning, and suspicion. (Myers, 2020).

The interviews were an important aspect to gathering data as they helped us focus on the “subject’s world” (Myers, 2020, p. 145) by gathering primary data that provided a unique lens and input. The composition was semi-structured and started with pre-determined questions that elicit responses on strategic imperatives within enterprises that facilitate or are barriers to real estate optimization (see Appendix A) but allowed flexibility to pivot as questions arise during the interview. The semi-structured approach allowed the subjects (global real estate directors, occupier services consultants, and C-suite members who influence real estate decisions) to talk freely and enabled insightful feedback to be provided. The interview results elicited the most relevant features of real estate optimization focused on the “how” and “why.”

Framing the Investigation

Once our interviews with real estate leaders and influencers in the real estate industry were completed, we constructed a thematic analysis to get a sense of which direction the industry is headed. This analysis contributed to a descriptive statistics dataset, informed us about overall trends from the interviews so we could see the level of relationships across interview topic, and gave an indication of where there is alignment and misalignment in the optimization of real estate. We also obtained further insights on "outliers to the scope" of the interview relevant to the understanding of real estate optimization. Our initial device of choice to analyze data was NVivo to:

- Transcribe the interview recordings
- Group the responses to each question
- Find and catalog themes to make sense of the data
- See the connections between themes and move toward analytical insight
- Make comparisons between participants
- Organize research design

After completing many of the interviews, which were in person, it became evident that simply transcribing the responses on a Word document by interview question from the template in Appendix D to formulate the first and second order codes, and ultimately the primary themes, would be more useful than NVivo. Therefore, we used NVivo as an initial tool and then transitioned to more specific coding from the Word documents.

Methodology

After receiving IRB approval, we began Study One execution while also transitioning to the data analysis. The first step in Study One was providing consent forms (See Appendix C) to interviewees for the qualitative component, including consent language in the survey form which included all the IRB requirements. From there, individual semi-structured interviews were conducted with 10 subjects who earn most of their income from managing an enterprise's real estate function, leading enterprises from the C-suite, providing management consulting services relating to enterprise real estate activities, and running a professional organization whose membership focuses on the above groups (CoreNet Global). Recruiting for the sample was done through personal contacts and clients, guest speakers from my Management of Corporate Real Estate Assets class at Temple, Academic Case Competitions at CoreNet Global, and leaders of enterprise real estate activities and public and private entities. The sampling process was "purposive rather than random" (Miles et al., 2020). Within the subset of enterprise real estate professionals, there was a reasonable amount of diversity, in terms of gender, age, and career stage. The participants ranged in age from about 35 to 65. Six were male, four were female.

Interviews

Ten (10), semi-structured interviews were conducted. All received a copy of the consent form in advance and gave verbal, and sometimes written, permission to proceed. Most were conducted via telephone, with others in person and via Zoom. The interviews took between 20 and 45 minutes. The questions posed related to their experiences in enterprise real estate, and their observations of the field and of their internal and external clients in a post-COVID context. The questions are set forth as follows:

1. How would you describe your organization as it relates to real estate decisions and strategy?
 - a. Centralized or decentralized based on business units
2. How would you describe the enterprise real estate role within your organization?
 - a. Outsource or consultant/preferred vendor structure?
3. Does real estate have a seat at the table for long range planning?
 - a. HR, IT, supply chain
 - b. Change management and business cycles
4. Is there an income statement or financial analysis that you can generate showing how much per year is spent on real estate so you could measure the annual contribution to the enterprise?
5. Does the corporate real estate function have a defined strategic mission of contributing earnings to the enterprise?
6. Does the C-Suite recognize the importance of optimizing real estate, either before or after COVID?
7. Is there a mandate from the C-Suite or a priority to achieve real estate optimization, or is it just not a top priority despite being the #1 or #2 largest asset on the balance sheet and #2 largest operating expense?
8. What are the barriers to real estate optimization in your enterprise?
 - a. Materiality
 - b. Inability to navigate through constant change management
 - c. Lack of understanding by C-suite on how to optimize?
 - d. No willingness to devote adequate resources to the process of optimization and measurement of real estate contribution

9. What type of changes should be implemented in your enterprise to recognize the strategic importance of real estate?
10. Would you say that real estate is aligned with business strategy, and if not, what should be done to accomplish this goal?
11. What is the current strategy for your enterprise based on post-COVID conditions and the workplace?
12. If you had a “magic wand” for real estate’s place in the enterprise, what would that structure and process look like?

Semi-Structured Interview Questions

The process of analyzing, coding, and interpreting the data collected from the interviews and answers to the questions above was undertaken to develop data results in the following sections. The interviews were not recorded, but responses were transcribed into individual Word documents alongside or below the questions asked. Prior to uploading information to NVivo, data on the interviews was de-identified and anonymized with an interview number. Thematic analysis was conducted to identify codes, patterns and themes on the research question and sub-questions from the specific interview questions. This analysis was further expanded into more specific themes and codes through Figure 7 below:

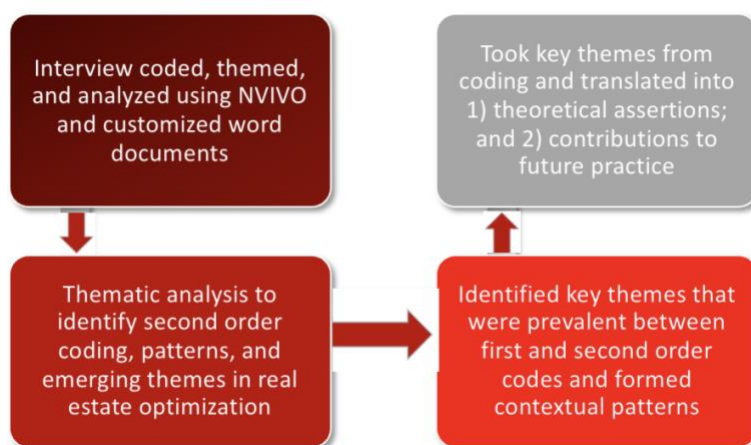


Figure 7. Research Method Process Flow

Data Analysis

The following data analysis and methodology chart for Study One (Figure 8) is presented as an initial view towards how the Study One qualitative method was executed.

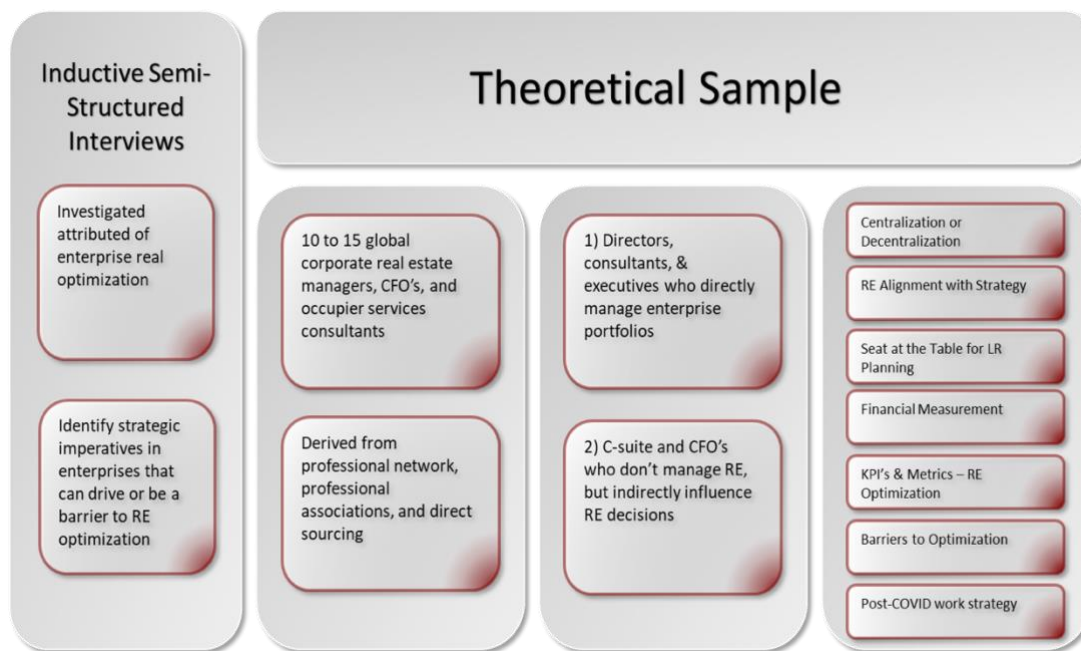


Figure 8. Data Analysis Methodology (Study One)

The semi-structured interviews were designed to investigate key attributes impacting enterprise real estate optimization based on the literature review, practical experience from management consulting, and identifying strategic imperatives or priorities that either drive or are barriers to optimizing real estate. The sample of interviewees included 10 global corporate real estate managers, members of the C-suite, and occupier services consultants derived from professional networks, associations, and direct sourcing. After completing the initial 10 interviews, the results were manually studied to develop first order coding, and to also identify patterns that would lead to further descriptive codes. This process led to an initial set of seven themes which capture the two primary research questions from our conceptual model in Figure 3 on page 15.

Below in Figure 9, we present interview feedback that included global strategy and alignment with real estate (RQ1), measurement of financial contribution (RQ2), workplace of the future, biggest challenges, disruptive technologies, and aspirations.

Prominent Themes	Flexibility & Cost/Space Reduction	Space Consolidation	Merger Integration & Divestitures	Monetizing RE & Cost Reduction	What will our members do from here? Post-COVID
Global Strategy & Alignment w/RE	Reduce space	Reduce space	Major shift in business strategy after Dow merger	RE is not seen as a strategic resource to PE	Employee-centric, ESG, DEI, Sustainability
Measurement of Financial Contribution	In place but mostly about space reduction	Slowly being included in financial dashboard & long range planning	Have a "seat at the table" with senior management and centralized model	Mostly focused on cost reduction and consolidation	Collects data from member companies to publish cases & findings
Workplace of Future	Hybrid future	40% of current workforce will stay in WFH status	Space reduction and consolidation of existing locations	Partnering with, and supporting Portco management	Radical change underway and lots of uncertainty for members
ESG/DEI/Culture	Key to future of workplace and revolution is hers	Major priority in operations and HR	Older culture which is adapting, but WIP	Still "old school" but looking to migrate more	Major focus of organization and value creation
Biggest Challenges or Barriers	Corp RE Directors are not idea people, not sure what to do	KPI's and metrics for measuring RE's contribution	Pace of change makes it difficult to reach equilibrium	Optimizing RE through a Chief RE Officer at PE level	Incorporating disruptive technology and innovation into operations
Disruptive Technologies	AI, blockchain, automation, IoT, AR	Metaverse, streaming, AR, VR	Blockchain, AI, automation, IP, Patents	AI, IoT, automation for Portco's	AI, blockchain, automation, IoT, AR
Aspirations	Work revolution is here, people-centric strategy	Data analytics project which will elevate RE contribution to earnings	Manage RE strategically after M&A, divestitures, & excess properties	Increase returns to investors in PE funds through greater RE plays	Support and continue to educate business on the importance of Corp RE
Takeaways	Period of uncertainty on how to move forward	Come a long way, still a ways to go	No real estate decisions are made with including central RE group	Lots of opportunity for future optimization - hard to implement	Each industry has its own unique challenges, but COVID really complicated

Figure 9. Initial Coding & Prominent Themes

The initial feedback from the interviews with comments such as “still old school but looking to migrate more,” “lots of opportunity for future optimization, but hard to implement,” and “mostly focused on cost reduction and consolidation” were insightful in addressing RQ1. For our analysis under RQ2, interview comments like “slowly being included in financial dashboards and long range planning,” “having a seat at the table with senior management and centralized model,” and “have come a long way, but still a ways to go” also provided us invaluable insights. All interviewee thoughts were ideal in creating “Early Stage” takeaways and initial coding categories which are presented below:

- Centralization or Decentralization of Corporate RE Function
- Service Structure - Outsource or Preferred Vendor
- Long Range Planning - “Seat at the Table?”

- Financial Dashboard Insights (List of props, current-future state RE costs)
- Disruptive Technologies/IT Tools for Measurement/Analytics (dashboard)
- C-Suite recognition/mandate for RE contribution to enterprise value
- Barriers to optimization
- Materiality
- Constant Change Management (moving target)
- Uncertainty of what RE optimization is and how to attack/approach
- Willingness to devote resources to measure RE contribution
(prioritization)
- Alignment of RE and Business Strategy (Business Unit vs. Centralized)
- Formal matrix relationship with field team in BU's
- Enhance performance & accountability

These “early stage” categories became foundational to identifying prominent themes that evolved from our research that were further broken down into our final set of five first order codes analyzed then integrated into four, second order codes, and three major themes leading to theoretical assertion.

Summary of Data Analysis

The data collected from the 10 interviews and coded in NVivo and Word formed the foundation for extracting highly valuable takeaways, insights, and findings from a further Word document analysis. From the initial rounds of interpreting the interview answers and themes, we gained clarity in coding for prominent thoughts and reactions which were further refined into first and second order themes. This information is

presented in Figure 10 below, including a summary of key themes leading to the theoretical assertions:

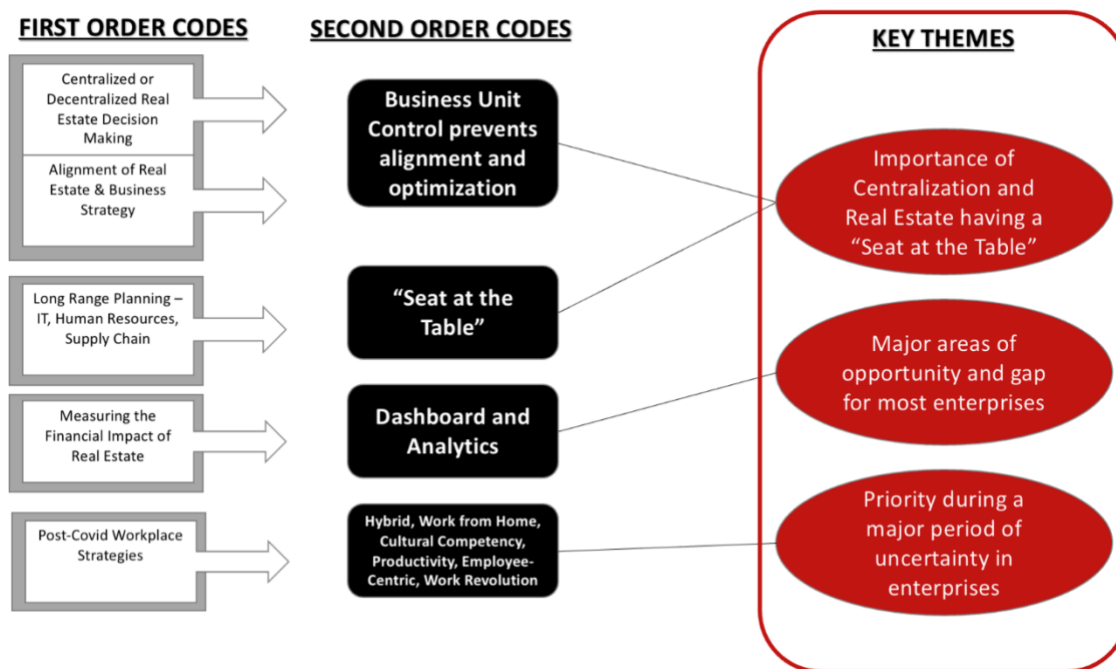


Figure 10. Coding & Thematic Analysis

Discussion

The primary intent of the qualitative research performed in Study One was to better understand our research questions in the context of optimization of real estate within enterprises. Our analysis and findings so far show a wide dispersion of themes which all tie into optimization but exist in many different forms in enterprises due to each having their own unique business strategy and focus.

The results of the interviews along with the qualitative analysis of the data and coding resulted in two key themes: 1) The importance of centralization and strategic alignment in making real estate decisions, through real estate having a “seat at the table” in long range planning; 2) Having financial dashboards and IT tools to manage RE

occupancy, space utilization, and measure real estate's contribution to shareholder value through optimization. Each of the key themes will be discussed in further depth in the following sections.

Alignment between Business and RE Strategy and Importance of Centralization

(RQ1)

In answering RQ1, a threshold theme which is primary to the optimization of real estate is alignment of real estate and business strategy between the C-suite, Business Units ("BU's"), and the real estate team. As the semi-structured interviews were conducted, a variety of different answers were received about alignment that ultimately made a further connection to whether there was a centralized function for real estate decisions or decentralized. Initial findings indicated that the more centralized the real estate decisions, the more alignment there was within the enterprise. On the surface, or intuitively, this seems obvious, even to a layperson, but our interviews demonstrated that this was not always the "norm". When comparing these findings to Chapter 5 (Strategic Alignment Frameworks and Methods) from www.strategyhero.io (Minsilo, 2022), there were two methods presented that were most applicable to real estate alignment. The two methods are the Balanced Scorecard and Deloitte 5 Key Questions and the plan is to expand discussions on these strategy frameworks in Study Two.

