

Behind the Curtain of Corporate Restructuring Spin-offs: A Case Study Analysis of Technical Project-Based Organizations

Stephen Davis and Dr. Timothy Kotnour

University of Central Florida, Department of Industrial Engineering & Engineering Management
Orlando, FL, USA

St316255@ucf.edu; Timothy.Kotnour@ucf.edu

Dr. Serina Al-Haddad

Rollins College, Department of Business
Winter Park, FL, USA

shaddad@rollins.edu

Abstract

This paper aims to articulate observations of a technical organization during corporate restructuring. It conducts a systematic literature review to identify factors of drivers, actions, and outcomes within a corporate spin-off, the authors then conducted three case studies of spin-offs using those findings using surveys and interviews of real-world executives who managed a corporate restructuring spin-off. Additionally, this paper gives further insight into the relationships of actions and outcomes of spin-offs, finding that there are correlations between change management, systematic change and organizational restructuring to performance, effects on employees, and market fit strategy. Engineering managers can use this paper to understand the dynamics within a corporate restructuring and act accordingly. Engineering management researchers can use this paper to get further insight into the restructuring processes in technical organizations.

Keywords

Strategy, Subtractive Change, Corporate Restructuring Spin-offs, Organizational Spin-offs, and Spin-offs

1. Introduction

The prevalence of conglomerates is diminishing, as noted by Nolan et al. (2007) and Tubke (2004). Since the 80's, 20% to 50% of acquisitions, mergers, and divestitures were spin-offs, primarily to enhance strategic and organizational performance of the parent firm (Bergh, 2007; Moncada, 1999; Lumer, 2022). Organizations are increasingly opting to divest and specialize to enhance investment appeal (Kengelbach et al., 2014; Bergh et al., 2008; Tubke, 2004). Divestitures occur in various forms: Spin-offs, Sell-offs, and Carve-outs; this paper concentrates on corporate restructuring spin-offs. In this variation of spin-offs, assets are transferred to a new entity or separate corporation. Examples include historically dominant conglomerates, General Electric, Siemens, and Mitsubishi. These companies were especially dominant in the power generation sector, however, spun off their energy businesses into independent entities. This shift is partly driven by performance and market concerns, as traditional fossil fuel-based power generation faces scrutiny, prompting a move towards greener, decarbonized alternatives. The complexity of this transition involves multiple angles, including managerial influence based on decisions and desired outcomes, technology integration, and the scale of change, which is often unfamiliar to many organizations (Ajmal and Koskinen, 2008; Love et al. (2005). This change, in the form of a corporate restructuring spin-off, poses significant challenges

to technical project-based organizations due to the intricate engineering and accompanying managerial complexities (Wiedner & Mantere, 2018). In these organizations, executing a corporate spin-off is challenging, involving multidisciplinary integration, constant project changes, resource overlaps, leadership's technical knowledge gaps, and stringent safety and quality controls (Ajmal & Koskinen, 2008; Love et al., 2005). This evolving landscape presents a fertile ground for research in an area not typically emphasized in existing literature (Corley and Gioia, 2004). Figure 1 conceptualizes this process, depicting a Technical Based Project Organization (TPBO) at T0 undergoing a spin-off to emerge as a new organization at T1.

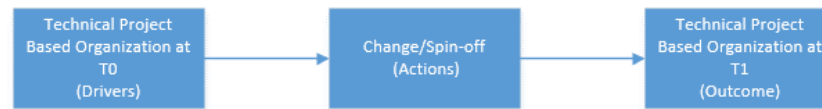


Figure 1. Conceptual Model

This paper aims to give insight into the challenges faced and provide depth into their efforts. Its objective is to establish a framework linking spin-off actions to outcomes and providing engineering managers with understandings on influencing these outcomes.

1.1 Objectives

The necessity for more comprehensive research into corporate restructuring, particularly in the context of spin-offs, is evident in the literature. Feldman and McGrath (2016) explain how most research focuses on the parent organizations, particularly the financial, legality, and drivers surrounding corporate spin-offs. Some identified gaps include a need for overall taxonomy to the spin-off literature, better understanding of the actions taken, more insight into the spun-off entity, as well as a better understanding of the relationships between those actions and the outcomes.

Tubke (2004) highlights the need for managers to have a deeper and more focused understanding of how their decisions and actions can shape the outcomes of corporate spin-offs. This knowledge is especially pivotal during the process as it often involves complex transitions, where a segment of an organization is separated and established as an independent entity. This process can be filled with challenges and uncertainties in the newly formed entity. The process of separation demands that managers, especially those in the non-parent (or spun-off) entity, are well-equipped to navigate these transitions. Understanding the dynamics of this process is critical. It involves not just the logistical and operational aspects, but also an appreciation of how these changes can influence the emerging organization's culture, strategic direction, and market positioning as it asserts its independence. To fill the existing literature gaps, this research was formulated to provide two perspectives: Theoretical Perspective (Research-Oriented) and Operational Perspective (Managerial-Oriented). Through this dual-focused perspective, this research aims to bridge the gap between theory and practice, providing valuable insights for academics and practitioners in engineering and operational management. This research is dedicated to addressing key gaps in the literature on corporate spin-offs. It aims to establish a taxonomy of the spin-off process, highlighting constructs, factors, and variables. Additionally, the study seeks to explore the relationships between specific actions such as systematic change, change management, and organizational restructuring, and their outcomes like organizational performance, effect on employees, and market fit strategy. By contributing research into these areas, this paper intends to expand the understanding of corporate restructuring spin-offs.

2. Literature Review

2.1 Literature Review Method

To identify factors in literature research for corporate restructuring spin-offs, a two-step method was applied, integrating the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, with an added step of forward/backward citation analysis. The initial phase involved the application of the PRISMA process, illustrated in Figure 2. PRISMA is widely recognized for its systematic application in various literature reviews, especially in the healthcare sector, as highlighted by Liberati et al. (2009). Its structured and thorough approach, although not obligatory in this research area, offers a solid base for conducting in-depth and comprehensive research.

