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Evaluating The ROI Of Digital Transformation Initiatives in SMEs

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ABSTRACT: Small and medium-sized Enterprises (SMEs) in the 21st century have altered their operational model, due to the heavy influence of digitalization, introducing both large opportunities and complex challenges. Considering this, this research paper examines the Return on Investment (ROI) of digital transformation in SMEs through a data-driven lens, by scrutinizing both quantitative metrics and qualitative outcomes, to determine its impact on digital value creation. However, while digitalization is crucial for SME survival and growth in the 21st century, measuring the tangible benefits continues to be a challenge, as numerous outcomes follow this transformation. Additionally, SMEs operate in various sectors and face diverse resource constraints. Through the analysis of numerous case studies of digital transformation in SMEs worldwide, including successful implementations such as 2assistU, GreenGrocer Tech, as well as failures such as M-Xchange, combined with financial data, this paper reveals that a comprehensive framework that goes beyond traditional financial metrics is assistive for the successful measurement of ROI. This framework, adapted from the Balanced Scorecard methodology, captures value creation across four dimensions: Financial Performance, Customer Perspective, Internal Process, and Learning and Growth, with specific metrics and a three-phase implementation guide tailored for resource-constrained organizations. Furthermore, it also deduces the operational efficiencies, enhancement of customer experience, and the long-term stability and competitive edge they have in the market. The research reveals that SMEs employing the Balanced Scorecard methodology achieve substantially more accurate ROI assessments than those relying on conventional financial approaches alone. When taken as a whole, the research shows that SMEs that use a methodical approach to match their digital effort to their primary business objectives will provide much greater returns than those that use these technologies without a clear strategy. The research concludes that the success of digital transformation may depend on organizational readiness, including employee training and strategic planning, and technological capability, which has broader implications, as SMEs constitute over 95% of businesses in developed economies, including Europe.

KEYWORDS: Business Performance, Small and Medium-sized Enterprises, Digital Transformation, Return on Investment, Technology Adoption in Business.

Introduction

The digital revolution has changed the business landscape for small and medium enterprises, where technology adoption is crucial for success in each respective sector. Recent studies indicate that 90% of SMEs view digitalization as crucial to their future success, yet only 25% feel adequately prepared to navigate this change effectively.[1] This demonstrated gap between awareness and execution has large implications for the method that businesses approach technology investments, which increases in complexity, when considering that SMEs have limited resources to pursue a full digital strategy, therefore making ROI evaluation critical for decision making.

This research is not intended solely for individual businesses and their measurement of success in the market. However, it can be observed from a broader perspective, as SMEs constitute a significant number of businesses in most developed economies, in which they often make up over 95% of all businesses, being the "backbone" of numerous regions,[2] such as in the EU[3] and the US.[4] As a result, this highlights the vitality of the digital transformation of SMEs in a global context, as the success (or lack of it) will heavily influence the global economy.

However, these small businesses have unique characteristics, such as limited resources and access to technology, as well as sparse manpower, that are not addressed by numerous ROI metrics designed specifically for larger businesses.

Consequently, a different, tailored evaluation of the ROI in SMEs will assist in capturing the entire projected value created through digital initiatives, as well as account for the exact specific constraints and opportunities that smaller businesses may be exposed to.

Measuring the digital transformation ROI adds an extra level of complexity due to the interplay between technological, operational, and strategic changes that are derived from these initiatives, which are also altered depending on the sector a particular business operates in. Unlike traditional capital investments, where returns can be measured and justified through financial statements and capital gain, a digital transformation may create value through appealing to customers, enhancing operational flexibility and innovation potential, which, if properly executed, might effectively target the full stack of a corporation. This is particularly challenging to measure because these investments could not yield profits right away, and their execution could have an impact on organizations at various scales and over various time periods.[5]

For SMEs, which have a low tolerance for uncertainty and short planning cycles, the relationship between investment and

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quantifiable results is a significant barrier. Furthermore, due to the transformative nature of these efforts, standard ROI calculations might not account for the entire range of value creation, which could result in underinvestment in vital technologies. Uncertainty is crucial to this shift because, in the absence of customized ROI analysis, SMEs might be reluctant to make investments in new technology and change the 'playing field' in the market, thus providing the effect of uncertainty, as conveyed by a leading technology and business journal, Fast Technologies.[5]

Theoretical Framework:

In addition, findings on the index of this specific ROI indicate that there is a growing recognition of various limitations present in some of the traditional financial metrics. For instance, Deloitte's comprehensive analysis demonstrates that 81% of organizations primarily use "productivity metrics" to measure the impact that digital transformation has on the business.[6] Still, this narrow focus fails to capture the broader *creation of value* that occurs through the three actors: appealing to customers, innovation capacity, and the flexibility of operation.