The www.strategyhero.io alignment frameworks studied also provide additional insights on the most common response given for non-centralized, or decentralized real estate function within an enterprise, that the C-suite was "hesitant to mandate decision-making to the leaders of business units responsible for multi-billion dollar revenues and performing at high levels". Other responses included that "no real estate decision can be

made without the global corporate real estate team sign off or involvement, although that structure was only implemented in the last few years through using new scorecards, rapid change management, and merger/ acquisition activity, whereas before it was highly decentralized”.

On the public side of enterprise real estate alignment, a major city government lacked alignment on real estate decisions because “there was still a major need to educate elected officials on real estate concepts and infrastructure connectivity, and that decisions were delayed indefinitely due to a lack of understanding on the part of decision makers as voters on a City Council”. This education process was not singularly observed in the semi-structured interviews of public or governmental enterprises, but was a recurring theme in private and public companies where real estate decisions were often not made due to a lack of understanding of what was meant by optimization, or how a particular strategy would pay off, versus be perceived as risky and uncertain.

Real Estate having a “Seat at the Table” for Business Unit Decisions (RQ1)

Once the alignment issue was coded and further observed in our semi-structure interviews, the next logical theme which emerged was whether real estate had a “seat at the table” for business unit decisions. Interviewees from three Fortune 50 enterprises were unable to reach a consensus, with one stating that “real estate finally has been invited to the table for certain but not all business units”, while the other two indicated that “real estate sits in the Corporate suite and there are no decisions made on leasing, sales, operations, or optimization in business units without the real estate team being integrally involved”. The themes highlighting the importance of centralization, strategic alignment, and having a “seat at the table” were conclusive in that optimization of

enterprise real estate can't be achieved if all these themes are not synergistic within the enterprise.

Even when all three of the above themes co-exist, there are still barriers to real estate optimization based on a particular enterprise as per the following comments from interview participants. Navigating through change management requires a constant need to “re-imagine the strategies for real estate assets, in particular, now that most enterprises are still adjusting to post-COVID realities of workplace strategy and cultural shifts in human capital”. The materiality behind optimization can be hard to demonstrate where “revenues are so large that a 1% category is not given prioritization”. Other barriers mentioned included the lack of willingness to “devote adequate financial and human resources to optimization and measurement of real estate’s contribution to earnings and shareholder value”, and finally, a lack of understanding of “how to optimize or what does optimization look like”.

Financial dashboard and IT tools to measure RE optimization (RQ2)

In answering RQ2 from the semi-structured interviews, there seemed to be a common theme that having a financial dashboard or customized IT tools to manage real estate optimization was lacking in most enterprises. In several of the Fortune 500 companies previously mentioned, “none of them had a real estate dashboard or scorecard that was capable of providing data analytics around real estate optimization on a global level”. In fact, the semi-structured interview led to a request from “one of the enterprises to develop an analytics dashboard or scorecard using a pseudo-set of data that was provided for experiential learning purposes”. In addressing this request, we collaborated

to create a Power BI dashboard populated with the pseudo-information and is in the process of being reviewed by their Enterprise real estate team.

We also observed from the interviews that many enterprises might have an Excel spreadsheet of owned and leased properties, but according to a major IT firm that specialized in ERP systems, of the “customers who have implemented a major ERP system, over 90% of the enterprises purchased the real estate module but have not activated it due to a lack of resources or materiality from senior management”. In addition to the surprising lack of centralized financial information on real estate, there was a consistent theme of “challenges in obtain[ing] an accurate list of owned and leased properties with detailed information”. Because our interviews indicated there was a lack of basic threshold levels of property information, it further demonstrates that optimization is not in existence at those enterprises, leaving much future potential for further contribution to theory and practice in the critical thematic area of financial measurement.

The data analysis and initial findings from Study One provided multiple takeaways for further study and contribution to new theoretical assertions. The first level assertion is that “Real Estate optimization is often overlooked as a driver of financial performance, is not well aligned with business strategy, is way underdeveloped in terms of financial dashboards, and data analytics, and “most enterprises are in the midst of a post-COVID work revolution” (Wilk & Zuabi, 2022).

Study One informed our research that there is “no going back” and there exists a great deal of uncertainty on how to re-imagine or redesign the workplace of the future in a more employee-centric way and layers of disruptive technologies all intersecting at the same time. Decisions on “how enterprises are going to implement post-COVID real

estate strategies are being made in every organization, resulting in radical change across the board“. Contributing new theory and practice on enterprise real estate optimization could not be timelier.

CHAPTER 4

STUDY TWO

Background

Study One established the importance of centralization of real estate decisions as a key component in strategic alignment between business and real estate decisions, and supported the need for the enterprise real estate team to have a “seat at the table” for long-range planning and maximum productivity. Study One also suggested that without this alignment and centralization, real estate optimization can’t occur, which seems way too intuitive, but having these insights highlighted the importance of greater focus and attention on this largest asset class for most enterprises. Lastly, Study One identified a willingness among interview participants to openly suggest that in order to get alignment and centralization to become a mandate at the C-suite level, there is still a need to provide more quantitative measures through financial dashboards and KPI’s.

The research findings from Study One established among the interview participants that enterprise real estate optimization is an important driver to not only financial performance, but is also important to workplace productivity, talent retention, and happiness levels. It was further found that an enterprise’s response to the dual social crises of COVID-19 and DEIB were also a key future factor in implementing enterprise real estate optimization due to the uncertain future of work scenarios that are being pursued by most enterprises at the time of this study.

Going back to the primary and sub-research questions for this dissertation, Study One created greater clarity on key themes that matter most to executives, corporate real estate managers, and service providers as depicted in the Figure 11 below:

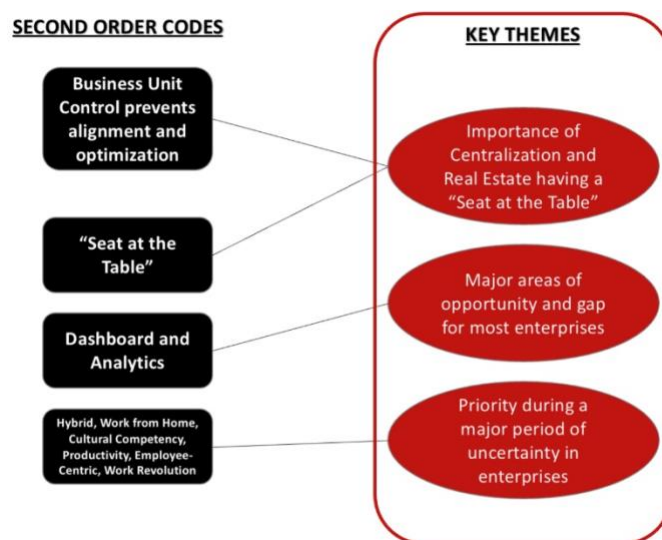


Figure 11. Key Codes and Themes from Study One

The sub-research questions around alignment (RQ1) asked whether real estate strategy and business strategy are aligned, and the results of Study One indicated that centralization and having a seat at the table for long-range planning are key to alignment and optimization. The sub-research question (RQ2) asked whether the enterprise has the financial dashboards in-place, KPI's, and C-suite mandate (or mission) to measure contribution to shareholder value, as originally presented in our conceptual model in Figure 3, and further illustrated in the exploratory model in Figure 5. This allowed us to conclude that Study One validated the integral relationship between centralized real estate decisions and the aspiration to optimization, but did not directly demonstrate that enterprises know how to, or have a mission to, measure the benefits or value of

optimization. This was a major motivation for Study Two, since as Figure 11 above showed, most interviewees felt there was still a lot of opportunity or gaps in this area.

Study One's insights formed an ideal foundation for undertaking Study Two using a larger sample of responses to create more clarity on the primary research question of why companies are not more proactive in providing data analytics on optimization. Then in RQ2, we further asked “how do enterprises measure real estate optimization”, and while Study One indicated there was a continuing gap in measuring this impact, and the literature review was lacking in this type of prior research depth, the opportunity to further examine this phenomenon through a Study Two quantitative methodology was synergistic with, and additive to, our initial Study One results. This synergy was exciting to find, especially in the quest for contributing new insights, theory, and knowledge on this subject to executives, board members, corporate real estate professionals, service providers, academics, and investors.

Study Two involved quantitative research utilizing a Qualtrics survey tool that builds on the aforementioned Study One themes, theoretical assertions, and propositions through a broader audience of participants. The goal for Study Two was to gain additional insights on the research questions through executing statistical data analysis that expands the future impact of the dissertation and contributes more robust findings and theory on enterprise real estate optimization. Study Two also provided evidence supporting Study One propositions so that enterprises can recognize that, without strategic alignment, and centralization of real estate decisions, optimization is not possible. Further confirmed by Study Two was that even when real estate has a seat at the table, measurement of real

estate's contribution is still critical to the global mission of delivering shareholder value, and remains a gap and opportunity area for most enterprises.

Enterprise Real Estate Optimization Conceptual Models and Hypotheses

The results of the Study One qualitative analysis resulted in two key themes: 1) The importance of centralization and strategic alignment in making real estate decisions, through real estate having a "seat at the table" in long range planning; 2) Having financial dashboards and IT tools to manage RE occupancy, space utilization, and measure real estate's contribution to shareholder value through optimization. Each of these key themes formed a basis for the following section on hypotheses development.

Hypotheses Development

The in-depth study of management dashboards and IT tools to manage real estate occupancy, space utilization, and measure real estate contribution to shareholder value is relatively unexplored. Much of the qualitative research into enterprise real estate optimization addresses alignment as an important element of business strategy for real estate decisions, but stops short of offering deeper insights on a possible mission of contributing earnings to the enterprise and having financial dashboards and analytics (KPI's) for measuring the delivery of shareholder value through real estate optimization. This became the catalyst for expanding the propositions from Study One and developing the following hypothesis H1 for Study Two:

H1: Centralized real estate decisions and real estate having a seat at the table are each positively related to the enterprise mission of contributing earnings.

A key takeaway from Study One was the lack of literature and real examples of financial dashboards and IT tools that measure enterprise real estate optimization as confirmed by the comments from participants interviewed. Study One reported that out of

several Fortune 50 company real estate managers “none of them had a real estate dashboard or scorecard that was capable of providing data analytics around real estate optimization on a global level”. This finding was surprising, but also opened up the opportunity to build on this finding by testing the existence and magnitude of the financial measures of enterprise real estate optimization and shareholder value through developing Hypothesis 2 for this research study, which is:

H2: Having financial dashboards and IT tools to manage real estate occupancy, space utilization, and measure real estate’s contribution will result in creating shareholder value.

Another potential area of quantitative testing came out of wanting to explore whether there was statistical significance around whether “the enterprise real estate function has a clear mission of contributing and measuring earnings from the enterprise’s RE portfolio. This further research possibility formed the basis for Question 7 (DV) in our survey, which along with Questions 9 and 11 (IV’s), allowed us to develop and test Hypothesis 3 which is:

H3: When a KPI of earnings per square foot of RE spaces is used, the enterprise real estate function delivers shareholder value.

The following sections of this dissertation present the methodology, survey, sample, data analysis, insights from initial survey answers, descriptive statistics, correlations, regressions, hypotheses testing, and discussion of results.

Methodology

Study Two was conducted through a process of data collection using a Qualtrics survey tool. The survey and questionnaire gathered data on demographics, mission, contribution to earnings and shareholder value, operating expenses and KPI’s, impact of COVID on the managing the real estate portfolio, whether real estate optimization and

management take into consideration productivity, employee happiness, and talent retention, and whether there is a financial dashboard that measures the financial and shareholder impact of optimization, building on the themes of the McKinsey and KPMG articles, plus practitioner knowledge from management consulting.

The Qualtrics survey was taken by senior managers of public and private enterprises, C-suite executives, and corporate real estate service providers, and is more fully detailed in Appendix A. The survey used Likert scales and other measures useful for descriptive statistics, correlations, and regressions, to gather data on alignment, centralization, measurement, KPI's, dashboards, and the enterprise real estate function's mission of contributing earnings and delivering shareholder value. The survey gathered testable data for statistical and consultative analysis that is reported as quantitative interpretations leading to new insights and theses for optimization of enterprise real estate in the future. As mentioned in the introduction and background for Study Two, a "still remaining" under-explored frontier in enterprise real estate identified in Study One is the lack of, or gap in, management dashboards and measurement tools to quantify the impact of enterprise real estate optimization on enterprise value. This is one of the key focus areas for Study Two and the results provided great perspectives on whether the Study One propositions were further supported by the Study Two analysis.

Through the quantitative analysis of survey results, new insights were gained on how a sample of 48 respondents view their current efforts around real estate mission, measurement of real estate performance on enterprise value, plus strategic alignment of real estate to corporate strategy post-COVID. The following sections provide the details

on the hypothesis development, survey, sample, and data analysis using statistical tools that include SPSS, Strata, and personal interpretations.

Survey

The Study Two survey was built using Qualtrics and contained 19 questions, of which five were demographic related, two were yes or no response, two were short answer responses, and the balance were choice questions using a seven (7) point Likert scale. The data collected was analyzed using descriptive statistics, correlations, and regression analysis to better understand the significance of testing the research questions, analysis and propositions identified in Study One around centralization of real estate decisions, alignment of real estate strategy with business strategy, measurement of the financial impact of real estate optimization. The findings from Study One helped form the basis for identifying independent and dependent variables for regression, t-test, and correlation analyses. A copy of the survey tool and survey results are provided in Appendices B and C.

For ease of reference in reviewing the subsequent data analysis and findings, a short summary of the survey questions is presented on the following page.

Summary of Survey Questions

- Q1. What is your enterprise Sector/Industry?
- Q2. What type of entity is your enterprise?
- Q3. How many employees are there in your enterprise?
- Q4. How many years of Corporate real estate-related experience do you have?
- Q5. Does the Enterprise's Real Estate portfolio include international properties or assets?
- Q6. There is untapped potential, or hidden value, in your Company's RE portfolio that could generate cost savings, earnings, and greater workplace productivity?
- Q7. The enterprise real estate function has a clear mission of contributing earnings
- Q8. Real estate decisions are centralized between the corporate real estate team and business units
- Q9. The Company has established Key Performance Indicators ("KPI's") and data analytics for measuring RE's contribution to the success of the enterprise
- Q10. The enterprise uses the following KPI's for analyzing real estate (RE) data (check all that apply)
- Q11. The Company has a financial dashboard that provides analytics for management of RE occupancy costs and future utilization.
- Q12. It is important that the enterprise real estate function delivers shareholder value
- Q13. Does your Enterprise's real estate portfolio tie into the ERP system?
- Q14. The enterprise real estate function has a higher level of awareness and importance post-COVID
- Q15. In RE asset decisions, the real estate team is at the table for long range planning
- Q16. The Company's RE decisions take into consideration employee satisfaction, performance, and talent retention
- Q17. Does the Company's outsource real estate functions?
- Q18. Is there anything else you wish to add about increasing real estate optimization in your organization?
- Q19. Is there anything else you want to add about how the real estate function of your organization is preparing for the future?

Sample

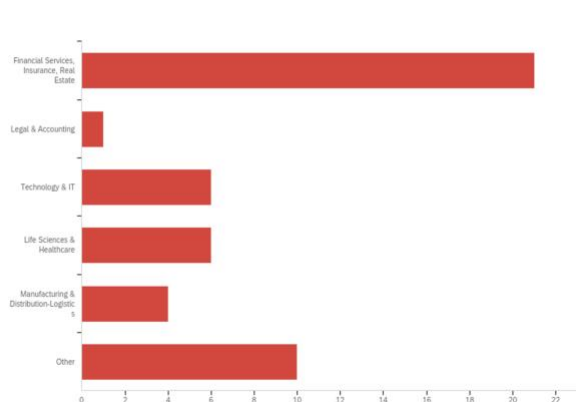
Recruiting for the sample was done through personal contacts and clients, end-user members speakers from CoreNet Global, and leaders of enterprise real estate activities and public and private entities. The sampling process was “purposive rather than random” (Miles et al., 2020) and involved gathering data with target population samples, including:

- CoreNet Global (www.corenetglobal.org) members identified as users
- CFO.com
- Contacts, DBA cohort members, and peers from management consulting and real estate who regularly engage in corporate real estate activities

The demographic composition of the survey respondents is presented in the following section and further depicted in Figure 12:

- 43.75% from FIRE (Finance, Insurance, Real Estate)
- 12.50% from Life Sciences & Healthcare
- 12.50% from Technology and IT
- 8.33% from Manufacturing and Logistics
- 20.83% from other industries

Q1 - What is your enterprise Sector/Industry?



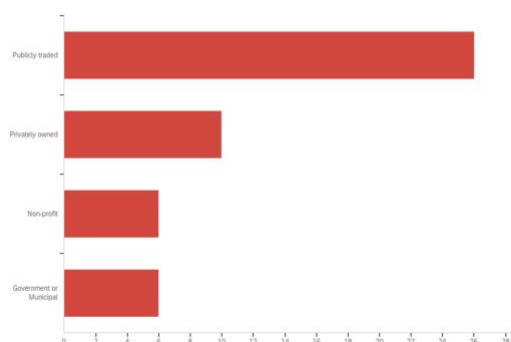
#	Answer	%	Count
1	Financial Services, Insurance, Real Estate	43.75%	21
2	Legal & Accounting	2.08%	1
3	Technology & IT	12.50%	6
4	Life Sciences & Healthcare	12.50%	6
5	Manufacturing & Distribution-Logistics	8.33%	4
6	Other	20.83%	10
	Total	100%	48

Figure 12. Survey Respondent Industry Composition

Q2 respondents had the following entity type composition depicted in Figure 13:

- 54.17% were publicly traded companies
- 20.83% were privately owned
- 12.50% were non-profit
- 12.50% were government or municipal

Q2 - What type of entity is your enterprise?