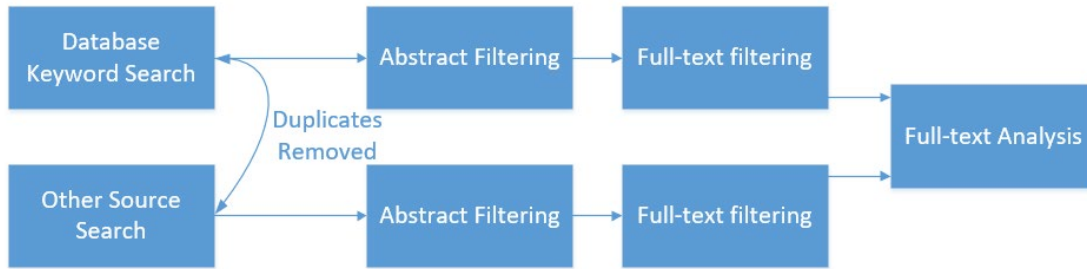


Figure 2. PRISMA Research

The second phase of the literature review methodology utilized forward and backward citation analysis, as described by Briscoe et al. (2020). The methodical examination of each article and the integration of related articles into the results pool are detailed in Figure 3. As part of this procedure, each peer-reviewed article was systematically added to a specialized collection database, facilitating future reference and tracking. During this collection stage, every article underwent a thorough scan for factors, references, and quotes, while also examining which other articles cited it. These findings were cataloged in a data set table, organized by factors and constructs.

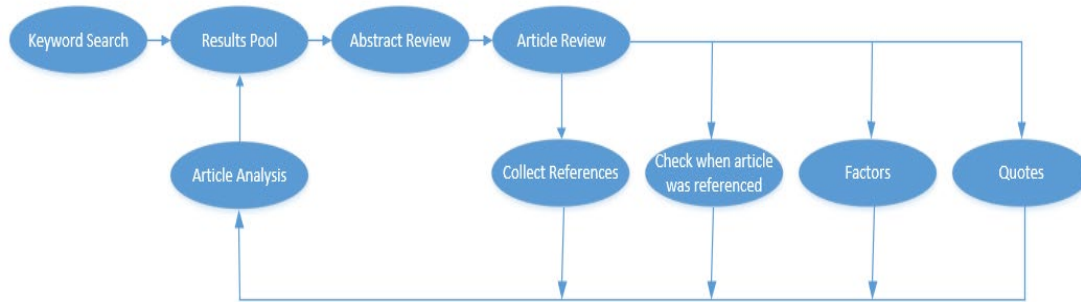


Figure 3. Literature Review Process with Forward and Backward Citation

2.2 Literature Review Findings and Proposed Framework

A systematic literature review was performed with the selected search databases Emerald & Web of Science, this was due to their library depth of peer-reviewed journal articles. The keywords that were used for the search: corporate spin-off, corporate divestitures, organizational Spin-off, organizational divestitures, and subtractive change. As seen in Figure 4, the PRISMA process and forward/backward citation resulted in fifty-one articles identifying factors for drivers, actions, and outcomes of corporate spin-offs. Many of the articles used in the research were focused on the stock performance of a corporate spin-off, or the drivers that result in a spin-off (Brauer, 2006, Tubke 2004, Feldman and McGrath, 2016). It is worth mentioning that many articles that came up because of the search and were not included focused on a merger and acquisition (M&A). The reason this is important is because in the articles collected, they made mention that M&As have been a focus in academic literature, when comparatively divestitures have received much less scholarly attention.

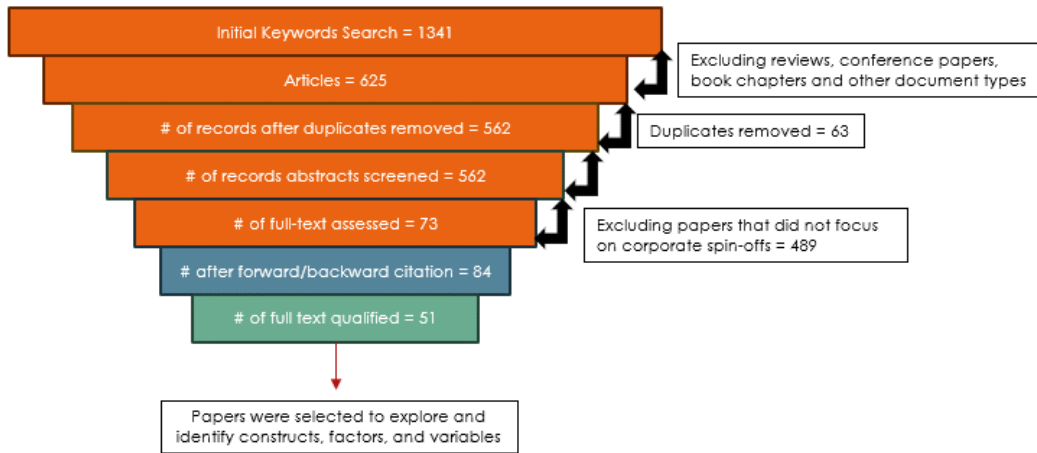


Figure 4. PRISMA and Forward/Backward Citation Results

Within the existing body of research on corporate spin-offs, there are primarily three focal areas: financial economics, legal considerations, and strategic management, as highlighted by Feldman and McGrath (2016). Financial economics literature often views divestitures as a solution to issues of profitability or return on investment. In contrast, strategic management literature regards spin-offs as a tool for value creation. Legal research primarily delves into the tax implications of spin-offs, especially in the United States and Europe, examining the distribution of shares to shareholders through a legal perspective (Navatte and Schier, 2017).