This finding suggests that current evaluation practices may undervalue digital investments in the context of SMEs. Recent empirical research displays several factors that may influence the digital transformation outcomes in smaller organizations, by indicating that only 13% of SMEs worldwide possess the necessary digital literacy for conducting a successful transformation, while 37% of them state that lack of capital is one of the "primary barriers" for a complete digital transformation.[1]

Consequently, these particular constraints create a challenging environment where SMEs are driven to continuously invest in the development of their capabilities by enhancing their current operations. The resulting complexity makes traditional ROI evaluation approaches insufficient, as they fail to account for these investments to increase a company's capability (*potential* is difficult to measure in a plethora of sectors), which is especially difficult to quantify in smaller corporations. Furthermore, a concept called "digital value creation" has been used to assess the value that a digital transformation (to any extent) provides a company, and revolves around a simple cost-benefit analysis.[7] Consequently, this broader conceptualization implies that digital initiatives within a company may generate value (or perceived value) in numerous ways: cost savings, risk mitigation, an increase in revenue, etc.

However, according to research carried out by McKinsey & Company, while a regular operational transformation follows relatively straightforward timelines, a digital transformation is more complex and inherently subjective, as the term itself possesses different interpretations depending on the organization. In addition, a digital transformation of a particular corporation would heavily focus on the long-term benefits of that company, which is one of the reasons why digital transformations lack traditional, straightforward analyses of success. Moreover, McKinsey's research on this identifies six actions of how one can attain a digital transformation.[8]

1. "*The ability to craft a clear strategy focused on business value*." Companies should target specific domains that would add to 'digital value creation'. For instance, this may be customer interaction, business processes, operations, etc.

2. "*A strong talent bench with in-house engineers.*" Companies should hire and retain digital talent by developing a competent Human Resources body to hire and train those employees.

3. "*An operating model that can scale.*" As a company grows, a digital operating model must have the ability to grow with that company; otherwise, the digital platform can be overwhelmed.

4. "*Distributed technology that allows the team to innovate independently.*" Providing easy access to data and other tools available on the digital platform would allow any and all employees of a corporation to be able to grow at their own pace, as well as increase accessibility.

5. "*Access to data that teams can use as needed.*" Reliable, up - to - date data is crucial, as its implementation would ensure that the data is easily consumable to all teams and substructures within an organization.

6. "*Strong adoption and change management.*" To have a successful digitalization policy, companies should make sure that the digital structures are tested and refined at regular intervals. As the market develops, companies, and therefore their digital architecture, should develop with it, not to fall behind the competition.

Measurement Framework:

Due to conflict between some of the theoretical definitions and considering the challenges identified in measuring SME digital transformation potential and outcomes, this research proposes a comprehensive ROI measurement framework tailored specifically for SMEs, building upon various categorizations of factors from the Balanced Scorecard (BSC) method. While the BSC methodology was created by Robert Kaplan and David Norton,[9] this method specifically acknowledges further factors that may contribute to digital value creation and net ROI.

Similar to the BSC Method, this proposal includes the same four distinct dimensions that capture both tangible and intangible value creation, and includes further factors to consider that highlight the strategic alignment of digital initiatives with SME growth potential:

Financial Dimension:

This perspective aims to measure the direct and indirect financial returns, in addition to cost implications, of digital initiatives. Specifically, the factors below consider both short-term financial gain as well as long-term impacts, recognizing that these effects may extend over different durations of time.

Metrics:

- Revenue growth rate (comparing pre- and post-transformation periods)
- Direct cost savings from process automation (increasing efficiency)
- The reduction of acquisition cost for customers through digital marketing and front-end infrastructure
- Operating margin improvements

Customer Dimension:

This perspective considers various consumer-related aspects of the SME, including the breakdown of overall customer satisfaction, which has the potential to heavily influence long-term success.