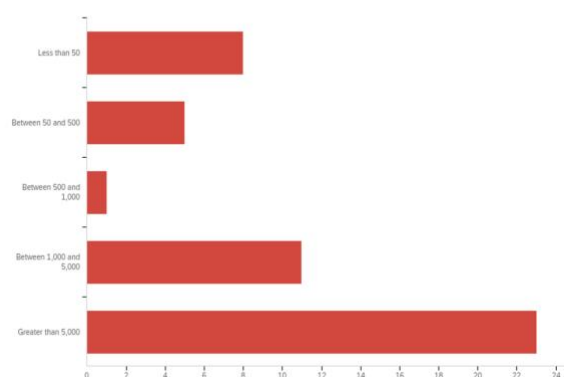
#	Answer	%	Count
1	Publicly traded	54.17%	26
2	Privately owned	20.83%	10
3	Non-profit	12.50%	6
4	Government or Municipal	12.50%	6
	Total	100%	48

Figure 13. Survey Respondent Entity Type

Q3 respondents had the following number of employees as depicted in Figure 14:

- 16.67% had less than 50 employees
- 10.42% had between 50 and 500 employees
- 2.08% had between 500 and 1,000 employees
- 22.92% had between 1,000 and 5,000 employees
- 47.92% had greater than 5,000 employees

Q3 - How many employees are there in your enterprise?



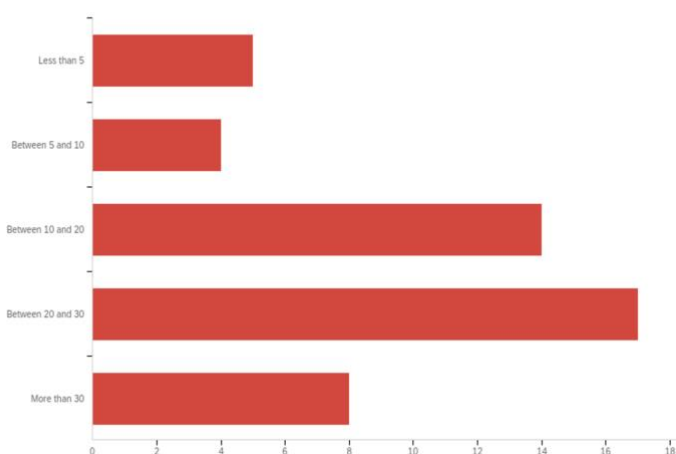
#	Answer	%	Count
1	Less than 50	16.67%	8
2	Between 50 and 500	10.42%	5
3	Between 500 and 1,000	2.08%	1
4	Between 1,000 and 5,000	22.92%	11
5	Greater than 5,000	47.92%	23
	Total	100%	48

Figure 14. Survey Respondent Number of Employees

Q4 respondents had the following number of years of corporate real estate experience as depicted in Figure 15:

- 10.42% had less than 5 years
- 8.33% had between 5 and 10 years
- 29.17% had between 10 and 20 years
- 35.42% has between 20 and 30 years
- 16.67% had over 30 years

Q4 - How many years of Corporate real estate-related experience do you have?



#	Answer	%	Count
1	Less than 5	10.42%	5
2	Between 5 and 10	8.33%	4
3	Between 10 and 20	29.17%	14
5	Between 20 and 30	35.42%	17
6	More than 30	16.67%	8
	Total	100%	48

Figure 15. Survey Respondent Years of Corporate RE Experience

In summary, within the demographic factors (or control variables) collected from the 48 respondents for Q's 1-4, there were good results for further analysis in terms of diversity in terms of industry, entity types, size of company, number of employees, and years of experience in corporate real estate.

Data Analysis

Five analyses were conducted for Study Two. First, global data observations were discussed in the context of the demographics, initial findings based on percentages of respondent's answers to certain key questions as they relate to the primary and sub-research questions. Second, descriptive statistics were performed to provide an overview and overall description of the survey sample and data. Third, regression analysis was performed to test significance of independent variables' effect on the dependent variable for specific hypotheses. The goal of the regressions was to provide a narrower view testing the significance of individual independent variables and their specific effect on real estate optimization and the research questions. Fourth, a detailed correlation analysis was completed through discussing the significant and medium correlations between various survey questions. Fifth, regression analysis was performed to ascertain whether there were significant correlations among the survey responses and the hypotheses through further robustness of testing. The regression testing was based on developing multiple hypotheses from the survey and applying the data analysis to test for significance. The five analyses are presented in the following sections, followed by additional discussion.

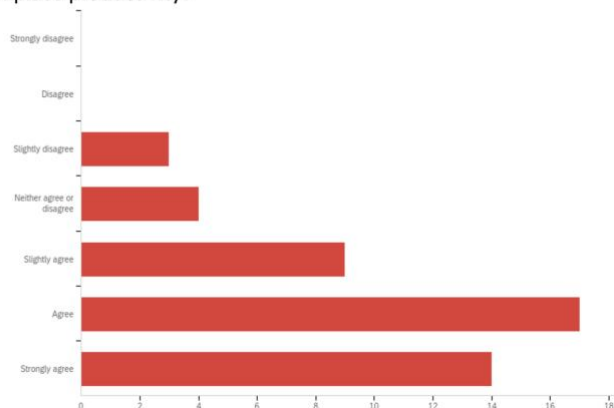
Results from Initial Global Data Observations

The initial step in the data analysis was to conduct an initial (non-statistical testing) review of the data collected to gather global observations that provide context for the subsequent statistical analyses, and strongly contributed to the understanding or initial survey results, and to interpreting and extrapolating the most meaningful data for the

statistical tests performed. The following section provides initial takeaways from the survey responses context for the primary research question and sub-questions RQ1 and 2.

In Q6, the survey asked “whether there is untapped potential, or hidden value in your Company’s RE portfolio that could generate cost savings, earnings, and greater workplace productivity”. Over 85% of the respondents answered with either 5, 6, or 7, none of the 47 respondents answered 1 or 2, and only 6.38% answered 3, or slightly disagree, per Figure 16 below:

Q6 - There is untapped potential, or hidden value, in your Company’s RE portfolio that could generate cost savings, earnings, and greater workplace productivity?



#	Answer	%	Count
1	Strongly disagree	0.00%	0
2	Disagree	0.00%	0
3	Slightly disagree	6.38%	3
4	Neither agree or disagree	8.51%	4
5	Slightly agree	19.15%	9
6	Agree	36.17%	17
7	Strongly agree	29.79%	14
	Total	100%	47

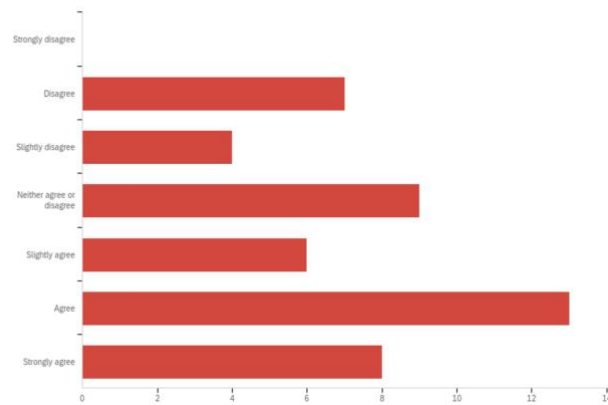
Figure 16. Survey Responses to Question 6

Reflecting on these results for Q6, compared to the primary research question, the responses provided strong evidence that our primary and sub-questions of “why enterprises are not more proactive” are highly relevant in current industry practice,

answer the question of “who cares,” and indicates that we are “on the right track” in continuing to further analyze this “why”.

A follow-up data observation to Question 6 results is Question 7 asking if “the enterprise real estate function has a clear mission of contributing earnings”, 57.45% (if adding those answering neither, increases to 76.6%) of the respondents answered with either 5, 6, or 7, none of the 47 respondents answered 1, and 14.89%, or 7, answered 3, or slightly disagree, and 19.15% answered neither, per Figure 17 below:

Q7 - The enterprise real estate function has a clear mission of contributing earnings



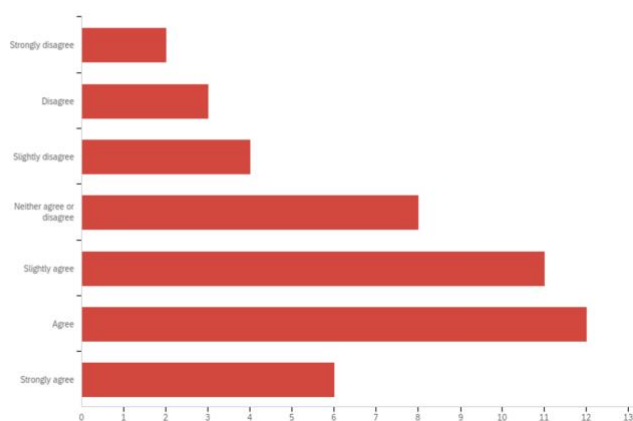
#	Answer	%	Count
1	Strongly disagree	0.00%	0
2	Disagree	14.89%	7
3	Slightly disagree	8.51%	4
4	Neither agree or disagree	19.15%	9
5	Slightly agree	12.77%	6
6	Agree	27.66%	13
8	Strongly agree	17.02%	8
	Total	100%	47

Figure 17. Survey Responses to Question 7

The key takeaway from the Question 7 data is that although 57.45% of respondents have a clear mission of contributing earnings, or optimizing real estate, there still were 42.55% who disagreed, indicating proactive optimization is not mandated.

Question 8 allowed us to test one of the primary propositions from Study One of “centralized real estate decisions being a key component in optimization”. Q8 showed that 63.04% of the 46 respondents agreed, answering either 5, 6, or 7, whereas 19.57% disagreed answering 1, 2, or 3, and 17.39% answered neither, per Figure 18 below:

Q8 - Real estate decisions are centralized between the corporate real estate team and business units



#	Answer	%	Count
1	Strongly disagree	4.35%	2
2	Disagree	6.52%	3
3	Slightly disagree	8.70%	4
4	Neither agree or disagree	17.39%	8
5	Slightly agree	23.91%	11
6	Agree	26.09%	12
7	Strongly agree	13.04%	6
	Total	100%	46

Figure 18. Survey Responses to Question 8

The results of this section of initial data observations, before statistical testing, will be further expanded in the following sections along with the statistical analyses.

Survey – Descriptive Statistics

The following section provides a summary and analysis of the descriptive statistics compiled from the survey responses. Based on the design of the Qualtrics survey, the 48 completed responses were subjected to statistical analysis by beginning with the descriptive statistics and variables summarized in Table 2:

	N Statistic	Range Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Variance Statistic	Skewness		Kurtosis	
								Statistic	Std. Error	Statistic	Std. Error
Durationinseconds	47	1643	108	1751	304.30	271.498	73711.344	3.819	.347	18.038	.681
Q6	46	4	3	7	5.80	1.108	1.228	-.824	.350	.134	.688
Q7	46	6	2	8	5.00	1.955	3.822	.000	.350	-.951	.688
Q8	45	6	1	7	4.80	1.632	2.664	-.647	.354	-.234	.695
Q9	46	6	1	7	4.54	1.735	3.009	-.530	.350	-.866	.688
Q10	21	5.0	1.0	6.0	4.095	2.2339	4.990	-.518	.501	-1.615	.972
Q11	46	6	1	7	4.07	2.004	4.018	-.093	.350	-1.410	.688
Q12	46	5	2	7	6.04	1.192	1.420	-1.569	.350	2.368	.688
Q14	46	6	1	7	5.65	1.581	2.499	-1.510	.350	1.925	.688
Q15	46	5	2	7	5.59	1.185	1.403	-1.307	.350	2.289	.688
Q16	46	4	3	7	5.52	1.049	1.100	-.725	.350	.420	.688
Valid N (listwise)	21										

Table 2. Survey – Descriptive Statistics

The results of the initial descriptive statistics include the following observations:

- The mean statistics for all the non-demographic questions, less Q10 (KPI choices), were from 4.07 on Q11 to a high of 6.04 on Q12.
- The standard deviations for the above questions ranged from a high of 2.004 on Q11 and a low of 1.049 on Q16
- The range of responses from participants on the above questions was from a low of 45 for Q8 and a high of 46 on the rest

Overall, the descriptive statistics from the survey questions do not provide a lot of “breakthrough” insights on their own, but when combined into other analytical comparisons, and correlated in the following section, provide quite a few significant insights from further examination and testing.

Survey – Correlations

An analysis of the survey responses was completed using SPSS and provided correlations between various questions that factored prominently in the hypothesis testing section. Details of the SPSS data correlations for Q6-Q11 are presented in Table 3 below:

		Durationinseconds	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q14	Q15	Q16
Durationinseconds	Pearson Correlation	1	-.238	-.090	.008	.169	.071	.020	.073	.147	-.045	-.036
	Sig. (2-tailed)		.111	.552	.959	.263	.761	.895	.631	.328	.768	.812
	N	47	46	46	45	46	21	46	46	46	46	46
Q6	Pearson Correlation	-.238	1	-.133	.149	-.233	.032	-.104	-.044	-.002	-.249	-.369*
	Sig. (2-tailed)	.111		.377	.330	.120	.892	.491	.772	.991	.095	.012
	N	46	46	46	45	46	21	46	46	46	46	46
Q7	Pearson Correlation	-.090	-.133	1	.246	.373*	.271	.215	.210	-.101	.182	-.076
	Sig. (2-tailed)	.552	.377		.104	.011	.234	.150	.162	.506	.225	.616
	N	46	46	46	45	46	21	46	46	46	46	46
Q8	Pearson Correlation	.008	.149	.246	1	.493**	.124	.376*	.189	.134	.307*	.073
	Sig. (2-tailed)	.959	.330	.104		.001	.592	.011	.215	.380	.040	.636
	N	45	45	45	45	45	21	45	45	45	45	45
Q9	Pearson Correlation	.169	-.233	.373*	.493**	1	.001	.629**	.139	.143	.328*	.293*
	Sig. (2-tailed)	.263	.120	.011	.001		.998	.000	.358	.342	.026	.048
	N	46	46	46	45	46	21	46	46	46	46	46
Q10	Pearson Correlation	.071	.032	.271	.124	.001	1	-.151	.411	-.056	-.015	.055
	Sig. (2-tailed)	.761	.892	.234	.592	.998		.513	.064	.809	.947	.813
	N	21	21	21	21	21	21	21	21	21	21	21
Q11	Pearson Correlation	.020	-.104	.215	.376*	.629**	-.151	1	.101	.232	.255	.406**
	Sig. (2-tailed)	.895	.491	.150	.011	.000	.513		.504	.121	.087	.005
	N	46	46	46	45	46	21	46	46	46	46	46

Table 3. SPSS Data Correlation Matrix – Q6-Q11

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Details of the SPSS data correlations for Q12-Q16 are presented in Table 4 below:

		Durationinseconds	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q14	Q15	Q16
Q12	Pearson Correlation	.073	-.044	.210	.189	.139	.411	.101	1	-.074	.092	.106
	Sig. (2-tailed)	.631	.772	.162	.215	.358	.064	.504		.623	.544	.484
	N	46	46	46	45	46	21	46	46	46	46	46
Q14	Pearson Correlation	.147	-.002	-.101	.134	.143	-.056	.232	-.074	1	.206	.099
	Sig. (2-tailed)	.328	.991	.506	.380	.342	.809	.121	.623		.169	.515
	N	46	46	46	45	46	21	46	46	46	46	46
Q15	Pearson Correlation	-.045	-.249	.182	.307*	.328*	-.015	.255	.092	.206	1	.213
	Sig. (2-tailed)	.768	.095	.225	.040	.026	.947	.087	.544	.169		.155
	N	46	46	46	45	46	21	46	46	46	46	46
Q16	Pearson Correlation	-.036	-.369*	-.076	.073	.293**	.055	.406**	.106	.099	.213	1
	Sig. (2-tailed)	.812	.012	.616	.636	.048	.813	.005	.484	.515	.155	
	N	46	46	46	45	46	21	46	46	46	46	46

Table 4. SPSS Data Correlation Matrix – Q12-Q16

From the data in Tables 3 and 4, several significant positive correlations were observed and will be discussed in this section, prior to applying these results to the hypotheses testing section that follows. The parameters of correlation presented along with Tables 3 and 4 are noted by either a (**) for significance at the 0.01 level or a (*) for significance at the 0.05 level.

Question 7 (mission of contributing earnings from RE) responses showed a significant positive correlation (.493**) with Question 9 (the use of KPI's). This correlation indicates that of those respondents whose mission is generate earnings, they are using KPI's to achieve that contribution.