One gap that emerged during the literature review was a consolidated understanding of the constructs and factors involved in the spin-off process and a lack of focus on how managers can influence outcomes through their actions. This identified gap significantly shaped the development of this paper, which aims to construct a foundational framework. Figure 5 provides the constructs, factors, and variables within the three constructs of a corporate spin-off. The three constructs are drivers, actions, and outcomes.

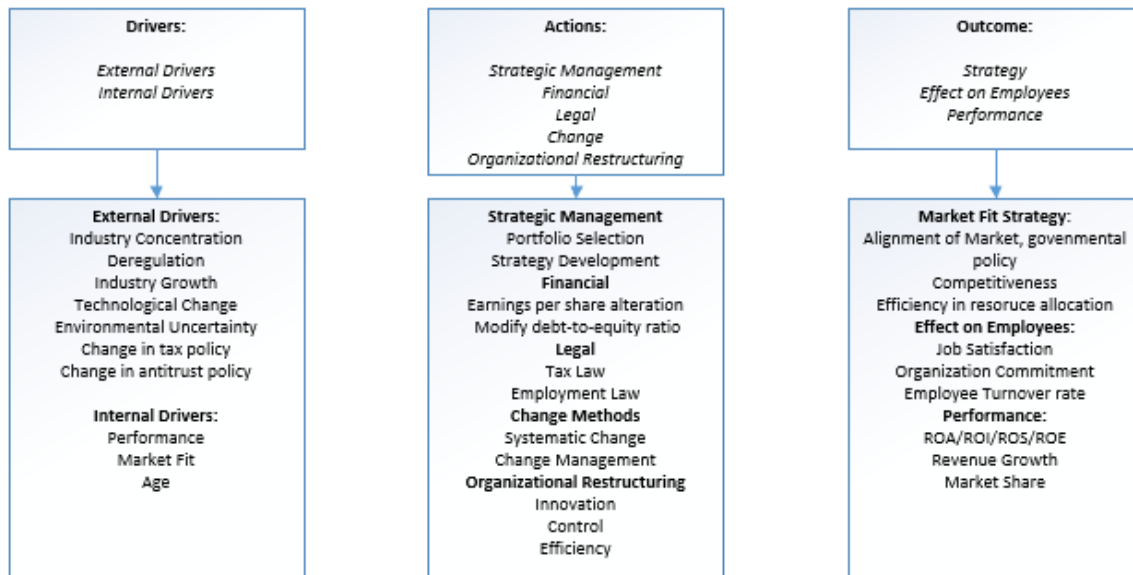


Figure 5. Constructs, Factors and Variables of a Spinoff

2.2.1 Drivers

Understanding the drivers behind a corporate spin-off is fundamental, as they mark the beginning of the process. It is important to recognize these drivers and their impact on the organization. The drivers help in identifying the current

challenges the organization faces and what it deems as success. This awareness aids the organization in adapting and forms the basis for future decision-making. Spin-off drivers are either internal or external. Internal drivers are those that the organization has created and had control over at some point. In contrast, external drivers are those beyond the organization's direct control and are not self-generated.

In the context of a spin-off, factors like industry concentration or industry growth play a crucial role as external drivers (Hopkins, 1991). This is evident in scenarios where businesses are either struggling to survive in a competitive market or are poised for rapid expansion. A pertinent example is the spin-off of Siemens Energy from Siemens AG. An analysis of this case reveals how industry concentration, driven by a shrinking market and heightened competition, led to a buyer's market situation. With reduced revenue pools for major players in the power generation equipment manufacturing sector, spinning off became a strategic choice. Conversely, the spin-off of Siemens AG's healthcare sector exemplifies the impact of industry growth. In this case, the market dynamics were characterized by significant expansion, prompting the spin-off to leverage this growth and establish an independent path for the new entity. This scenario highlights how diverse market conditions, whether characterized by concentration or growth, can influence the decision to pursue a spin-off.

Technological change, identified as an external driver, influences corporate spin-offs, as noted by Harrigan (1982) and Jensen (1993). This influence is particularly pronounced in rapidly evolving technological landscapes, often accompanied by environmental uncertainties. For instance, in the coal sector, numerous divestitures have been prompted by technological shifts. The urgency to develop innovative technologies, especially as markets move towards decarbonizing assets, creates a demand for innovation (Bergh and Lawless, 1998). In such scenarios, the structure of conglomerates, often characterized by rigid policies and intense competition for research and development funding, can be a hindrance. In contrast, leaner organizations may find it easier to adapt and innovate in response to technological changes.

Examining the AT&T spin-offs from the mid-1980s, it becomes evident that government involvement, particularly through antitrust policies, played a significant role in influencing the likelihood of a spin-off. Additionally, tax policy is another factor linked to governmental influence. An analysis of the geographical distribution of spin-offs reveals a higher frequency in the United States and Europe (Hoskisson & Hitt, 1990; Turk & Baysinger, 1989), which can be attributed to the tax benefits available in these regions. These factors underscore the impact of government policies on corporate spin-off decisions.

Coming to internal drivers, the literature suggests that internal drivers of spin-offs are often self-induced, a perspective shared by practical experience. One such internal driver is poor performance, frequently serving as a catalyst for the decision to spin off. Tubke (2004) highlighted that poor performance is a common reason behind organizational spin-offs. This was exemplified in 2022 when AT&T spun off its Warner Bros entity due to underperformance. Additionally, the size of the organization plays a role. Research by Sembenelli and Vannoni (2003) indicated that larger organizational size increases the likelihood of a spin-off. Typically, in conglomerates experiencing growth in certain divisions, units with smaller market shares or limited growth potential are more likely to be divested. This resonates with firsthand experiences, where spin-offs were pursued in sectors perceived as having limited growth prospects compared to more rapidly growing areas of the parent company.

Another recent case is Johnson & Johnson's 2021 decision to spin off its consumer health division to focus more on its pharmaceutical and medical device sectors. This move exemplifies the internal driver of excessive diversification, where a conglomerate's overly broad scope leads to conflicting synergies, necessitating a spin-off to realign focus on core competencies. Markides (1992) supports this, showing that high diversification, alongside poor performance or strong core business profitability, are common reasons for organizations to undertake spin-offs.