Metrics:

- Customer satisfaction scores (measured through surveys or Net Promoter Score)
- Customer retention rates
- Surveys and/or data collection on the percentage of customers using online platforms for the business
- Average order value through digital channels
- The potential reduction in customer service response time

Internal Process Dimension:

This dimension assesses operational improvements resulting from digital transformation, including efficiency of the supply chain and the capability and potential for innovation.

Metrics:

- Process cycle time reduction (from product manufacturing to order fulfillment)
- Error rate in critical processes
- Employee productivity improvements
- System uptime and reliability
- Number of digital capabilities implemented

Learning and Growth Dimension:

This dimension evaluates the organization's capacity for future value creation through organizational culture and technological improvement.

Metrics:

- Employee digital literacy scores (assessed through competency evaluations)
- Training completion rates for digital tools
- Employee satisfaction with digital tools
- Technology infrastructure quality
- Number of new ideas generated and implemented

Framework Implementation for SMEs:

Given the resource constraints typical of SMEs, the framework includes specific implementation guidance:

Phase 1: Baseline Establishment (Initial time period for analysis dependent on SME)

- Document current performance across all four dimensions
- Identify critical metrics relevant to the specific SME's industry and transformation goals
- Establish realistic targets based on the organizational capacity (and plausible competition in the market)
- Set up measurement systems

Phase 2: Continuous Monitoring (Ongoing)

- Collect data during regular time intervals
- Calculate ROI using the formula: Total Value Created / Total Investment × 100
- Track trends over time, rather than focusing solely on single measurements
- Adjust the transformation approach based on underperforming metrics

Phase 3: Periodic Comprehensive Evaluation

- Conduct a full BSC (or BSC-related) assessment across all dimensions
- Calculate weighted ROI accounting for both quantitative and qualitative improvements
- Compare actual performance against targets
- Optimize the approach based on that data

According to Malagueño *et al*. SMEs that employed systematic measurement approaches aligned with a framework such as the BSC achieved substantially higher returns compared to those using purely financial measurement methods or not using methods to measure progress at all.[10]

Method

This research paper will employ numerous methods in order to determine the experience of success of a corporation after it has undergone a digital transformation on various levels. To do this, as mentioned before, both the quantitative data and the qualitative data will be examined through financial reports from publicly available SME databases, case study documentation from different projects, and results from surveys from these SMEs during post-operation. This approach will ensure the diversification of findings and will tackle the overall effect and viability of the SME after it has undergone digitalization.

Some indicators of performance would include revenue increase/decrease, profit margins, any efficiency measures, if provided, such as customer satisfaction, the reduction of the duration of an order, and productivity within a company.

The quantitative characteristic of this analysis would draw upon financial data from a large number of SMEs operating across various industries that have undergone a significant digital transformation since 2020. The organizations were selected based on several criteria: annual revenues between $1 million and $50 million, determining the corporation as an SME,[11] documented digital transformation projects with clear implementation timelines, and the availability of financial data before and after this transformation. As a result, the sample examined would span multiple industries (e.g., manufacturing, retail, healthcare, etc.), which would not only present an overall understanding of digital transformations in SMEs but also specific impacts in certain sectors.

The Quantitative Approach:

ROI Calculation:

For each case study SME, ROI will be indicated as positive or negative, through the contribution from the following factors:

- Revenue increases or decreases attributable to digital channels or improved operations
- Cost alterations from a potential change in efficiency
- Avoided costs (e.g., prevented equipment failures through predictive maintenance)

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- Total investment (including implementation costs, training and change costs, and operational costs)

The Qualitative Approach:

The qualitative research part will consist of the analysis of numerous case studies of SMEs that have achieved notable success after undergoing this transformation. These have been selected through pursuing well-documented transformation processes with clear measurements. The case studies will provide insights into the practical challenges of ROI measurement and the evolution of 'digital value creation' over time, as well as the overall success of said SME.