Question 8 (centralized real estate decisions) responses showed a significant positive correlation (.493**) with Question 9 (the use of KPI's). This correlation indicates that of those respondents whose enterprise operates with centralized real estate decisions, are using KPI's to achieve that contribution.

Question 11 (financial dashboard that provides analytics for managing RE) responses showed a significant positive correlation (.629**) with Question 9 (the use of KPI's). This correlation indicates that those respondents who have a financial dashboard that provides analytics are using KPI's to populate the financial information provided.

Question 15 (real estate has a seat at the table for long range planning) responses showed medium positive correlation (.307*) with Question 8 (centralized real estate decisions). This correlation indicates that of those respondents who have a seat at the table for long range planning also have centralized real estate decisions in pursuit of real estate alignment with business strategy.

Question 15 (real estate has a seat at the table for long range planning) responses showed a medium positive correlation (.328*) with Question 9 (the use of KPI's). This correlation indicates that of those respondents who have a seat at the table for long range planning are using KPI's to provide real estate insights to management in furtherance of alignment with business strategy.

Question 16 (real estate decisions take into consideration employee satisfaction, performance, and talent retention) responses showed a medium positive correlation (.293*) with Question 9 (the use of KPI's). This correlation indicates that of those respondents who recognize the importance of employees within RE decisions are also using KPI's to provide real estate insights on workplace strategy and decisions relating to space occupancy in furtherance of alignment with business strategy.

Question 16 (real estate decisions take into consideration employee satisfaction, performance, and talent retention) responses showed a significant positive correlation (.406**) with Question 11 (financial dashboard with analytics for management of RE occupancy costs and future space utilization). This correlation indicates that of those respondents who recognize the importance of employees within RE decisions are using financial dashboards to provide analytics for workplace strategy and related management decisions relating to space occupancy and alignment with business strategy.

In summary, there were quite a few significant correlations between the survey questions 7, 8, 9, 11, 12, 15, and 16 explained in the above analysis. These correlations provide a good basis for testing the H1, H2, and H3 hypotheses previously presented. The additional insights provided in the "Initial Global Data Observations" from Question 6 created more possibilities for hypothesis testing, especially since the combined analyses

are directly related to the primary and sub-research questions in this dissertation. In this regard, the highlights of the analysis so far are that:

- Over 85% of survey respondents felt there was untapped potential, or hidden value, in their Company's real estate portfolio that could generate cost savings, earnings, and greater workplace productivity (Q6).
- Over 42% of the respondents do not agree that the enterprise real estate function has a clear mission of contributing earnings (Q7).
- 63% of the respondents agreed that real estate decisions are centralized, leaving 37% of real estate decisions that could be out of alignment with business strategy (Q8).
- Over 40% of respondents disagreed (or answered neither) that the Company has established KPI's and data analytics for measuring RE's contribution to enterprise success (Q9).
- Over 53% of the respondents disagreed (or answered neither) that the Company has a financial dashboard that provides analytics for management of RE occupancy costs and future utilization (Q11).
- Over 85% of respondents agreed that it is important for the enterprise real estate function to deliver shareholder value (Q12).
- More than half of the respondents answered that their enterprise's real estate portfolio is not tied into their ERP system (Q13)
- Almost 90% of the respondents answered that the real estate team is at the table for long-range planning (Q15).

Building on the above recap of general observations and initial statistical data analysis on correlations, the next section provides another level of survey analysis and results using regression analysis and other tools like t-tests to test the hypotheses.

Survey Results, Hypothesis Testing and Regression Analysis

Detailed results from the survey are presented by question in Appendix B, and the outcomes of the statistical tests were analyzed for each hypothesis in the following section through either a regression analysis, or t-test, or both.

H1: Centralized real estate decisions and real estate having a seat at the table are each positively related to the enterprise mission of contributing earnings.

A regression was conducted to analyze the significance of survey responses with Q7 as the dependent variable, and Q8 and Q15 as the independent variables, as presented in Figure 19 below. The regression results had a significance factor of .215 at the $p < .05$ level, and a histogram that was not highly skewed. The R Square for this test was .071 and the Adjusted R Square was .026. Although the model is not significant, there is some effect of centralized real estate decisions, and having a seat at the table for long-range planning on the enterprise real estate function having a mission of contributing earnings, but it is not statistically significant to the level of $p < .05$.

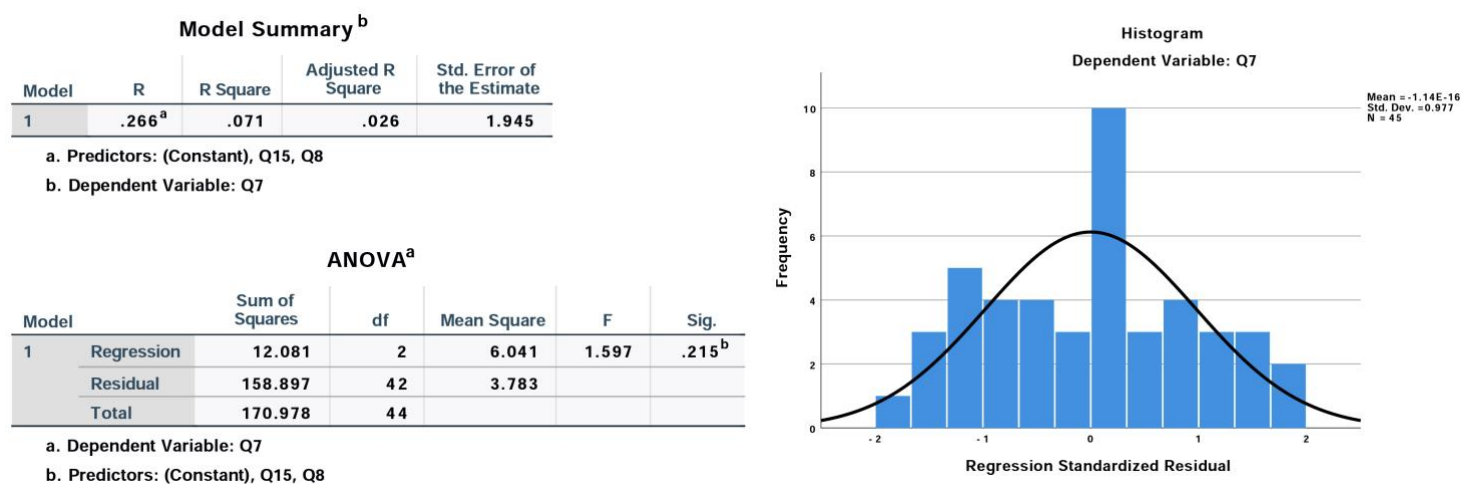


Figure 19. Regression Data Summary (H1)

H2: Having financial dashboards and IT tools to manage real estate occupancy, space utilization, and measure real estate’s contribution will result in creating shareholder value.

A regression was conducted to analyze the significance of survey responses with Q12 as the dependent variable, and Q9 and Q11 as the independent variables, as presented in Figure 20 below. The regression results showed a significance factor of .654 at the $p < .05$ level, and a histogram that was highly skewed, making this test not a meaningful model for this hypothesis. In further analyzing this regression result, it doesn’t seem logical that there would be such non-significant statistical results when testing whether having a financial dashboard and IT tools to manage real estate contribute to shareholder value. A possible explanation for the lack of significance is that 85% felt that real estate, “should” contribute to shareholder value, and the survey responses indicated that 53+% did not have a financial dashboard and 40% don’t use KPI’s, skewing the regression results. The regression results and histogram are presented in Figure 20 below and were further tested/explored by t-tests and H3 analysis that follow:

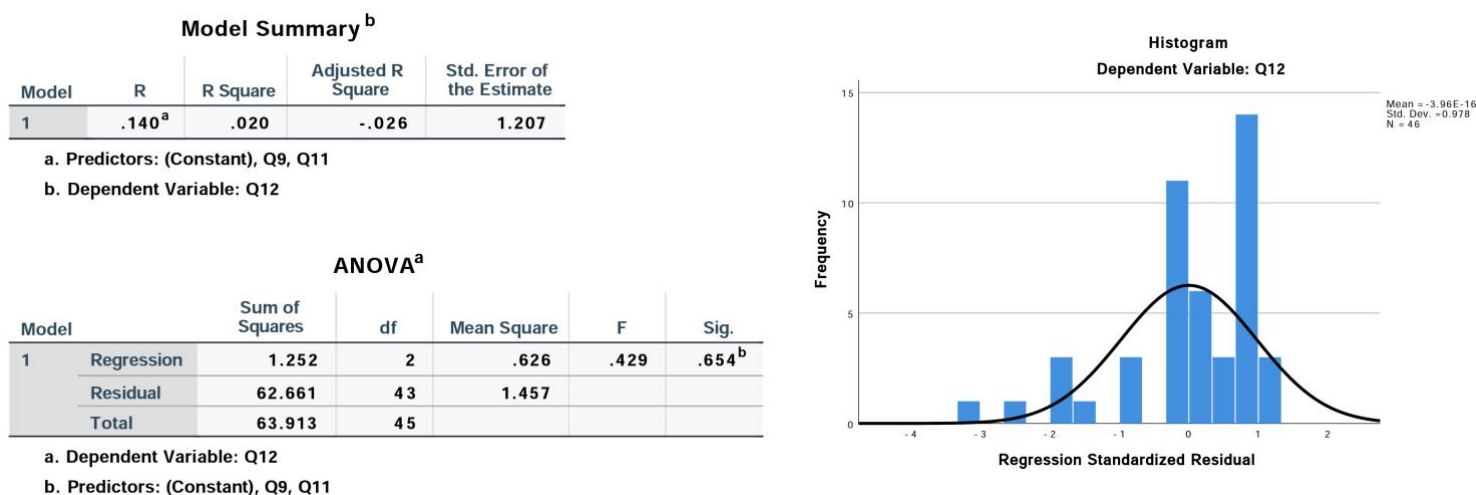


Figure 20. Regression Data Summary (H2)

During the analysis of H2, it was thought to reconsider the relationships between the DV's and IV's through a t-test correlation. The t-test began by comparing the mean responses and when looking at the independent samples t-test, equal variance assumed, the t-value is -1.78, and the one-sided p value is .04 as presented in Figure 21 below. The p value was less than the $p < .05$ level for statistical significance. Therefore, the t-test indicated that when the KPI of earnings per square foot of real estate space is used, it is perceived that the real estate function delivers shareholder value, supporting H2.

Group Statistics KPI – earnings per square foot of space						Independent Samples Test		
	RE	N	Mean	Std. Deviation	Std. Error Mean	Levene's Test for Equality of Variances		t-test for Equality of Means
						F	Sig.	t
It is important that the enterprise real estate function delivers shareholder value	.00	40	5.93	1.228	.194			
	1.00	6	6.83	.408	.167			
The enterprise real estate function has a clear mission of contributing earnings	.00	40	4.93	2.018	.319			
	1.00	6	5.50	1.517	.619			

Independent Samples Test				
t-test for Equality of Means				
		df	Significance	
			One-Sided p	Two-Sided p
It is important that the enterprise real estate function delivers shareholder value	Equal variances assumed	44	.041	.082
	Equal variances not assumed	22.464	<.001	.002
The enterprise real estate function has a clear mission of contributing earnings	Equal variances assumed	44	.254	.508
	Equal variances not assumed	7.936	.217	.433

Independent Samples Test				
Levene's Test for Equality of Variances				
	F	Sig.	t	
It is important that the enterprise real estate function delivers shareholder value	2.729	.106	-1.783	
The enterprise real estate function has a clear mission of contributing earnings	1.281	.264	-.668	

Figure 21. T-test for equality of means (H2)

The t-test results were exciting to see because it identified a data analytic indicated that led to the delivery of shareholder value, supporting H2, and creating a great opportunity to contribute this finding to multiple groups of stakeholders.

H3: When a KPI of earnings per square foot of RE space is used along with a financial dashboard, the enterprise real estate function will deliver earnings.

A regression was conducted to analyze the significance of survey responses with Q7 as the dependent variable, and Q9 and Q11 as the independent variables, as presented in Figure 22 below. The regression results showed a strong significance factor of .000 at the $p < .05$ level, and a histogram that was not skewed. The R Square for this test was .396 and the Adjusted R Square was .368. The coefficients also clearly illustrate the impact of Q9 on the model being significant to a level of $p < .05$, meaning that respondents perceived that by using a KPI of earnings per share on the financial dashboard, the enterprise real estate function is perceived to be able to measure and deliver earnings.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.629 ^a	.396	.368	1.594	.396	14.076	2

Model	Change Statistics	
	df2	Sig. F Change
1	43	.000

a. Predictors: (Constant), Q9, Q7
b. Dependent Variable: Q11

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71.538	2	35.769	14.076	.000 ^b
	Residual	109.266	43	2.541		
	Total	180.804	45			

a. Dependent Variable: Q11
b. Predictors: (Constant), Q9, Q7

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.836	.779		1.073	.289
	Q7	-.023	.131	-.022	-.176	.861
	Q9	.736	.148	.637	4.985	.000

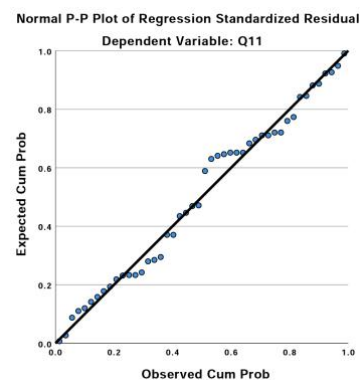
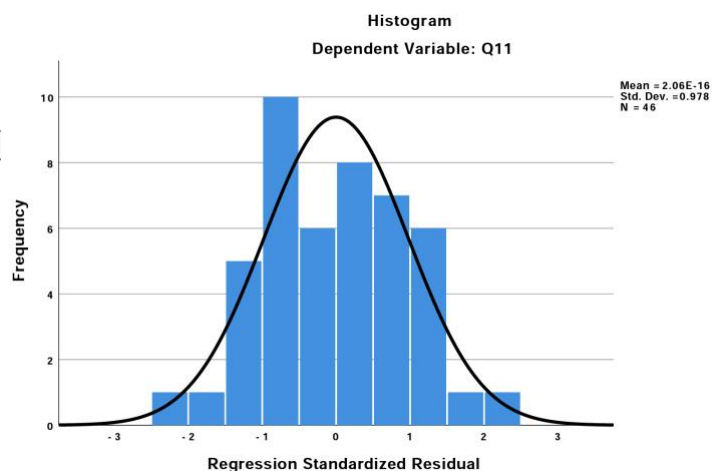


Figure 22. Regression Data Summary (H3)

After the hypotheses testing, regression analyses for H1, H2, and H3, and the t-test for H2, the results indicate that H1 is somewhat supported by the regression p value of .10, H2 is supported by the t-test results, and H3 is highly significant for the p value. Further discussion of these results in combination with the descriptive statistics, correlations, and global observations from the data results follows in the next section.

Discussion

A key significant finding for this study is that enterprise real estate optimization is not universally mandated, practiced, measured, or prioritized as a driver of shareholder value and earnings. There is evidence from the Study Two survey of efforts to foster alignment by providing a “seat at the table” for some real estate teams in long-range planning, however, the operating frameworks necessary to achieve real estate optimization within many enterprises are not in-place, such as financial dashboards, KPI’s, and enterprise real estate team’s mission to deliver earnings and shareholder value. The survey results for Question 6 (whether there is untapped potential and cost savings, earnings, and workplace productivity in the enterprise real estate portfolio) indicated that over 85% of the respondents agreed that there was potential. This survey question finding could further be interpreted as aspirational, but not mandated, due to a lack of prioritization, or other enterprise barriers to facilitating optimization such as lack of alignment. This possible answer to our “why” is meaningful because there should be no logical reason why enterprises would not want new earnings and shareholder value in any area of their business, especially the one that is their largest asset class. This study highlights the key finding that there is 85% agreement on the untapped potential from a sample population of experienced corporate real estate and senior management

respondents, of whom 80% have more than 10 years of experience, with over 50% having more than 20 years of experience, and where less than 50% of them have a financial dashboard and data analytics to measure real estate optimization, earnings, and shareholder value from real estate optimization. These combinations of findings are at the core of the primary research question and help to explain why these enterprises are not more proactive about real estate optimization.

A second key finding is that the statistical testing of H1, H2, and H3 resulted in a lack of significance for H1, being significant through t-testing for H2, and being highly significant for H3 through the regression analysis using a dependent variable of Q7 (enterprise real estate team has a mission to contribute earnings), and independent variables of; 1) the use of KPI's and data analytics (Q9); and 2) having a financial dashboard that provides analytics (Q11). Again, the level of statistical significance for H3 of .000 is closely linked to the primary research question, even though each of the three variables demonstrated 42%, 40%, and 53% of respondents did not agree with these questions, respectively. Another takeaway from Study Two findings is that they align with a key finding from Study One, which was that it is essential to have centralized real estate decisions and the real estate team to have a "seat at the table" for long-range planning, but there were still significant gaps in measurement and financial dashboards with data analytics (KPI's) that gauge or quantify real estate's contribution to earnings and shareholder value.