2.2.2 Actions

Research focusing specifically on the actions involved in corporate spin-offs is sparse, as highlighted by Brauer (2006). Most existing studies tend to concentrate on the drivers and outcomes of spin-offs. However, this scarcity of research does not diminish the importance of thoroughly investigating the actions during a spin-off, given their impact on the outcome. A limited focus on this area is expected, considering the complexity of analyzing spin-off actions, which require a multidisciplinary approach due to their varied nature. In the available literature, the primary insights into spin-off actions come from legal and financial journals. There is some coverage in organizational and strategic management journals, but it is infrequent and often focuses more on the parent company rather than the new,

independent entity. To construct a more comprehensive perspective, it is necessary to incorporate additional topics from strategic management and change methods literature. This broader scope has led to the identification of five key factors influencing spin-off actions: legal aspects, financial, change methods, restructuring processes, and strategic management.

Examining spin-offs through a legal lens reveals two primary themes: tax law and employment law. In terms of tax considerations, the United States and Europe emerge as advantageous regions, as noted by Hoskisson and Hitt (1990) and Turk and Baysinger (1989), primarily due to certain tax-free provisions in specific situations. Organizations can achieve this by dividing their active and passive assets and transferring a portion to the newly incorporated company without undergoing a liquidation process. This is typically facilitated through a resolution at a shareholder meeting, where shareholders are allotted shares from the newly formed company in exchange for a partial transfer of assets. On the other hand, employment law presents a more complex scenario. It is challenging to generalize how employment laws are managed during a spin-off since each country has its specific legal frameworks. However, it is crucial to acknowledge this aspect and work closely with the legal team to ensure adherence to all local employment legal requirements, as emphasized by Navatte and Schier (2017). Understanding these legal drivers is vital, especially in the face of changes in laws, deregulation, or other legal challenges, as they necessitate adaptations in the approach taken during the spin-off process.

From a financial perspective, a corporate spin-off is a form of divestiture, characterized as a transaction that reshapes the consolidation scope of a group while initially maintaining its shareholder base. Typically, a spin-off transaction unfolds in two phases. The first phase involves transferring a part of the assets to either an existing or a newly established subsidiary. In the second phase, shares of this subsidiary are distributed to the shareholders of the parent company, as detailed by Navatte and Schier (2017). This area has been extensively researched, with many journals exploring the financial and accounting aspects of these transactions (Feldman and McGrath, 2016). The financial actions during a spin-off frequently focus on share price and earnings. Experts often recommend involving certified financial and accounting professionals to manage these complex transactions. For general managers, two crucial factors to understand are the alteration of earnings per share and the impact on the equity-to-debt ratio. Understanding how these factors affect the overall performance is essential (Murray, 2008; Boreiko and Murgia, 2016). The process begins with the allocation of assets to a subsidiary, followed by the distribution of its shares to the parent company's shareholders and the payment of dividends. This procedure involves transferring assets and liabilities at their reasonable value, which alters the equity-to-debt ratio. Notably, a spin-off transaction can lead to an equity increase for the initiator, as the transferred assets and liabilities are valued at market rates, often differing from their book value.

Strategic management plays a critical and challenging role in corporate spin-offs, where managers must navigate the formulation and implementation of strategies in both short-term and long-term contexts (Lang, Poulsen, and Stulz, 1995; Bergh et al., 2007). The strategic decisions made during a spin-off are important, as they can significantly impact the organization's growth. The goal of strategic management in this context is to establish a profitable and sustainable competitive edge, often through careful portfolio selection. Portfolio selection involves determining the composition of an organization's business areas, which can be categorized into five types: single, dominant, related-constrained, related-linked, or unrelated business (Rumelt, 1982; Bergh, 2001; Bergh et al., 2007). Single, dominant, and related-constrained businesses derive most of their revenue from a closely related group of products or services, while related-linked and unrelated businesses are more diversified and have less interdependent product lines or business areas. Each type requires a distinct management approach and offers different pathways to create value. Understanding the type of portfolio to be selected is important, as it directly influences the identification of the drivers behind the spin-off. In other words, the process of identifying drivers should seamlessly integrate with the portfolio selection process. Effective portfolio selection empowers managers to restructure and realign related products or business lines, thereby influencing investor perceptions and assessments of the new organization's value-creation potential. Another key aspect of strategic management in spin-offs is strategy development, which requires an understanding of the organization's life cycle and how it affects resource allocation at various stages. The primary focus in this case is on formulating and executing strategies that will guide the spin-off to success. This process demands a nuanced approach, as distinct phases of the spin-off may necessitate varying strategies and resource commitments.

Change methods are another factor in corporate spin-offs, primarily because a spin-off represents a significant organizational change. The effectiveness of managing this change hinges on the drivers identified, as they inform what specific transformations are necessary (Burnes, 2000; Ansoff & McDowell, 1990). Managers involved in a corporate spin-off need to be well-versed in the various change management and systematic change methodologies available,

understanding how to apply them effectively to ensure the organization's success during the spin-off process (Albert 1992; Corey and Gioia, 2004; Cummings and Bridgman, 2016). Change management focuses on guiding and facilitating the necessary shifts in an organization as it adapts to evolving strategies and both internal and external business environments. It involves selecting and implementing strategies that align with the short- and long-term goals of stakeholders, considering the unique circumstances of the spin-off (Al-Haddad and Kotnour, 2015). There are numerous approaches to change management, including Kotter's leading change model and the Judson Method, each offering distinct strategies for managing change. Systematic change, on the other hand, encompasses a range of processes and tools designed to aid decision-making. Examples of systematic change methodologies include lean methodology and Six Sigma. These frameworks provide structured approaches to managing change, focusing on efficiency, quality improvement, and process optimization. For a successful spin-off, understanding and effectively applying these change methodologies is essential to navigate the complexities of organizational transformation.