Cases were selected through purposive sampling to represent:

- Various industries and business models
- Different scales within the SME range
- Both success and failure outcomes
- Clear documentation of transformation processes and outcomes

For each case study, the analysis examines:

- The specific technologies and processes implemented
- The decision-making process and rationale
- Implementation challenges and how they were (or were not) addressed
- Measurable outcomes that refer to the BSC profile
- Lessons learned and applicability to other SMEs

Limitations and Scope:

This research will primarily utilize secondary data sources, including published case studies, company reports, and industry analyses. While this limits the depth of certain insights compared to primary data collection through direct data banks or surveys, it is able to offer insights into both the successes and failures of the respective case studies, as companies rarely participate in or release research about their failures.

■ Results and Discussion

Current State of SME Digital Transition:

Firstly, according to Charter Global, a leading strategic technology services partner, 'environmental complexity' represents the primary challenge for 32% of SMEs wishing to make a digital transformation, while 27% believe 'lack of expertise' is the paramount obstacle, followed by high implementation costs at 26%.[5] From this, it can be inferred that SMEs face numerous challenges, specifically when wishing to implement some form of digitalization, and issues extend beyond simple resource constraints and lack of knowledge, which are both primary overall issues of SMEs in Europe.[3]

Nonetheless, the evolution of the digital transformation in SMEs has been significantly influenced by external factors, the most notable of which is the COVID-19 pandemic, which accelerated the timelines for digitalization, while also shifting the priorities of SMEs to self-reliance and remote work.[12] Furthermore, this case study by Oxford indicates that SMEs operating in metropolitan areas were heavily impacted by the pandemic, and most of them had already modernized digitalization within their corporation prior to 2020, when the pandemic began. These particular SMEs had an easier time 'surviving' among the 14% of medium-sized enterprises, the 18% for small corporations, and 21% for very small firms that went bankrupt during the 2020-2021 period.[13]

Another analytical study[14] claims that, in corporations that have more 'customer-facing' technologies, including customer relationship management, digital marketing tools, and e-commerce platforms, net ROI is easier to determine, as easy-to-track effects such as sales and customer retention rates increase. Conversely, in corporations that primarily focus on the back-end side of operations, digital transformations are mainly implemented in supply chain management and finance platforms, and according to the same study, require a more 'sophisticated evaluation', due to their indirect impact on 'digital value creation'.

Additionally, while larger corporations employ and have access to dedicated analysis teams and measurement infrastructure, due to the limited revenue that SMEs generate during a certain time period, they often struggle to measure these changes after the implementation of digital systems, which makes it difficult to carry out an ROI evaluation in smaller corporations.

ROI Measurement in SMEs:

As mentioned before, smaller organizations are sometimes unable to document changes, and the level of complexity is increased through the indirect effects of a digital transformation. Instead, a success measurement of ROI would incorporate a "balanced scorecard" method,[15] which considers all aspects of the effects that changes within a company would have, such as financial effects, "customers, internal business processes, and organizational learning and growth." Also, a survey carried out by Deloitte shows that "Digital transformation is the single most important investment now and into the future that organizations can make to drive enterprise value," according to 68% of respondents, though 73% believe the inability or difficulty to define and determine the ROI of a digital transformation is one of the paramount barriers that pertain to SMEs globally.[6] This paradox recognizes the potential of digital initiatives, while also underscoring the need to develop a framework.

Furthermore, Fabac also states that, "the Digital BSC (Balanced Scorecard) provides the projection of financial results and improvements in sustainability after transformation." This means that the BSC approach not only evaluates the *immediate financial ROI*, but also accounts for the potential of *digital value creation* and the long-term success of the company. Referring back to ROI, this method also encompasses the *return* on investment in various aspects that other traditional financial methods cannot, therefore proving its importance.

Regarding the financial side of SME digital transformation, the ROI contains both direct cost savings as well as revenue enhancement. By way of illustration, another study[16] by McKinsey displays that companies that divert their focus to a more streamlined version of operation (perhaps through digitalization), "save up to 25% in direct costs" in the long run, hence

marking the transformational impact digital initiatives can have not only on operational efficiency but also on overall financial performance.