The third key finding in this study relates to two hypotheses (H2, H3) proving statistically significant in the effects of centralization, having a "seat at the table" and the enterprise real estate function having a clear mission of delivering earnings. This finding

is important because it demonstrates that there is a viable pathway through alignment (centralization and seat at the table for strategy between real estate the business units), and intentionality in terms of the mission to contribute earnings from this process or operating imperative. The missing link, which again has been a steady theme throughout the research in Study's One and Two, is the lack of financial dashboard and data analytics such as KPI's with which to measure the contributions of real estate optimization to the enterprise. The regression analysis for H3 with a .000 significance quantitatively validated the hypothesis that "When a KPI of earnings per square foot of RE space is used along with a financial dashboard, the enterprise real estate function is perceived to deliver earnings". This allows for an initial conclusion from this dissertation that all the pieces are in-place within the strategic framework for real estate optimization, except for the financial dashboard and further implementation of KPI's and other data analytics to realize the benefits of earnings, cost savings, and greater workplace productivity. This conclusion is the central theme of my primary research question as per the conceptual model presented again in Figure 23 below:

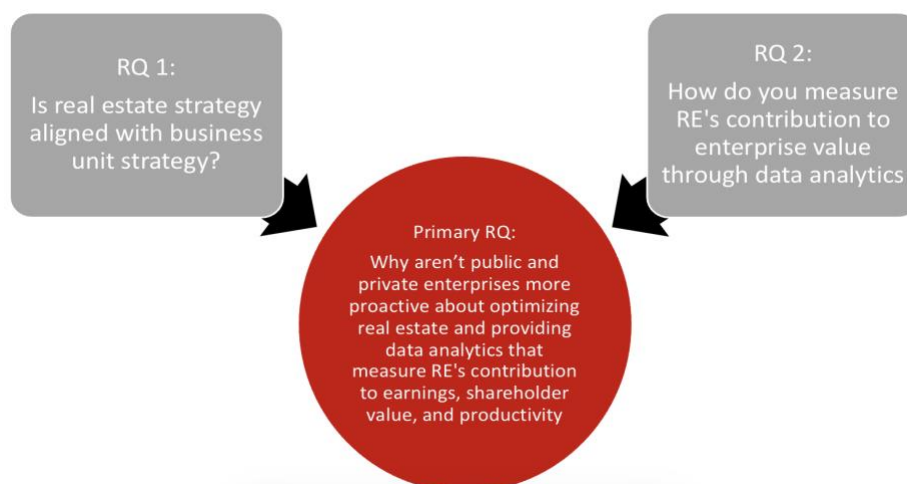


Figure 23. Conceptual Model

There were also unexpected findings from this study. The most notable ones came from the summary of global observations presented on page 55 around some of the responses from the survey, which are insightful enough to re-insert below:

- Over 85% of survey respondents felt there was untapped potential, or hidden value, in their Company's real estate portfolio (Q6).
- Over 42% of the respondents did not agree that the enterprise real estate function has a clear mission of contributing earnings (Q7).
- 63% of the respondents agreed that real estate decisions are centralized, meaning 37% could be out of alignment with business strategy (Q8).
- Over 53% of respondents disagreed (or answered neither) that the Company has a financial dashboard providing analytics for management of RE (Q11).
- Over 85% of respondents agreed that it is important for the enterprise real estate function to deliver shareholder value (Q12).

The biggest, unexpected findings were that over 85% of the respondents agreed that “there was untapped potential, or hidden value, in their Company's real estate portfolio” and that “it is important that the enterprise real estate function delivers shareholder value”. However, over 42% of the same respondents did not agree that the enterprise real estate function has a clear mission of delivering earnings, 37% did not agree that real estate decisions were centralized, and over 53% responded that the company did not have a financial dashboard providing analysis for management of real estate and contribution to shareholder value. These “surprise” findings were key to our conclusions and further research implications.

Implications for Further Research

Based on the research and analysis completed, the implications for further research are plentiful, especially in the area of financial measurement of earnings and contributions to shareholder value from real estate optimization, since 85% of respondents agreed that there was “untapped potential and hidden value in the Company’s real estate portfolio. A possible takeaway from this finding is that historically, convincing the C-suite to dedicate resources to this potential value, was conditioned on being able to quantify the results. Since over 53% of the respondents indicated that the Company did not have a financial dashboard or analytics to measure the potential value impact, this area should be robust for future research. It was also the motivation for this dissertation and associated research studies, to explore whether the results would be confirmatory of a significant opportunity, or future potential, to dig deeper into KPI’s, data analytics, and dashboards to unlock the future of real estate on the balance sheets of public and private enterprises.

The other primary area with great potential for further research is how real estate optimization can be measured and implemented in the realm of workplace strategy post-COVID, a hot topic in most enterprises, but not the primary focus of this dissertation. The most interesting aspect of this workplace strategy research opportunity is it seems to have gotten the full attention of the C-suite, as a primary “pain point” today, even as the opportunity to measure optimization pre-COVID through developing better analytics and dashboards, and associated earnings, have received the same priority. This current state or condition of management prioritization should be a great pathway to further research insights and theory development.

Limitations

In reflecting on possible limitations to this study, the primary possibility in the future would be increasing the sample size to gather data from a larger sample. It was initially unclear how many responses we would get to take the survey, and ultimately a total of 48 respondents completed the survey. The good news was that the statistical analysis with the current sample was very insightful and led to some strong correlations and marginal to strong statistical significance. Future research where we are able to have a larger sample size could allow us to develop stronger data analysis from a statistical accuracy standpoint. Given the interesting findings from this dissertation once published, should also be a strong motivator for additional respondents to complete the survey in the future.

CHAPTER 5

CONCLUSIONS

This research study proposed and validated the concept of enterprise real estate optimization as a driver of financial performance, moderated by key issues such as centralization of decision-making for strategic alignment between business and real estate strategy, having a mission of generating earnings and contributing to shareholder value through having a “seat at the table” for long-range planning, and developing financial dashboards and KPI’s to measure the impact of earnings. The research questions that were initially formulated into the semi-structured interview tool for Study One greatly informed our research and identified the above pathways to achieving a new future state in understanding the significance of enterprise real estate optimization. The surprise finding from Study One was how much COVID had the unintended consequence of impacting the prioritization of real estate as a driver of future productivity, and how most enterprises are now more proactive than ever in focusing on real estate decisions and workplace strategy. This was not the primary focus of this dissertation, but future research in the area of workplace strategy, productivity, and their intersections with cultural competency, DEI, and talent retention should be robust.

Study Two was designed to explore and report on statistical relationships through the quantitative data analysis completed in this dissertation and was successful in contributing more robust findings and theory on enterprise real estate optimization in combination with Study One. The surprise findings from Study Two that were previously mentioned at the end of the Chapter 4, were that although COVID has impacted the

prioritization of real estate as a driver of future productivity, and most enterprises are more proactive than ever in focusing on real estate decisions and strategy, Study Two results do not specifically focus on “implementation” of enterprise real estate optimization as a foundational element of the dissertation. However, Study Two brought greater clarity to both research studies, contributing to new theory and practice, and paving the way going forward for this research to provide a “roadmap” for implementing the quantitative data findings by adding strategic alignment management tools (“Scorecards”) that measure and implement optimization in the future. This pathway from “need or priority, to result” should trigger actionable steps on the part of management to incorporate the drivers from the McKinsey and KPMG articles and real estate (including the future of work) into corporate or business strategy going forward. The next level of innovation and strategy in enterprise real estate optimization is to challenge the C-suite and corporate real estate managers to better understand where the areas of improvement and opportunity are within their portfolios, through developing KPI’s and financial dashboards for measurement of real estate assets contribution to the enterprise, and continuing to compete on net zero, digitization, and the future of work.

The Qualtrics survey results should create greater C-suite understanding of the financial, market, and human potential of real estate asset optimization as my research question challenged me to explore. The “blue ocean” strategy in real estate optimization will be for enterprises to develop new analytics and financial dashboards to develop customized KPI’s for measuring optimization through the delivery of earnings and shareholder value. An additional bonus will be to align the future of earnings to employee productivity. As we discovered in Studies One and Two, aligning real estate with business

strategy, and developing dashboards that measure the value impact of optimizing their real estate portfolios, still remains a largely unexplored frontier in corporate strategy.

Contributions

Contributions of this research are academic, methodological, managerial, and practical. From an academic perspective, there is limited existing research or literature on measuring real estate's contribution to shareholder value and earnings, which is still surprising to me after 25 years of practice and academic activities. That is why it is exciting to share that the expected managerial contribution from both Study One and Two will be to accelerate an innovation push from the C-suite to make corporate real estate a strategic contributor to financial performance through developing a real estate "dashboard" as also suggested by Strategy Hero in Chapter 5 (Minsilo, 2022).

The expected contribution of both research studies centers around three primary categories: i) a target audience of C-Suite and Board room, corporate real estate managers, commercial real estate practitioners, academics and researchers, and shareholders and investors in public and private enterprises; ii) the impact of Studies One and Two, which included both qualitative and quantitative methods, in gaining a better understanding of the value creation potential and strategic benefit of enterprise RE optimization to drive earnings, productivity, and cost savings, developing new insights, solutions and pathways to optimizing the most important asset in enterprises, human capital, and iii) after Study One interviews identified gaps in the use of data analytics, KPI's, and financial dashboards, Study Two, or the quantitative method, provided significant evidence to support the Study One propositions that centralization of real estate decisions create strategic alignment between real estate and business strategy.

Study Two went on to statistically test the relationship between a dependent variable of the enterprise real estate function have a mission of delivering earnings, against independent variables of having a financial dashboard to measure the shareholder value contribution from optimization through using a KPI of earnings per square foot of real estate space. This strong statistical significance solidified the idea that there is a tangible way to measure the financial impact of real estate optimization on firm performance, value and productivity, which was not the case before our research.

Both Study One and Study Two results and observations delivered key new insights, theoretical assertions, and value propositions for innovation in future enterprise real estate and business strategy. Study Two survey results indicated that although 85% of survey respondents answered that there was untapped potential and hidden value in enterprise real estate portfolios, over 53% did not have a financial dashboard to measure the impact, leading to a strong conclusion that in most enterprises, corporate real estate is not given the respect it deserves at the C-Suite level as a strategic financial driver, confirmed by the survey results of less than 50% of respondents having a dashboard. Although COVID seems to have changed that as reported by McKinsey and KPMG, despite real estate being the first or second largest balance sheet asset and operating expense for companies, most enterprises continue to weight their resources towards IT and human capital platforms versus optimizing real estate. The semi-structured interviews in Study One not only validated this phenomenon from a qualitative perspective, but pushed us to dig deeper in the quantitative analysis in Study Two, and the results were significant and contribute to new methods of unlocking enterprise value through real estate optimization.

The interviews in Study One also confirmed that many companies are still “primarily focused on cost reduction and consolidation” versus strategic alignment. Fortunately, that seems to be changing due to COVID. Over the past two years, COVID has done more to accelerate this awareness and prioritization than over 10 years of presenting Real Estate Asset Optimization University Symposia around the country from 2012 to present (as per Figure 24 below).

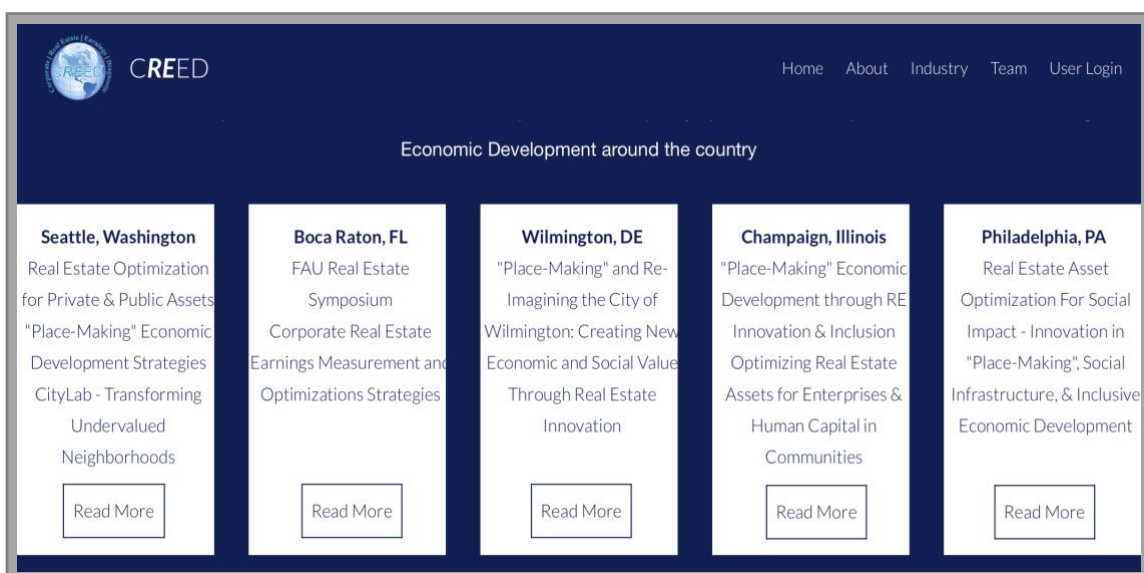


Figure 24. Real estate symposia on optimization and economic development

Co-innovation activities with SAP and collaborations with national commercial real estate firms and organizations (Colliers, SVN, CoreNet Global), successful executions from projects with Thomas Jefferson University, American Water, DuPont, Sun Capital Partners, Johnson & Johnson, Comcast, Girl Scouts of Chesapeake Bay, the City of Delray Beach, and Teaching Management of Corporate Real Estate Assets at the Fox School of Business, have also furthered theoretical and practical contributions to Enterprise Real Estate Optimization. However, no single factor has done more to drive real estate optimization than the after-effects of COVID. This makes the timing of Study

One and Study Two ideal as there is no post-COVID roadmap to real estate optimization, meaning that our Study One and Two results will be “groundbreaking” and “highly relevant” in many ways, which was further validated by McKinsey and KPMG in their recent articles.

Study One also confirmed that many enterprises delegate management of Corporate Real Estate to someone who is a steady, loyal company person, but lacks practical experience in real estate (brokerage, valuation, or consulting). Without a significant practitioner’s understanding of real estate valuation, markets, finance, or how to optimize assets during change management disruption, corporate real estate is often outsourced (61.70% of survey respondents said yes to Question 17) to a company that is pre-disposed towards transactions and not optimization. These findings confirm that a gap exists in leading efforts to optimize if there isn’t a subject matter expert and C-Suite mandate. This gap was further confirmed and helped explain our primary research question of “why are enterprises more proactive” with in our Study One thematic analysis where we presented barriers to optimization, one of which was understanding “what optimization is and how it can be implemented”. This continuing gap in being proactive about enterprise real estate optimization and answering the question of “why” was a major inspiration for creating more propositions, theoretical assertions, and C-suite awareness around the strategic importance of real estate optimization. These Study One findings set the foundation for Study Two to provide quantitative data analysis that is highly valuable to the C-suite in the ultimate pursuit of enhancing shareholder value from the largest asset class.

The research findings from the Study Two survey also presented statistically significant evidence on how to develop better strategy around the significance of real estate optimization through financial dashboards, KPI's, measuring new earnings and shareholder value from real estate, through the real estate function delivering earnings to the enterprise.

The final element of this dissertation is to suggest possible future management contributions by developing real estate optimization toolkit, which includes a Payoff Matrix, Earnings Scorecard, and a sample dashboard designed to help enterprises better manage their real estate portfolios with a foundation of strategic alignment, optimization, and measurement.

The toolkit would begin with a qualitative dashboard of value components known as a Payoff Matrix (see Figure 25 below):

		Timeframe to Implementation	
		Short-Term	Mid-Term
Business Impact	Small Pay Off	<ul style="list-style-type: none"> • Sustainability • Lease Administration • Property Tax Savings 	<ul style="list-style-type: none"> • Occupier Strategies
	Large Pay Off	<ul style="list-style-type: none"> • Operating Expense Savings & Benchmarking • Occupy Cost Reductions • Asset Optimization Strategies & Measurement 	<ul style="list-style-type: none"> • Excess Property & Space Disposition • Real Estate as factor in Productivity and DEI, Cultural Competency • Real Estate as “currency for inclusive economic development strategies”

Figure 25. Payoff Matrix

The Payoff Matrix would be populated through an internal assessment of business impact and timeframe of implementation for enterprise real estate elements that are relevant to this matrix. This classification of opportunity areas would be followed by developing measurement metrics and KPI's that provide qualitative data on the range of magnitude of earnings and shareholder value from optimization.