The last factor in the action construct for corporate spin-offs is organizational restructuring. This encompasses activities aimed at transforming beliefs, practices, and relationships, not just internally within the organization but also in its external interactions (Bowman and Singh, 1993). Managers utilize organizational restructuring to modify work assignments, authority relationships, and overhaul operational processes, with the ultimate objective of enhancing efficiency and value. Key sub-factors in organizational restructuring, especially in spin-off scenarios, include control, innovation, and efficiency. These elements are crucial for management to assess and gauge the effectiveness of the restructuring in creating value for the newly independent entity. They also play a significant role in establishing a competitive advantage and maximizing the entity's perceived value. This aspect of restructuring relies heavily on a deep understanding of the drivers behind the spin-off. The decisions made during the restructuring process should be strongly influenced by these drivers, as they provide critical insight into the reasons for the spin-off and guide the direction of the changes needed to ensure the new entity's success. Thus, aligning restructuring efforts with the identified drivers is essential for a coherent and effective spin-off process.

2.2.3 Outcomes

Many studies on spin-offs aim to evaluate the outcomes of these activities for the entities involved. To gauge success, it is essential to establish clear objectives and determine relevant performance metrics. A commonly used metric is the immediate stock market response following a spin-off announcement, typically assessed through an event study. This aligns with the drivers discussed earlier, where financial characteristics like annual stock returns, return on assets, equity, or sales are used to measure the financial performance impact of spin-offs. The outcomes of spin-offs can be broadly categorized into three main factors: the effect on employees, overall performance, and strategic outcomes. Each of these factors plays a role in determining the defined success of a spin-off.

An objective of a spin-off is to realign the organization's strategy to better match market demands, comply with governmental policies, regain competitiveness, or enhance efficiency. Interestingly, spin-offs from larger organizations have been associated with reduced R&D intensity (Hoskisson and Johnson, 1992). This poses a challenge, particularly for companies aiming to regain a competitive edge in an R&D-intensive market. To address this, such organizations might need to reestablish strategic controls and accept increased managerial risk, especially in terms of R&D investments (Hambrick and Schector, 1983; Robbins and Pearce, 1992). Previous studies have shown that a focus on financial controls can adversely affect internal innovation, thereby impacting R&D activities and the introduction of new products. On the other hand, strategic controls have been found to potentially boost internal innovation. This is evident in organizations that actively modify their portfolio, as they are more likely to adopt new technologies and products. In the context of the actions construct, strategic management and organizational restructuring provide managers with the tools to influence these outcomes. By effectively leveraging these tools, managers can guide the organization through the spin-off process, ensuring that the new strategic direction not only aligns with market and policy demands but also fosters innovation and competitiveness, especially in areas like R&D. This alignment is crucial for the spun-off entity to thrive in its post-spin-off environment.

The performance outcomes of spin-offs represent a well-explored area in research. However, much of this research tends to focus on the performance of the parent company or the stock performance of the newly formed entity. While these are important metrics, they may not fully guide managers on how to influence potential outcomes effectively. Establishing a connection between outcomes and actions, especially in legal, financial, and strategic management domains, can empower managers to have a more direct impact on these factors (Segev 1987; Smith et al., 1989; Parnell and Wright, 1993; Thomas and Ramaswamy, 1996). Traditionally, performance measurements have been heavily finance-oriented, focusing on profitability, return on assets (ROA), return on investments (ROI), return on equity

(ROE), or market share. For most profit-driven organizations, financial performance is a critical indicator, encompassing both revenue growth (top-line) and profitability (bottom-line). These metrics reflect an organization's financial health. Additionally, a business performance composite index is commonly used as a comprehensive measure of organizational health. This index typically integrates key financial ratios such as return on sales, ROA, and ROI. In numerous studies, the adoption of this business performance composite index is evident, providing a nuanced and multidimensional view of an organization's performance post-spin-off. This approach allows for a more holistic assessment of how well an organization is doing following a spin-off, beyond just stock market or parent company-centric perspectives.

The effect on employees is an important outcome of a spin-off, as it extends beyond the traditional financial metrics. Non-financial indicators are equally important in illustrating an organization's effectiveness and success (Mowday et al., 1982; Mayer and Schoorman, 1992). Key measures in this regard include job satisfaction, organizational commitment, and employee turnover. The effect on employees is particularly significant in spin-offs due to the inherent challenges of adapting to change, which often encompasses shifts in company identity, management, and operational structures. A common challenge in spin-offs is identity ambiguity, which is understandable given that employees accustomed to a certain company culture and structure may suddenly find themselves under a new corporate banner, with different leadership and operational guidelines. This change can be quite difficult, especially for long-tenured employees. Managers have a significant role in influencing this outcome, particularly through actions in restructuring and change management methods. Effective management in these areas can help ease the transition for employees, mitigate the effects of identity ambiguity, and foster a more positive adaptation to the new organizational environment post-spin-off.

3. Methods

This research utilizes case study methodology, a method known for providing a deep and empirical understanding of the subject matter (Flyvbjerg, 2006; Yin, 2009). Case studies are particularly useful when the research aims to explore real-world events and outcomes within a practical and theoretical context. Yin (2009) specifically recommends case studies for investigating action and outcomes, a method previously successfully applied to corporate spin-offs (Feldman and McGrath, 2016; Maldaner and Florin, 2018; Brauer, 2006; Lee and Madhavan, 2010; Moschieri and Mair, 2015). In this study, three cases of corporate spin-offs are examined through two instruments: surveys and interviews of senior management who were instrumental in planning and executing the spin-offs. This dual approach allows for a thorough exploration of each case from various angles, utilizing multiple data sources. The interviews provide deeper insights into the hypothesized relationships and their practical implications. The method of interviews and surveys is chosen for its ability to focus on specific topics and draw causal inferences, adding a targeted dimension to the research (Yin, 2009). Feldman and McGrath (2016) have emphasized the value of case study research in enriching the literature on this topic. The analysis includes both individual and cross-case examinations. Cross-case analysis is performed to identify common patterns and differences across the three cases, especially due to the small sample size in the individual cases. This not only adds depth but also enhances validity (Yin, 2009). The research aims to test the following relationships in Table 1.