AI Integration:

For instance, direct financial improvements can be viewed through the application of AI (which can be characterized as a component of a digital transformation) in the automotive industry. Specifically, a study[17] driven by PwC displays that "AI-driven predictive maintenance can reduce maintenance costs by 20–30%". Particularly, the implementation of AI may significantly streamline a corporation's manufacturing process and, consequently, its sales, as validated by an investigation conducted by the American Society of Mechanical Engineers. The investigation[18] claimed that this implementation is called "predictive maintenance" and can lengthen the lifespan of equipment by at least 40%. Apart from this, data from the Ford Motor Company indicates that this positive effect of predictive maintenance is exemplified within Ford's factories as well. Lastly, other statistical evidence from the top car companies in the world, as well as from analyses carried out by the Boston Consulting Group and other organizations, further proves this trend. From this, it can be inferred that the implementation of AI in a corporation's manufacturing process is one example of a digital transformation a company can take, and displays a large variety of positive effects in numerous automotive industries, and can reduce the number of defects by nearly 50%.

In today's world, a trend - the increase in the usage of AI tools in companies - can be viewed in almost all industries. From OPENAI's ChatGPT to workspace-integrated tools, such as Google's multiple models and Sana Labs' website integration, AI is a significant factor for newer SMEs, and has been used for decades, though models are visibly being advanced and integrated in today's society. However, larger corporations are most notable for using these tools, from the front-end of operations to increase user satisfaction and increase the efficiency of the supply chain. Despite the fact that SMEs account for over 90% of businesses worldwide, and for 50% of the world's GDP,[19] a total of just 33% of SMEs globally utilize AI tools,[20] as of Q3 2023.

The usage of AI has given SMEs the power to compete with larger enterprises, though since only a third of the world's SMEs use AI, it can be inferred that although most companies believe that a digital transformation, including the integration of AI, is necessary for a larger profitable share in the market, a Cledara survey[21] highlights that a large share of SMEs may not have the technical expertise to "scale AI applications efficiently".

Case Study Analysis:

Successful SME Digital Transitions:

2assistU:

An example of successful SME digital transformation is demonstrated through the development of *Teampulse*, a digital audit and compliance tool created for 2assistU, a Swiss aviation consultancy. The enterprise operates with fewer than 20 employees[22] and possesses roughly $600,000 in assets in Q4 2022, with an undisclosed annual revenue.[23] The company operates in a highly specialized niche of aviation, in which accuracy and speed are paramount to client satisfaction.

As mentioned before, smaller organizations often encounter difficulty tracking and structuring changes due to some indirect consequences that a transformation can bring. In this particular case, the complexity of managing tasks that take a large amount of time became a challenge for this corporation. Though this may not seem vital for success, lowering time barriers allows enterprises to increase profit levels, as the production then may cost less (long-term) and can be increased. Additionally, manpower and, therefore, salaries of auditors (in this case) can be saved, further contributing to maximizing profits.

Rather than simply digitizing an existing workflow, 2assistU worked closely with a digital partner to co-develop a platform that prominently focuses on operations. In this operational market, the corporation used manual audit processing through a physical, paper medium, but moved to a digital audit and training software system.[24]

Previously, the manual audit system could lead to insufficient or delayed reporting, as reports were kept in files in data silos, which meant there was not present centralized system for identifying compliance issues or performance improvements. Consequently, this risks client dissatisfaction for audit attainment, as one of consumers' top priorities is convenience and speed.

To alleviate this situation, 2assistU formed a partnership with Digitalya (referred to as the Teampulse project), a Romanian software corporation, to implement a centralized digital audit system. This strategic digital investment yielded tangible results,[25] such as reducing audit processing time by nearly 130%. Reports could now be delivered to clients within 3 days, and the enterprise later formulated five new client-facing digital services, including automated follow-up tracking and customer risk-trend analytics reports.[25]

When viewed through the lens of the Balanced Scorecard framework,[13] the impact of this transformation affects the overall financial performance and knowledge development for the future. Similar to Deloitte's findings that emphasized digital transformation as one of the most pivotal things that can drive value, the Teampulse project illustrates how SMEs can unlock measurable ROI, despite the challenges they face,[26] such as resource limitations. A further breakdown of the results through the proposed framework can be found below:

Financial Performance:
- Audit processing time improved by 130%[25]
- 23% total revenue growth[27]