KPMG (2022) provided insights on the importance of measurement of KPI's in their June 2022 article, which further bolstered our research and the aforementioned next steps. Their sample of current KPIs, some which are generic, others real estate-related, are presented in Figure 26:

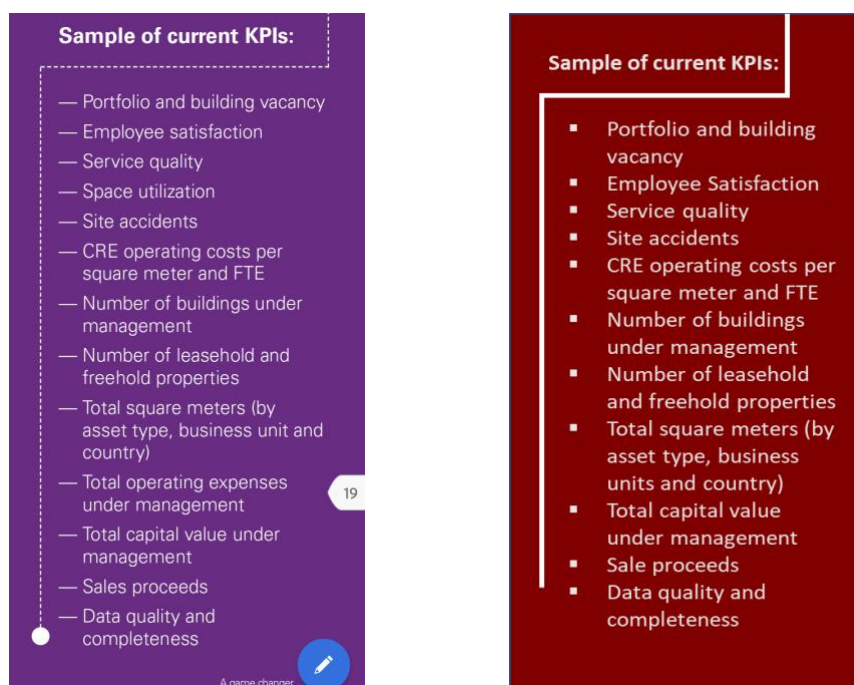


Figure 26. KPIs from KPMG article

The previous KPI's are illustrative of the analysis that an enterprise would undertake to develop their own custom KPI's which as our Study Two results demonstrated, will deliver earning and shareholder value if implemented properly in alignment with business strategy.

The sample “enterprise real estate optimization scorecard” in Figure 27 below represents a future pathway to have the C-suite, corporate real estate managers, and service providers take our survey and to use the results to grade them on how well they are managing their real estate portfolios.

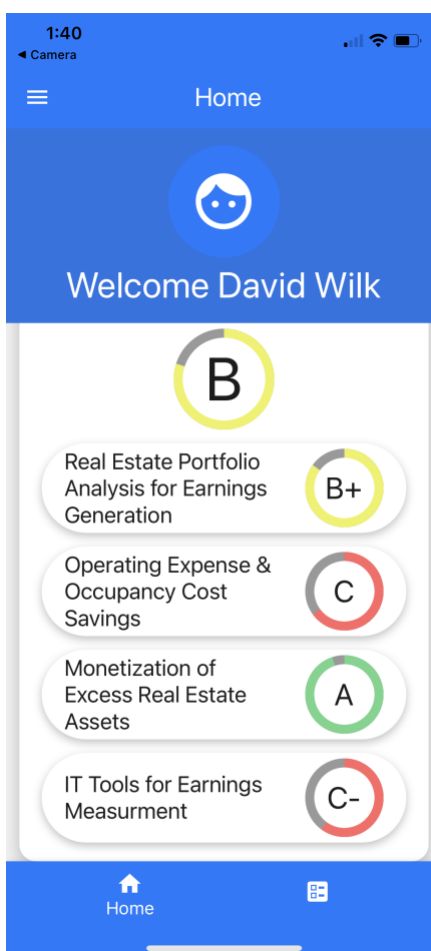


Figure 27. Example Real Estate Earnings Scorecard

The previous Earnings Scorecard sample shows how to use a grading tool to drive the areas and functional activities within an enterprise to optimize and unlock earnings from real estate and shareholder value.

These management tools (Payoff Matrix, KPI's, Earnings Scorecard) are designed to demonstrate the untapped potential and hidden value in the enterprise's real estate portfolio that could deliver greater earnings, cost savings, and shareholder value. They should be invaluable, are easily understandable, and become highly impactful to the market capitalization of the enterprise, which would be wonderful to celebrate after 25 years of wondering "why not".

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APPENDIX A
QUALTRICS SURVEY TOOL

Qualtrics Survey | Enterprise Real
Estate Optimization
az1.qualtrics.com



Enterprise Real Estate Optimization Survey

Start of Block: Default Question Block

Q1 What is your enterprise Sector/Industry?

- Financial Services, Insurance, Real Estate (1)
 - Legal & Accounting (2)
 - Technology & IT (3)
 - Life Sciences & Healthcare (4)
 - Manufacturing & Distribution-Logistics (5)
 - Other (6)
-

Q2 What type of entity is your enterprise?

- Publicly traded (1)
 - Privately owned (2)
 - Non-profit (3)
 - Government or Municipal (4)
-

Q3 How many employees are there in your enterprise?

- Less than 50 (1)
 - Between 50 and 500 (2)
 - Between 500 and 1,000 (3)
 - Between 1,000 and 5,000 (4)
 - Greater than 5,000 (5)
-

Q4 How many years of Corporate real estate-related experience do you have?

- Less than 5 (1)
 - Between 5 and 10 (2)
 - Between 10 and 20 (3)
 - Between 20 and 30 (5)
 - More than 30 (6)
-

Q5 Does the Enterprise's Real Estate portfolio include international properties or assets?

- Yes (1)
 - No (2)
-

Q6 There is untapped potential, or hidden value, in your Company's RE portfolio that could generate cost savings, earnings, and greater workplace productivity?

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither agree or disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (7)
-

Q7 The enterprise real estate function has a clear mission of contributing earnings

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither agree or disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (8)
-

Q8 Real estate decisions are centralized between the corporate real estate team and business units

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither agree or disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (7)
-

Q9 The Company has established Key Performance Indicators (“KPI’s”) and data analytics for measuring RE’s contribution to the success of the enterprise

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither agree or disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (7)
-

Q10 The enterprise uses the following KPI's for analyzing real estate (RE) data (check all that apply)

- Square feet (SF) of space per employee (1)
 - RE operating expenses (opex) per employee (2)
 - RE opex per SF of space (3)
 - Earnings per Employee (4)
 - Earnings per SF of RE space (5)
 - None of the above (6)
-

Q11 The Company has a financial dashboard that provides analytics for management of RE occupancy costs and future utilization.

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither Agree or Disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (7)
-

Q12 It is important that the enterprise real estate function delivers shareholder value

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither agree or disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (7)
-

Q13 Does your Enterprise's real estate portfolio tie into the ERP system?

- Yes (1)
 - No (2)
-

Q14 The enterprise real estate function has a higher level of awareness and importance post-COVID

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither Agree or Disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (7)
-

Q15 In RE asset decisions, the real estate team is at the table for long range planning

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither agree or disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (7)
-

Q16 The Company's RE decisions take into consideration employee satisfaction, performance, and talent retention

- Strongly disagree (1)
 - Disagree (2)
 - Slightly disagree (3)
 - Neither agree or disagree (4)
 - Slightly agree (5)
 - Agree (6)
 - Strongly agree (7)
-

Q17 Does the Company's outsource real estate functions?

- Yes (1)
 - No (2)
-

Q18 Is there anything else you wish to add about increasing real estate optimization in your organization?

Q19 Is there anything else you want to add about how the real estate function of your organization is preparing for the future?

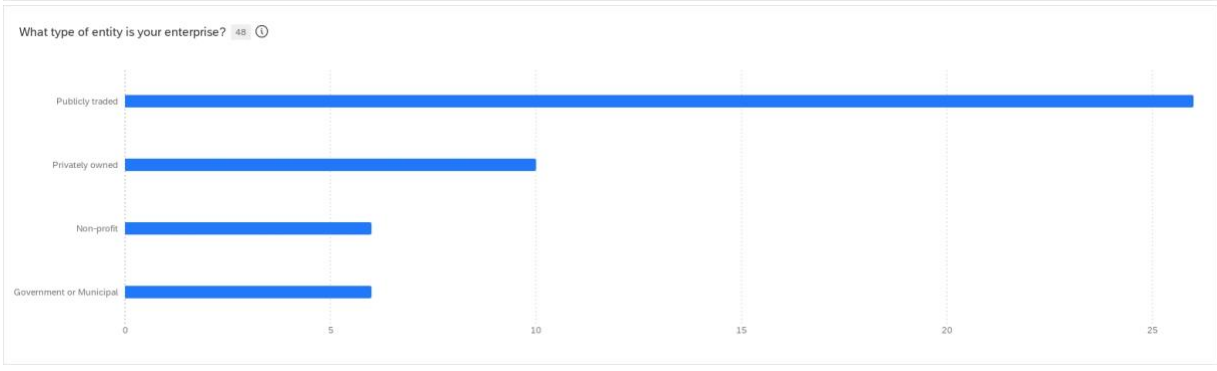
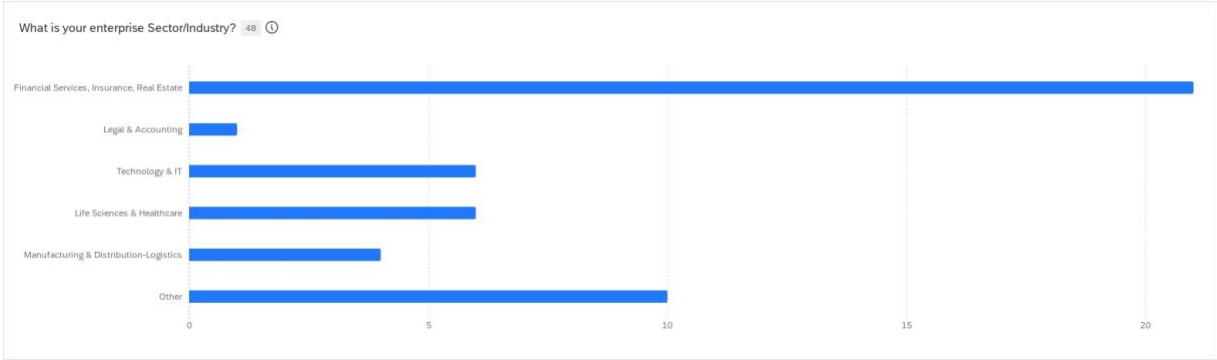
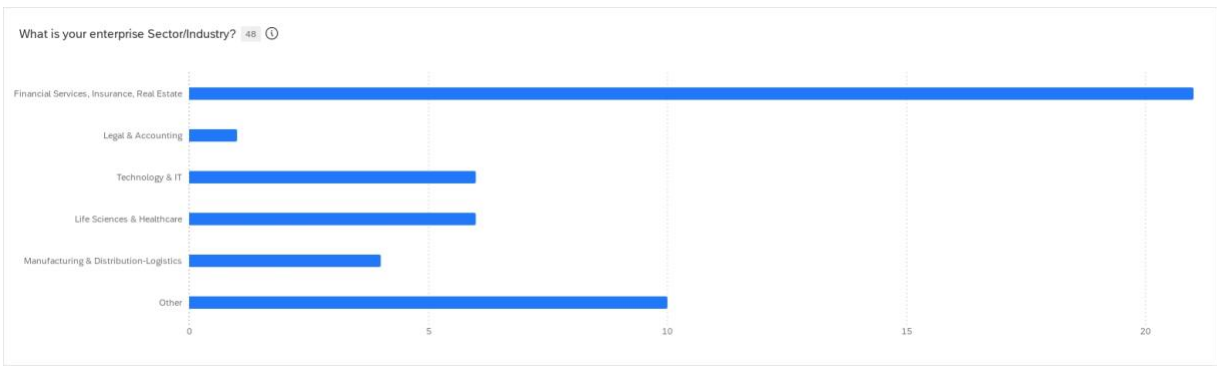
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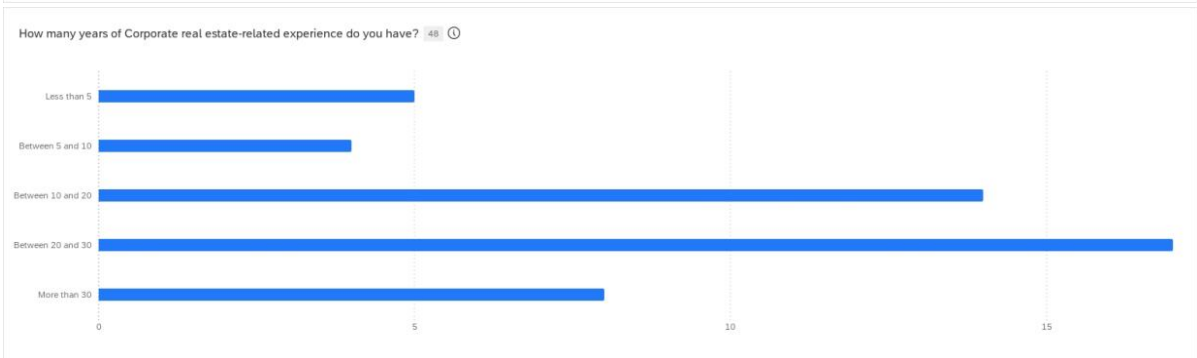
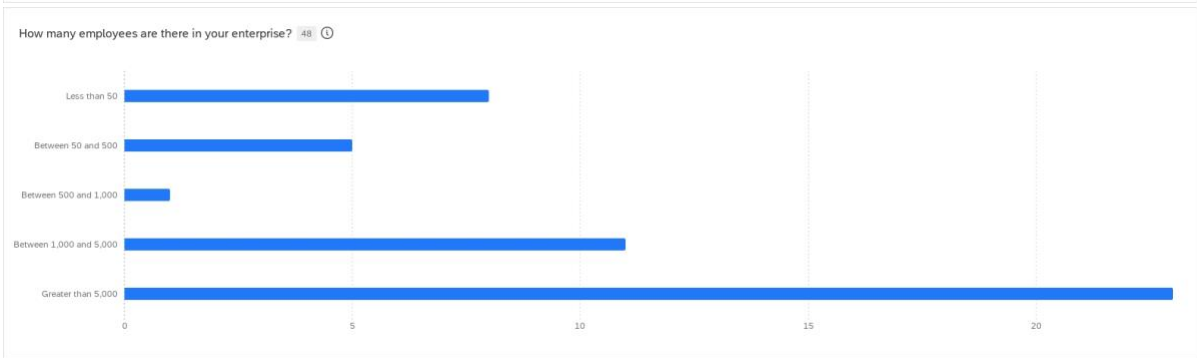
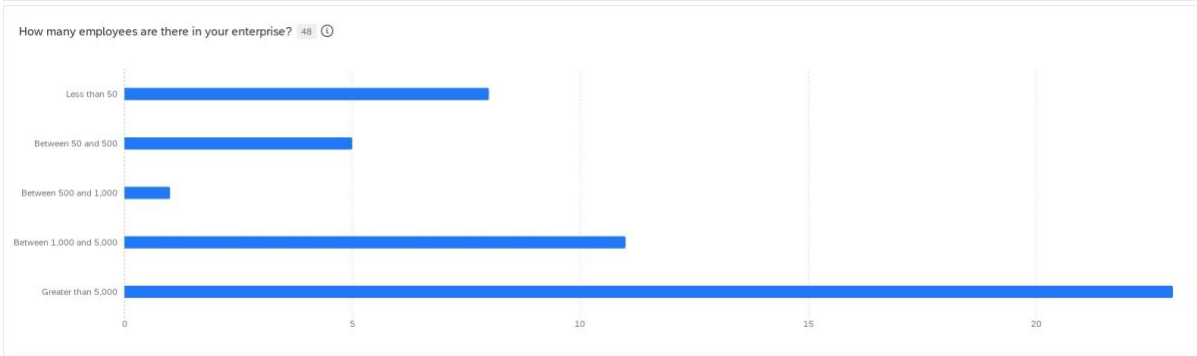
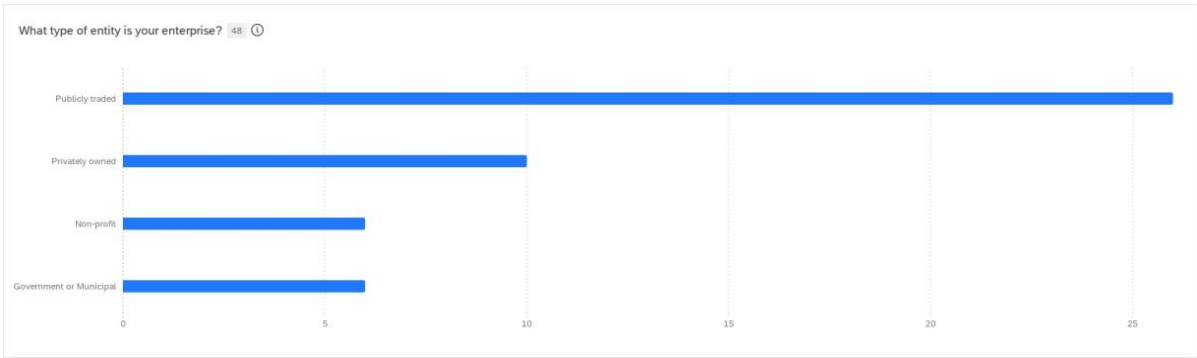
APPENDIX B