Table 1. Hypothesis Testing

Factors	Performance	Effect on Employees	Market Fit Strategy
Systematic Change	X	X	X
Change Management	X	X	X
Organizational Restructuring	X	X	X

Figures 6 and 7 show the survey and interview analysis method.



Figure 6. Interview Analysis

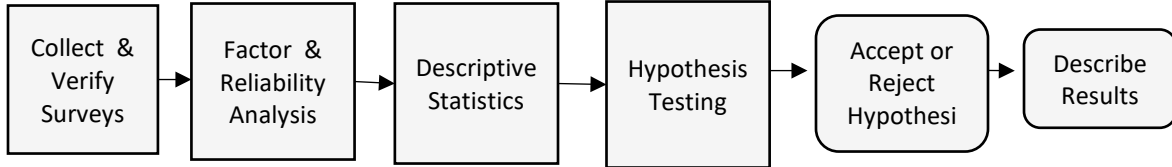


Figure 7. Survey Analysis

4. Data Collection

In this section Table 2 and 3 presents the individual case study data with the population size being defined by the top three levels of management. Table 4 presents the factor reliability.

Table 2. Case Information

Case Number	Survey Responses	Interview Responses	Population	Org Size	Business Cycle
1	17	7	74	17,284	Medium
2	13	6	51	12,498	Short
3	21	6	84	23,593	Long

Table 3. Survey Data Across Cases

Factors	Case one		Case two		Case three	
	N	Mean	N	Mean	N	Mean
Change Management	17	3.85	21	3.84	13	4.15
Systematic Change	17	3.64	21	3.27	13	3.66
Organizational Restructuring	17	3.72	21	3.61	13	3.77
Performance	17	4.06	21	4.04	13	4.07
Effect on Employees	17	2.92	21	2.74	13	2.61
Market Fit Strategy	17	3.53	21	3.29	13	3.59

Table 4. Survey Triangulation Across Cases and Reliability

Factors	N	Mean	Std. Dev	Cronbach's Alpha
Change Management	51	3.85	0.91	0.82
Systematic Change	51	3.51	0.98	0.73
Organizational Restructuring	51	3.69	0.97	0.79
Performance	51	3.06	0.81	0.78
Effect on Employees	51	2.77	0.89	0.77
Market Fit Strategy	51	3.45	0.69	0.71

5. Results and Discussion

5.1 Survey Results

All major factors and sub-factors considered in the study were evaluated using statistical analysis. The result of correlation analysis shows the relationships of Change Management, Systematic Management, and Organizational

Restructuring to Performance, Effect on Employees, and Market Fit Strategy. Presented in Table 5 and 6 is Kendall's Tau correlation measuring the strength and direction of relationship between factors identified.

Table 5. Correlation Results

Kendall's Tau		Performance	Effect on Employees	Market Fit
<i>Very Strong</i> > 0.35	Change Management	0.17	0.324	0.279
<i>Strong</i> > 0.3	Systematic Change	0.291	0.283	0.441
<i>Moderate</i> > 0.25	Organizational Restructuring	0.153	0.252	0.474

Table 6. Significance Test Results

Significance		Performance	Effect on Employees	Market Fit
<0.05	Change Management	0.139	0.003	0.009
	Systematic Change	0.011	0.009	0.002
	Organizational Restructuring	0.17	0.018	0.003

5.2 Interview Results

Interviews were conducted across all three cases within the top three levels of management. The responses were then sorted, and macro conclusions were drawn across factors. Table 7 shows the interview results with the sorted themes, along with their count of frequency across interviews.

Table 7. Interview Results

Performance	Market Fit Strategy	Effect on Employees
Focus R&D (better funding) (16) Autonomy & flexibility (12) Better financials (15) Customer & Market Share focused (11) Stakeholder management (8)	Regional Needs (12) Focused Strategy (6) Focused portfolio (17) Adapt to industry/market shift (9) Resource allocation (5) Regulatory alignment (4)	Motivation after 2-3 years (9) Improved commitment (2) Better alignment to company goals (10) Focus on training people (4) Uncertainty, apprehension & fear (19) Turnover has increased (5)
Change Management	Systematic Change	Organizational Restructuring
<ul style="list-style-type: none"> • Strong on technical integration (8) • Clear/regular communication (12) • Aligned to business goals/KPIs (8) • Training/workshops (13) • Continuous feedback (4) 	Strategic planning (4) Agile response (4) New tools (11) Enhanced collaboration (7) Optimized processes (7) Risk management (11)	Organization strategy focus (6) Market footprint (5) Accelerate innovation (12) Organization Effectiveness (12) Strengthened collaboration (9) Agile resource allocation (8)