Customer Perspective:
- Report turnaround time decreased[28]
- As 2assistU increased employee count by adding three new members, customers may have faster generalized support[28]

Internal Process:
- Audit times decreased to 4.5 hours per audit[28]

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- Report quality consistency improved as automated generation eliminated errors[28]

Learning and Growth:

- The corporation could save operating costs on generalized tasks that could be automated, and allowed for further expansion of the employees and the company itself, as explained by the Managing Partner at 2assistU, "I have to admit that creating our own digital solution … was the most sustainable. And thanks to the fact that I have great experience in the creation of software, I was able to take over the project management, which saved us money and made the entire development easier." [25] - Roland Peer
- The company gained a competitive advantage, winning new clients specifically because of its digital capabilities[28]

GreenGrocer Tech:

Likewise, the digital transformation of GreenGrocer Tech produces a similar positive effect. GreenGrocer Tech is a retail grocery company classified as a medium-sized enterprise, and possesses multiple stores in the Midwest of America. Although it is known as a rapidly expanding corporation in the retail grocery industry, prior to digital transformation, GreenGrocer Tech faced significant operational challenges that impacted both profitability and customer satisfaction.

As mentioned before, unlike larger corporations, SMEs such as GreenGrocer Tech often face capital constraints and limited expertise, making large-scale transformation efforts less feasible. A previous example of this is 2assistU, which outsourced the implementation of an audit-processing system to another SME in order to successfully undergo a digital transformation, proving it had a lack of expertise in digitalization. Specifically, lack of competence and an underdeveloped skillset are common in small businesses, which was the same case for GreenGrocer Tech, which started as a single family-run store.

However, as the number of locations expanded, the complexity of inefficient inventory management became a critical challenge for this corporation. The company faced issues with substantial food waste, particularly of perishable goods, and occasional stock shortages, which may have indicated a loss of customer satisfaction due to these inventory problems. Even though inventory is a back-end issue, the inefficiencies can directly impact profit margins when considering the fact that waste represents a loss of potential revenue, both impacting profit and compensating for production, distribution, and other costs of any specific product.[29]

As a result, GreenGrocer Tech was compelled to change its traditional inventory-keeping methods and undergo a digital transformation. Specifically, the corporation implemented an AI-driven inventory management system that primarily focuses on predictive analytics, such as using machine learning (AI) algorithms to predict stock requirements accurately. This system, coupled with the ability to scrutinize and predict historical sales data, seasonal trends, local events, and weather patterns, enabled the company to execute accurate forecasting of demand. Before this transformation, GreenGrocer Tech used conventional methods that were *reactive* rather than *proactive*, which led to both overstock situations (causing waste) and understock situations (causing customer dissatisfaction and the loss of potential revenue), making stock a highly vital profit-maintaining factor in product-focused corporations.[29] The primary motivation for digital transformation was the reduction of waste of perishable goods, which was both a financial burden and against the company's sustainability goals, while ensuring popular items remained consistently available.

Additionally, the system was integrated with the supply chain to facilitate the automation of ordering of goods to the store and keep consistent measurement of the specific stock of goods in stores. Furthermore, customer relationship management (CRM) systems were implemented on the website, which strengthened the relationship between the company and its target customers. As a result of this transformation and other factors involving the opening of stores in other locations, it clearly contributed to the 'digital value creation' of the company. This is because the producer-consumer relationship has been strengthened, sales have increased, and the company has become more resilient to similar challenges. Simply put, the net ROI has increased, as SMEs have become more digitally mature and can respond more quickly to consumer behavior and be more viable in crises.[29]

The following section outlines a structured analysis of the results according to the proposed framework:[29]

Financial Performance:

- Inventory waste reduced by 25%, translating to significant cost savings
- Perishable goods waste reduction is aligned with environmental sustainability goals

Customer Perspective:

- Customer satisfaction increased by 15% due to better stock availability
- Stock outages decreased by 30%, ensuring popular products are consistently available

Internal Process:

- Inventory measurement became easier due to AI integration
- Automated ordering processes integrated with the supply chain
- Real-time demand forecasting based on multiple data inputs (the amount of stock can be optimized based on this information)

Learning and Growth:

- Staff could focus more on customer service and other value-added activities rather than on manual inventory management
- The company demonstrated successful alignment of technological capabilities with core business goals, as emphasized in the case study's key takeaway: "The success of GreenGrocer Tech's AI implementation was primarily due to aligning technological capabilities with core business goals."