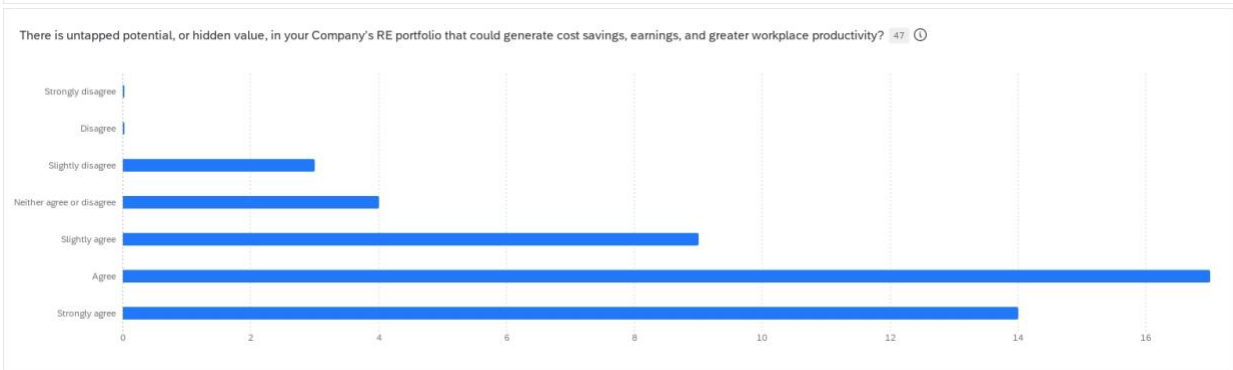
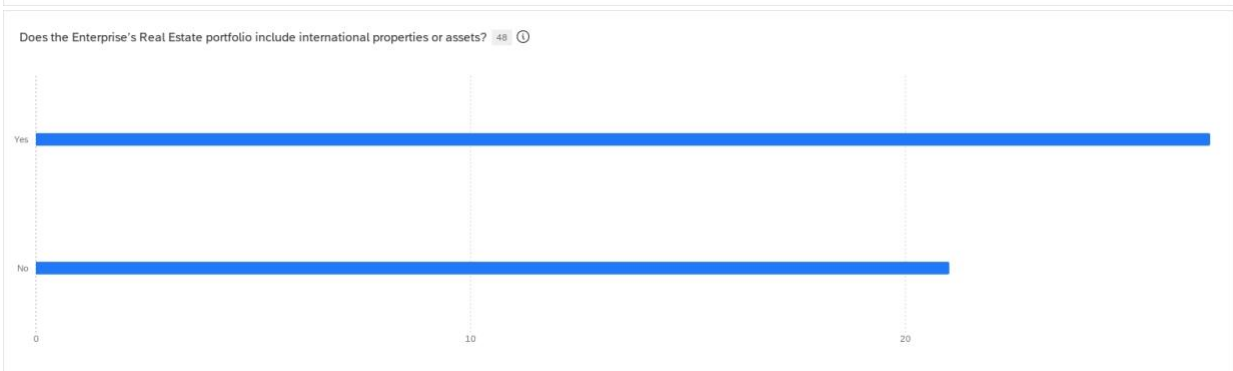
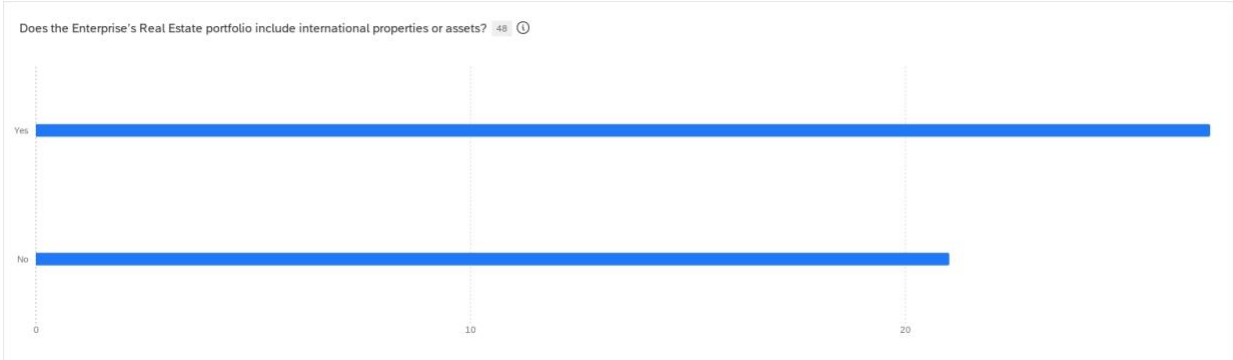
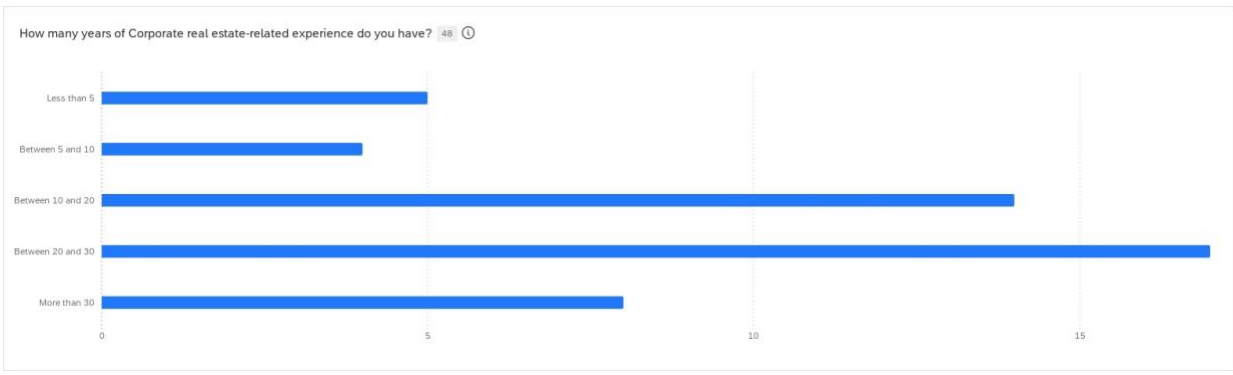
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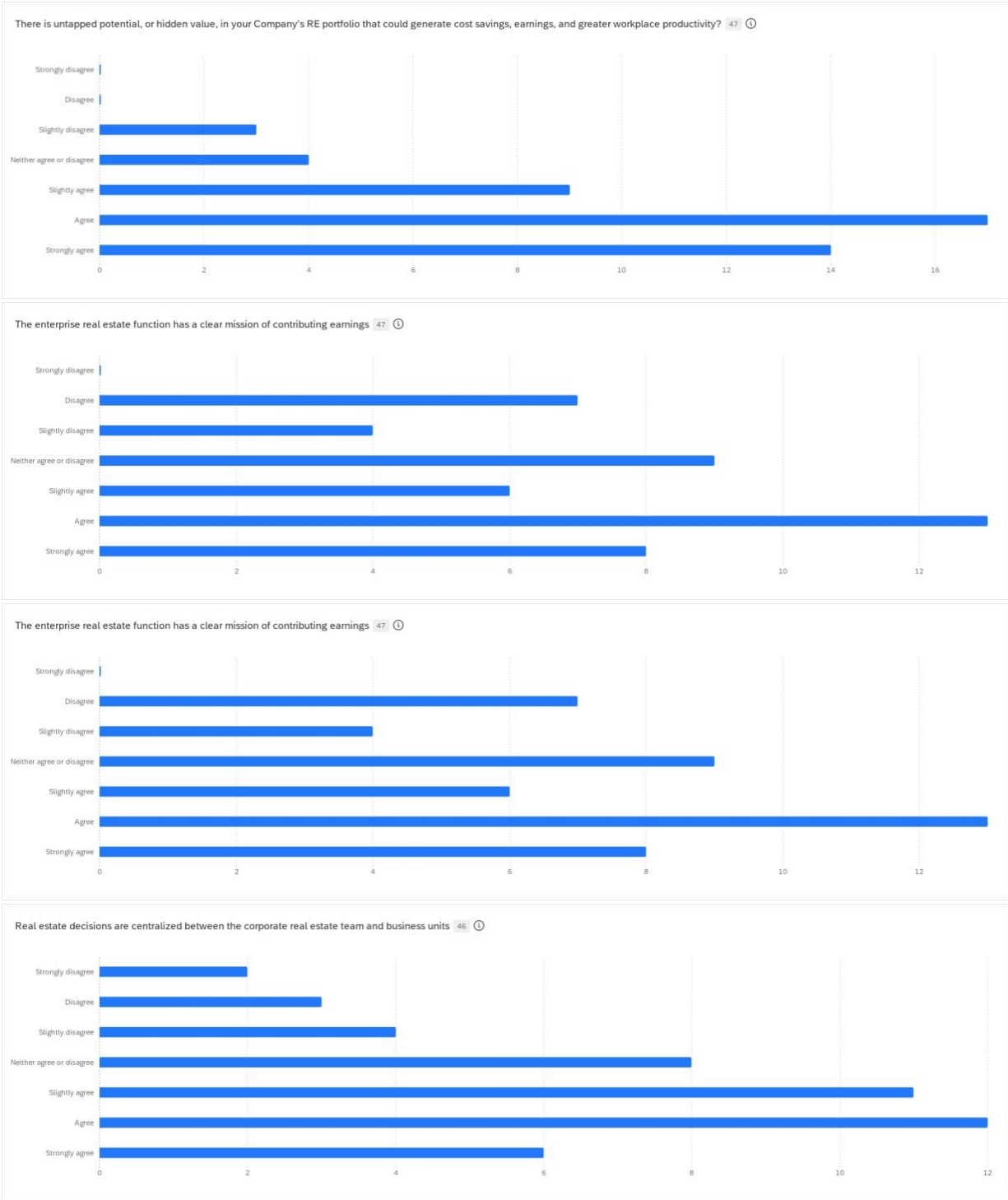
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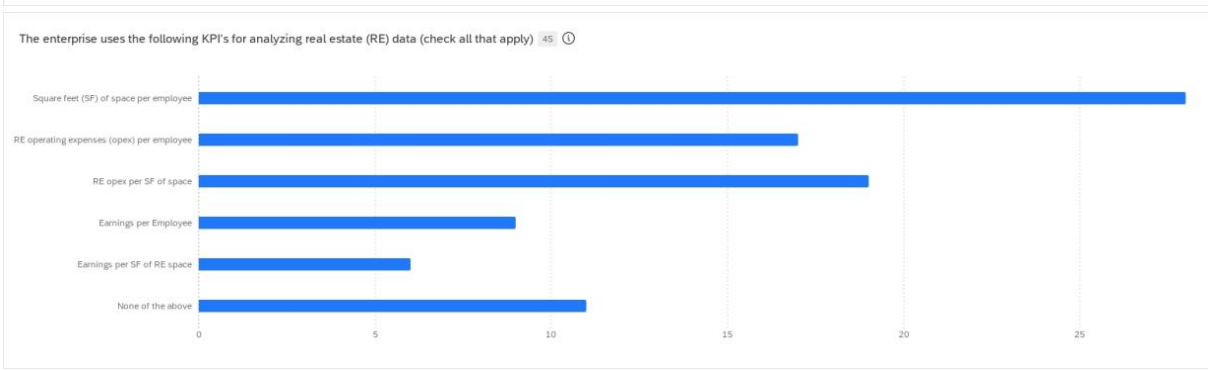
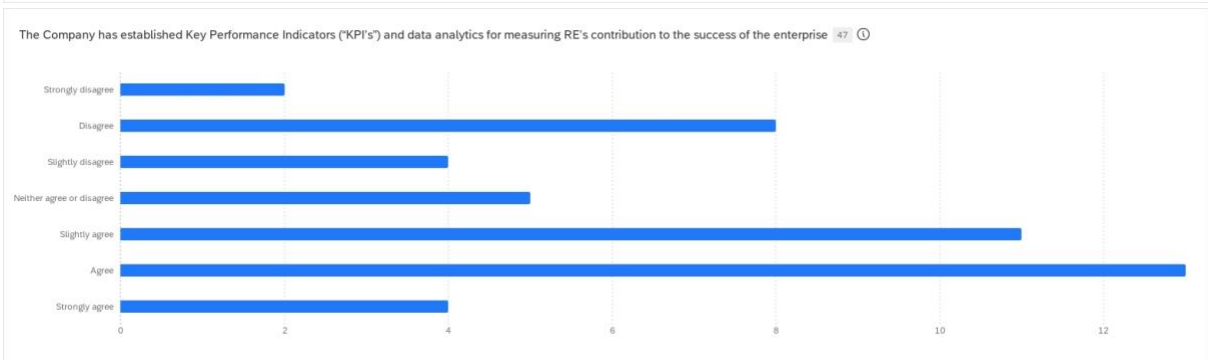
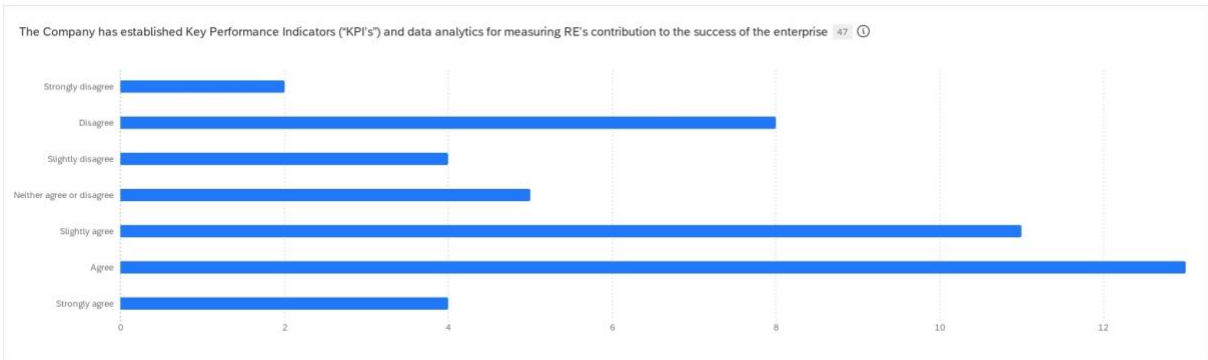
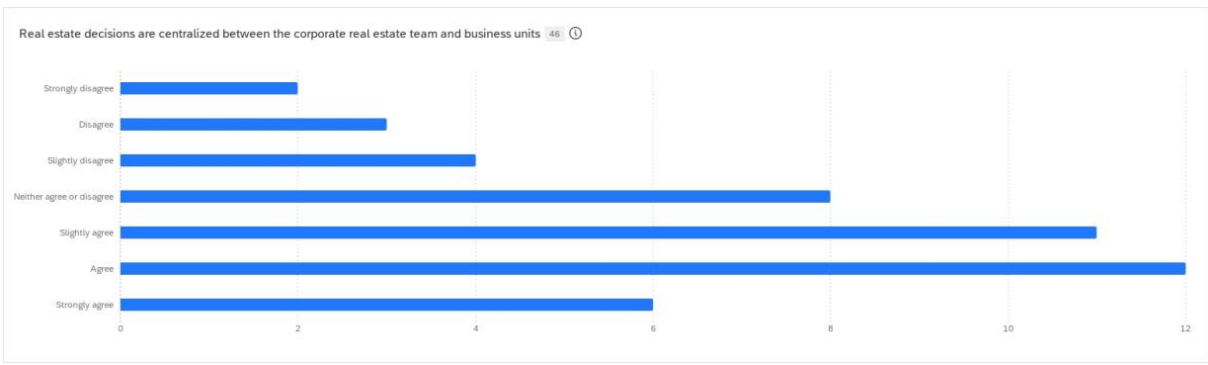
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Mar 21, 2023 2:21 PM