5.3 Discussion

The findings from the corporate restructuring spin-offs showed several insights across various aspects of business operations and management. It was seen that there was a focus on R&D with better funding that led to increased autonomy and flexibility within the organization. This strategic emphasis resulted in improved financial performance, a heightened focus on customers and market share, and more effective stakeholder management. Additionally, the ability to address regional needs through a focused strategy and better-targeted portfolio was highlighted. The organizations were able to adapt more readily to industry or market shifts, with efficient resource allocation and regulatory alignment playing a significant role. Over time, there was a notable increase in motivation, commitment to company goals, and a focus on training, although these changes were also accompanied by initial uncertainty apprehension, and an increase in turnover rates. The second set of findings underscores the importance of technical integration and communication. Organizations that displayed strong alignment in these areas saw positive outcomes. Regular communication, aligned with business goals and key performance indicators were considered instrumental in measuring and tracking the spin-off. Training and workshops, coupled with continuous feedback fostered an environment conducive to learning and adaptation. Strategic planning and quick responses to changes were facilitated by the introduction of new tools, enhanced collaboration efforts, and optimization of processes. Effective risk

management also played a role here in facilitating these improvements. Finally, the research highlighted several correlations between various management actions and outcomes. Change management showed a strong positive correlation with the effect on employees and a positive correlation with market fit strategy. Systematic change was positively correlated with effects on employees and performance and with market fit strategy. Organizational restructuring was positively correlated to effects on employees and had a strong positive correlation with market fit strategy. These correlations demonstrate the importance of management actions in achieving desired outcomes in corporate restructuring spin-offs. The focus on organization strategy, enhancing the market footprint, accelerating innovation, improving organization effectiveness, and strengthening collaboration, along with agile resource allocation, were all key to success of these spin-offs.

6. Conclusion

This paper analyzed the literature on corporate restructuring spin-offs to identify the constructs, factors, and variables. The findings provided in-depth analysis of the wide range of factors in the literature and showed the diversity of the topics involved, while revealing that there were three main constructs, and forty-two factors/variables. These factors were then used to evaluate relationships between organizational restructuring, systematic change, change management, performance outcome, effects on employees and market fit strategy. Furthermore, this paper provides deeper insights to change methods and organizational restructuring. Through three case studies using surveys and interviews it was found that there are relationships between change management to effect on employees and market fit strategy, systematic change to performance, effect on employees and market fit strategy, and organizational restructuring to effect on employees and market fit strategy. This provides further insight into academics and practical applications. From an academic viewpoint, it can function as a good foundation for direction of future research in enhancing understanding of corporate restructuring spin-offs. From a practical viewpoint, it provides direct insight into how engineering managers can focus their efforts to influence performance, effect on employees, and market fit strategy. For further research there is still a large amount of knowledge that requires more exploration. Given the complexity and multidisciplinary nature of spin-offs, it is important to continue advancing our understanding of how a range of factors interrelate and influence each other. Integrating and analyzing more factors across different research areas to understand their interrelationships will be critical to enhance the success and competitiveness of spin-offs. Future research should focus on the relationships between drivers and their actions and incorporate content analysis of document reviews to gain deep insights into the decision-making processes of corporate spin-offs. This will enable engineering managers to make more informed decisions and lead to more success.

References

- Ajmal, M. M., & Koskinen, K. U. Knowledge transfer in project-based organizations: an organizational culture perspective. *Project management journal*, 2008.
- Albert, S. The algebra of change (No. 156). Strategic Management Research Center, University of Minnesota. 1991.
- Al-Haddad, S., and Kotnour, T. Integrating the organizational change literature: a model for successful change. *Journal of organizational change management*. 2015.
- Ansoff, H. I. and E. McDonnell *Implanting Strategic Management*, 2nd edn, Prentice Hall, New York. 1990.
- Bergh, D. D. Executive retention and acquisition outcomes: A test of opposing views on the influence of organizational tenure. *Journal of management*, 2001.
- Bergh, D. D., and Lawless, M. W. Portfolio restructuring and limits to hierarchical governance: The effects of environmental uncertainty and diversification strategy. *Organization science*, 1998.
- Bergh, D. D., Johnson, R. A., & Dewitt, R. L. Restructuring through spin-off or sell-off: transforming information asymmetries into financial gain. *Strategic Management Journal*, 2007.
- Boreiko, D., and Murgia, M. Corporate governance and restructuring through spin-offs: European evidence. *Strategic Management Journal*. 2016.
- Bowman, E. H., and Singh, H. Corporate restructuring: Reconfiguring the firm. *Strategic Management Journal*, 1993.
- Brauer, M. What have we acquired and what should we acquire in divestiture research? A review and research agenda. *Journal of Management*, 2006.
- Burnes, B. Kurt Lewin and the planned approach to change: a re-appraisal. *Journal of Management studies*, 2004.
- Corley, K. G., and Gioia, D. A. Identity ambiguity and change in the wake of a corporate spin-off. *Administrative Science Journal*, 2004.
- Cummings, S., Bridgman, T., & Brown, K. G. Unfreezing change as three steps: Rethinking Kurt Lewin's legacy for change management. *Human relations Journal*, 2016.