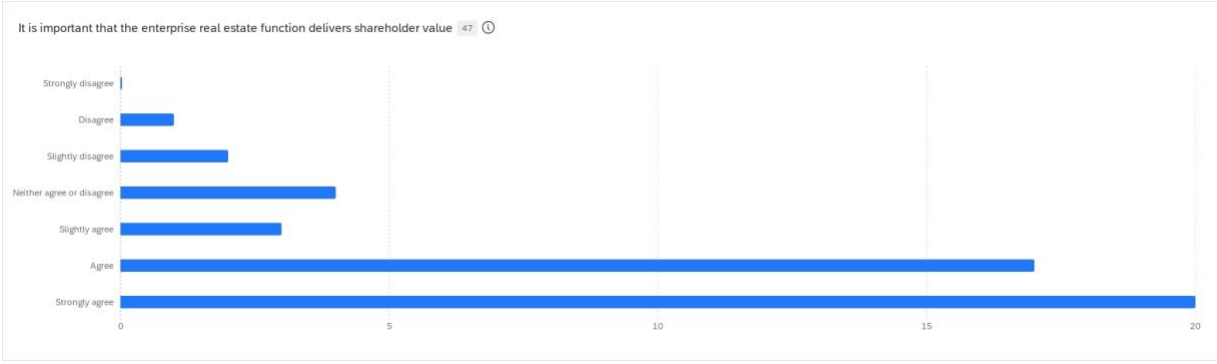
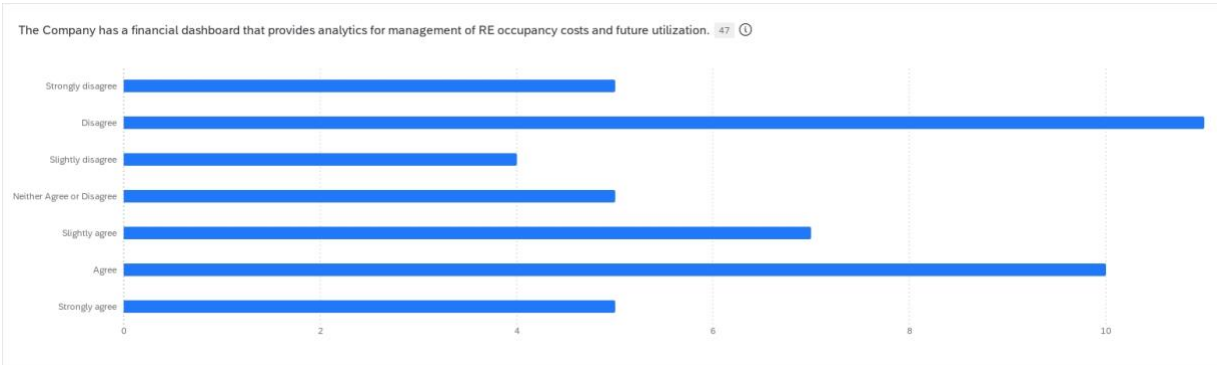
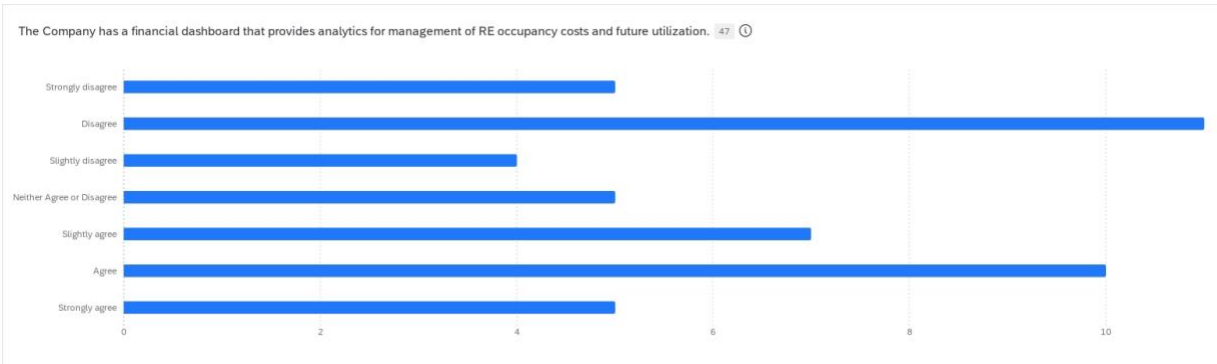
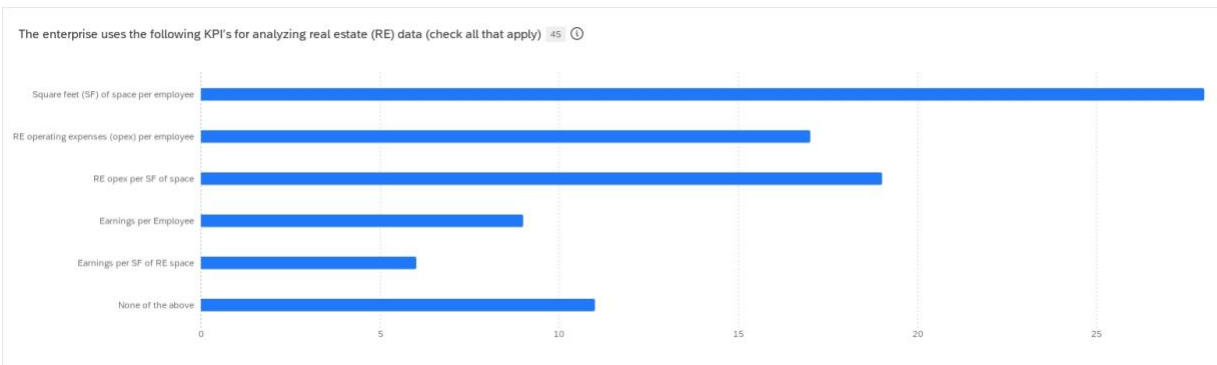


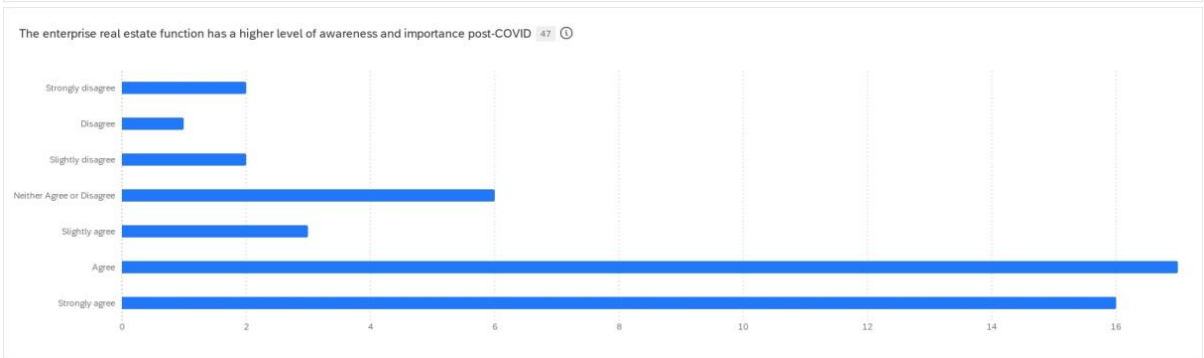
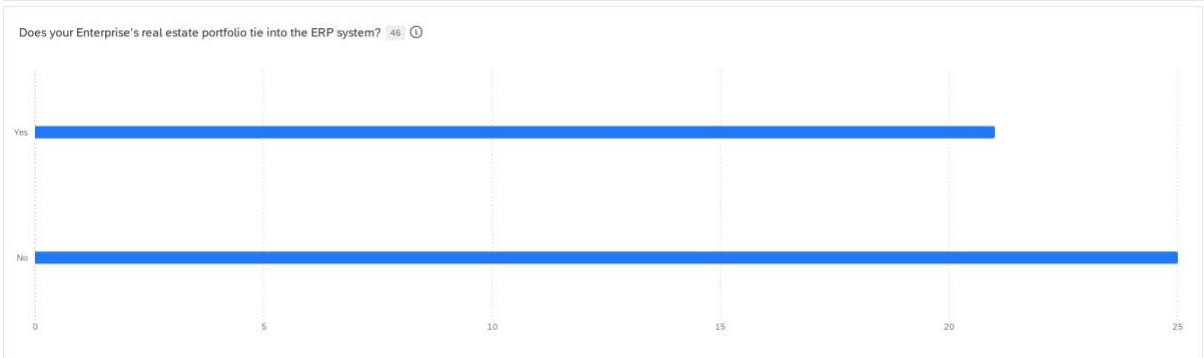
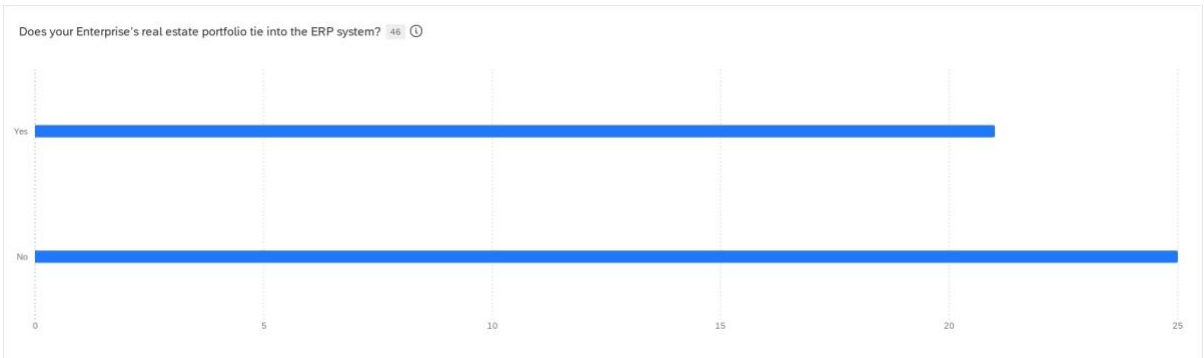
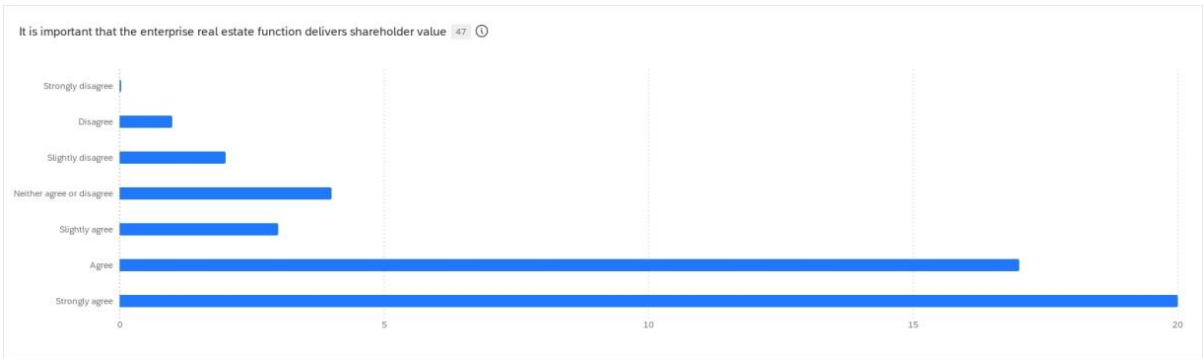




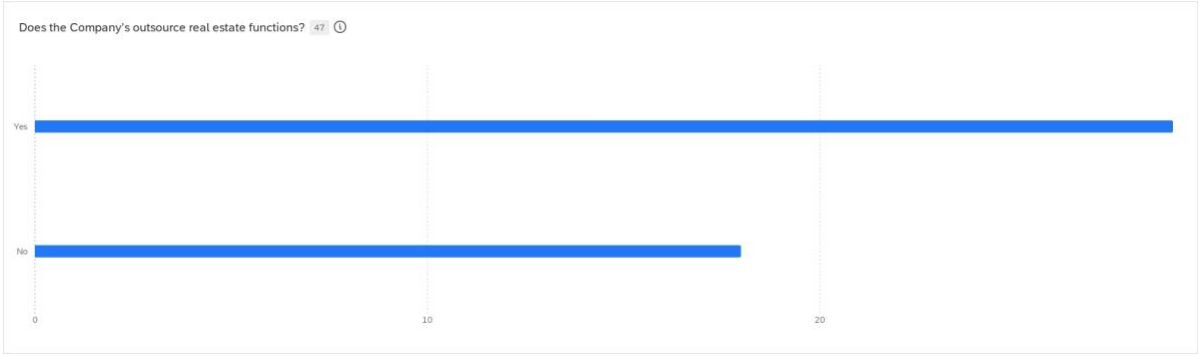
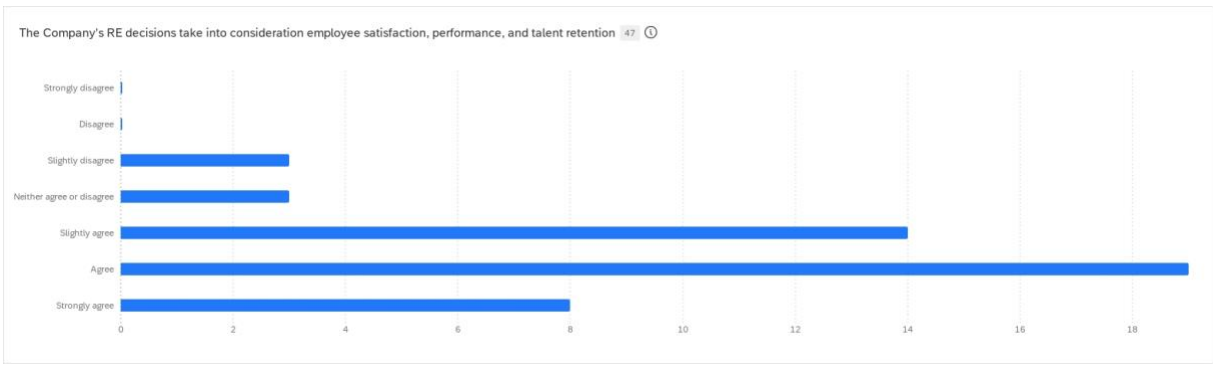












Is there anything else you wish to add about increasing real estate optimization in your organization?

The company has a very centralized decision making that is center lead at company hq and not resident in regional or local business heads. Very different than pre2008 when decisions were highly decentralized in large regional leadership centers. ***

In assessing footprint optimization it is important to develop differentiated strategies for each of the assets classes that you manage: office, lab, warehouse, manufacturing, retail, etc... ***

Real estate is becoming less important as companies move away from a focus on the office as the only place to work. ***

Municipal government undervalues the benefits of considering investment as part of improving its asset base and therefore, its net position relative to the balance sheet. ***

Energy savings (solar) and electric chargers are increasingly requested by clients ***

We have one RE professional for our entire organization and believe we are underequipped and in need of a more professionalized approach to managing our portfolio. ***

Is there anything else you wish to add about increasing real estate optimization in your organization? ⓘ

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We have one RE professional for our entire organization and believe we are underequipped and in need of a more professionalized approach to managing our portfolio. ***

Is there anything else you want to add about how the real estate function of your organization is preparing for the future? ⓘ

The company is evolving quickly from a strategic position reporting directly to the office of the CEO or direct to the CFO where results from 2019-2021 were key strategic impact to a reduced position as a simple function within the company's sourcing group and which most CRE functions would be outsourced. ***

We are at an interesting time where real estate is a bit on hold as our company decides how and where they want to work in the future. I also see a lot of replacement of people with machines just now starting. ***

Flexibility is key. With current interest rates and costs of construction, we are taking in more buildout work as the cost of our capital is lower than that of the Landlord. No reason to pay an increased baseline rent starting now that you will be locked in for next 10+ years and compounding every option period. ***

We own critical infrastructure that continues to accumulate deferred maintenance liabilities due to lack of investment. Government does normally (but should) weigh the return on investment in real estate and infrastructure as an economic development benefit. ***

We are further developing BI dashboards and rolling out to most employees ***

Is there anything else you want to add about how the real estate function of your organization is preparing for the future? ⓘ

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APPENDIX C

DETAILED RESEARCH CONSENT

You are being invited to take part in a research study. A person who takes part in a research study is called a research subject, or research participant.

In this consent form “you” generally refers to the research subject.

What should I know about this research?

- Someone will explain this research to you.
- This form sums up that explanation.
- Taking part in this research is voluntary. Whether you take part is up to you.
- You can choose not to take part. There will be no penalty or loss of benefits to which you are otherwise entitled.
- You can agree to take part and later change your mind. There will be no penalty or loss of benefits to which you are otherwise entitled.
- If you don’t understand, ask questions.
- Ask all the questions you want before you decide.

Why is this research being done?

The purpose of this research is to collect insights and perspectives from corporate real estate executives, senior leaders of public and private enterprises, and management consultants on how the real estate owned and leased by companies can be optimized more proactively.

About 10 to 15 subjects will take part in this research.

How long will I be in this research?

We expect that your taking part in this research will last less than one (1) hour.

What happens to me if I agree to take part in this research?

You will be asked questions about optimizing enterprise real estate in a live or virtual meeting via Zoom.

The questionnaire or interview will be about 10 to 12 questions in length and the interviewer will take notes on your answers.

What are my responsibilities if I take part in this research?

If you take part in this research, you will not be responsible for anything other than answering the questions and discussing your thoughts on real estate optimization.

Could being in this research hurt me?

This research will be confidential as to not hurt you.

Will it cost me money to take part in this research?

No, it will not cost money to take part in this research.

Will being in this research benefit me?

We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits to you include gaining new perspectives on how real estate assets within public and private enterprises can be more proactively managed and optimized.

The opportunity to contribute new knowledge to the profession of corporate real estate management is also a benefit of your participation.

What happens to the information collected for this research?

We may publish the results of this research. However, we will keep your name and other identifying information confidential.

We protect your information from disclosure to others to the extent required by law. We cannot promise complete secrecy.

Who can answer my questions about this research?

If you have questions, concerns, or complaints, or think this research has hurt you or made you sick, talk to the research team at the phone number listed above on the first page.

This research is being overseen by an Institutional Review Board (“IRB”). An IRB is a group of people who perform independent review of research studies. You may talk to them at (215) 707-3390 or irb@temple.edu if:

- You have questions, concerns, or complaints that are not being answered by the research team.
- You are not getting answers from the research team.
- You cannot reach the research team.
- You want to talk to someone else about the research.
- You have questions about your rights as a research subject.

Can I be removed from this research without my approval?

Yes, the person in charge of this research can remove you from this research without your approval.

What happens if I agree to be in this research, but I change my mind later?

If you decide to leave this research, contact the research team and the investigator will honor your request.

Will I be paid for taking part in this research?

No, you will not be paid for taking part in this research.