- Dekoulou and P. Trivellas, "Organizational structure, innovation performance and customer relationship value in the Greek advertising and media industry," *Journal of Business and Industrial Marketing*, 2016.
- Feldman, E. R., and McGrath, P. J. Divestitures. *Journal of Organization Design*, 2016.
- Finlay, J. K. Martin, P. M. Roman, and T. C. Blum, "Organizational structure and job satisfaction," *Administration & Society*, vol. 27, no. 3, pp. 427–450, 1995.
- Hambrick, D. C. Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. *Academy of Management journal*, 1983.
- Harrigan, K. R.. Deterrents to divestiture. *Academy of Management Journal*, 1981.
- Hill, C. W., and Hoskisson, R. E. Strategy and structure in the multiproduct firm. *Academy of management Journal*, 1987.
- Hill, G. Jones, and M. Schilling, Management: Theory & Cengage Learning. *Strategic Management Journal*, 2014.
- Hopkins, H. D. Acquisition and divestiture as a response to competitive position and market structure. *Journal of Management Studies*, 1991.
- Hoskisson, R. E., Johnson, R. A., and Moesel, D. D. Corporate divestiture intensity in restructuring firms: Effects of governance, strategy, and performance. *Academy of Management journal*, 1994.
- Hussein, S. Omar, F. Noordin, and N. A. Ishak, "Learning organization culture, organizational performance, and organizational innovativeness," *Procedia Economics and Finance*, vol. 37, pp. 512–519, 2016.
- Jensen, M. C. The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance*, 1993.
- Kotter, J. P., and Schlesinger, L. A. Choosing strategies for change. *Harvard business review*, 2008.
- Lang, L., Poulsen, A., and Stulz, R. Asset sales, firm performance, and the agency costs of managerial discretion. *Journal of Financial Economics*, 1995.
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P., Moher, D. *The PRISMA statement for reporting systematic reviews and meta-analyses of studies*. 6(7), e1000100. 2009.
- Love, P. E., Fong, P. S. W., and Irani, Z. (Eds.). Management of knowledge in project environments. Routledge. *Journal of management*, 2005.
- Lumer, D. Divestiture: Doctrinal Development and Modern Application. *Antitrust Legal Journal* 67(1), 146–181. 2022.
- March, J. "Exploration and exploitation in organizational learning," *Organization Science*, vol. 2, no. 1, pp. 71–87, 1991.
- Markides, C. C. Consequences of corporate refocusing: Ex ante evidence. *Academy of Management journal*, 1992.
- Mayer, R. C., and Schoorman, F. D. Predicting participation and production outcomes through a two-dimensional model of organizational commitment. *Academy of Management journal*, 1992.
- Mazzei and D. Noble, "Big data dreams: a framework for corporate strategy," *Business Horizons*, vol. 60, no. 3, pp. 405–414, 2017.
- Miles and C. C. Snow, *Organizational Strategy, Structure, and Process*, Stanford University Press, Stanford, CA, USA, 2003.
- Mintzberg, "A typology of organizational structure," in *Organizations: A Quantum View*, pp. 68–86, Prentice-Hall, Englewood Cliffs, NJ, USA, 1984.
- Moncada-Paternò-Castello, P., Tübke, A., Howells, J., Carbone, M., & NETWORK, E. The impact of corporate spin-offs on competitiveness and employment in the European Union. *Academy of Management*. 1999.
- Moschieri C, Mair J. 2015. Research on Corporate Divestitures: A Synthesis. *Journal of Management & Organization*, 2015.
- Mowday, R. T., Steers, R. M., and Porter, L. W. The measurement of organizational commitment. *Journal of vocational behavior*, 1982.
- Murray, L. Spin-offs in an Environment of Debt. *Journal of Business Finance & Accounting*, 2008.
- Navatte, P. and Schier, G. Spin-offs: accounting and financial issues across literature. *Journal of Accounting Auditing Control*, 2017.
- Parnell, J. A. and Wright, P. Generic strategy and performance: an empirical test of the Miles and Snow typology. *British Journal of Management*, 1993.
- Pugh, D. J. Hickson, C. R. Hinings, and C. Turner, "Dimensions of organization structure," *Administrative Science Journal*, 1968.
- Quezada, F. M. Cordova, S. Widmer, and C. O'Brien, "A methodology for formulating a business strategy in manufacturing firms," *International Journal of Production Economics*, 1999.
- Reitzig and B. Maciejovsky, "Corporate hierarchy and vertical information flow inside the firm—a behavioral view," *Strategic Management Journal*, 2015.

- Robbins, S. P. *Organizational behavior* (10th ed.). Upper Saddle River, NJ: Prentice Hall.1992.
- Baum, R. and S. Wally, "Strategic decision speed and firm performance," *Strategic Management Journal*, 2003.
- Rumelt, R. P. Diversification strategy and profitability. *Strategic management journal*, 1982.
- Segev, E. Strategy, strategy-making, and performance in a business game. *Strategic Management Journal*, 1987.
- Sembenelli, A., and Vannoni, D. Why do established firms enter some industries and exit others? Empirical evidence on Italian business groups. *Review of Industrial Organization*, 2003.
- Smith, K. G., Guthrie, J. P., and Chen, M. J. Strategy, size, and performance. *Journal of Organization studies*, 1989.
- Thomas, A. S., and Ramaswamy, K. Matching managers to strategy: further tests of the Miles and Snow typology. *British Journal of Management*, 1996.
- Tübke, A., Alvarez de Toledo, P and Galán, J. Towards a first spin-off typology and a new concept for corporate spin-off research. *International Journal of Technology Transfer and Commercialization*. 2004.
- Turk, T. A., and Baysinger, B. D. *Factors affecting corporate strategy: Taxes, Policy, Corporate restructuring*. 1989.
- Wiedner, R., and Mantere, S. Cutting the cord: Mutual respect, organizational autonomy, and independence in organizational separation processes. *Administrative Science Journal*, 2018.

Biographies

Stephen Davis is a Ph.D. student at the University of Central Florida. He also holds bachelor's and master's degrees from Florida State University and University of Florida, respectively. Stephen has over 10 years of experience in project management, engineering management and strategy.

Dr. Timothy Kotnour completed his doctorate in Industrial & Systems Engineering with an emphasis in Management Systems Engineering at Virginia Tech in Blacksburg, Virginia. He completed his Bachelors of Science in Industrial Engineering at Bradley University in Peoria, Illinois. He is the Lockheed Martin St. Laurent Professor in the Department of Industrial Engineering and Management Systems at the University of Central Florida. He is the Director of the UCF Engineering Leadership and Innovation Institute and the Program Director of the Professional Engineering Management Program. He is the author of the books "Transforming Organization: Strategies and Methods" and "Inspiring the Leader Engineer: Instilling the Burning Desire and Confidence to Change the World." Dr. Kotnour has been awarded three NASA Public Service Medals (2016, 2005, and 2001) and an Outstanding Public Leadership Medal (2023) for the partnership work with the Kennedy Space Center. He is also a Fellow of the American Society for Engineering Management (ASEM). He was past editor of ASEM's Engineering Management Journal.

Dr. Serina Al-Haddad is an Assistant Professor at Rollins College in Winter Park, Florida. She completed her Ph.D. in Industrial Engineering and Management Systems and taught both undergraduate and graduate courses and was awarded the prestigious Arthur Vining Davis fellowship among other teaching excellence awards. Serina has more than twenty years of experience working in both academia and industry.