This case showcases how data-driven decision-making through AI can revolutionize traditional business processes in retail, leading to enhanced operational efficiency, reduced costs, and improved customer experiences.

Levaco Chemicals:

Another example of an SME that successfully implemented a digital transition is Levaco Chemicals, which is a medium-sized chemical producer that specializes in the creation of chemical intermediates, most of which namely being surfactants and defoamers, which have properties that make objects water-soluble. While Levaco operates in an exceptionally specialized niche environment in a large, red ocean dominated by large chemical corporations, it faced significant operational challenges related to outdated process control systems that impacted both efficiency and quality.

Prior to the digital transformation, its production relied on several outdated systems that created inefficiencies in the procurement and control of numerous substances and compounds. In a highly saturated market, production timelines and delivery dispatch rates are vital for customer retention and profit maximization. Due to this underlying issue in the dynamics and entire process from procurement to customer delivery, Levaco carried out a digital transformation that aimed to reduce the employees' time spent carrying out repetitive tasks, such as the "automated processing of offers, digital price inquiries, intelligent delivery date management, and automated order dispatch."

Consequently, in collaboration with Siemens, Levaco initiated a comprehensive modernization project centered around the adoption of the Simatic PCS 7 distributed control system, which is specifically designed for the manufacturing side of chemical compounds. This digital transformation marked a transition from a semi-automated production environment, which relied heavily on human supervision and the input of manual instructions, to a digital architecture that was integrated to allow continuous monitoring of the regulation of each factor in the 'recipe' of a compound. The same system also consists of the creation of regular records of batches made, all of which significantly reduces the company's spending on human capital, inherently subsequently reducing time spent on repetitive tasks. In addition to the automation of the manufacturing process, the integration of the data obtained was interlinked with enterprise-level systems, therefore bridging an inherent "vertical integration gap" between plant operations and management.[30]

According to the collaboration documentation by Siemens, the digitalization efforts led to a 30% increase in the efficiency of manufacturing, which can be primarily attributed to the synchronization between the procurement process, a more stable quality of production, and reduced errors among batches of the compounds. This displays that in industries that contain highly volatile manufacturing divisions where small deviations in the recipe or the reaction time can lead to large differences in batch (often leading to the entire batches being discarded), the implementation of these automated systems has proved to be substantially advantageous.[31] Furthermore, Levaco outsourced the digital transformation efforts, having lacked the skillset for individual implementation without external input, meaning Siemens was the primary technology provider for the transformation. After successful testing of the systems at Siemens, site installation was carried out at Levaco, and the collaboration was done in close contact with both parties, as discussions ranged on the current status regarding wiring, software, hardware, etc.[30]

Additionally, the digital transformation extended beyond just the process control system to encompass a broader strategic approach. Levaco created two fundamental guidelines for their digital transformation: establishing "One Single Point of Truth," which requires one central, consistent data source for all areas of the company, and implementing a "Platform Architecture and Clean Core" approach, which focuses on a clear system architecture to avoid unnecessary complexity.[32]

Presented below is a comprehensive assessment of the findings based on the principles of the proposed framework:

Financial Performance:[32]

- The performance of the plant has definitely improved following the implementation.
- The 30% increase in the efficiency of manufacturing represents substantial cost savings.
- Investment in the future enables further development to build on this digital foundation.

Customer Perspective:[32]

- The possibilities for quick fine-tuning have had a positive impact on the quality of products, which has improved; inconsistencies and the probability of making a mistake during batch preparation have decreased.
- Better product quality directly enhances customer satisfaction and competitive positioning in the specialized chemical market.

Internal Process:[30]

- The control system now allows the company to take a look inside the plant, which was previously a "black box," enabling intervention to change processes or optimize them.
- Thanks to numerous basic functions, the company now has many more options for controlling temperature and dosage, where what used to have to be set by hand is now done automatically, such as opening valves to reach a defined temperature.
- The processes are much safer following the new safety considerations that have led to optimized processes, for example, by replacing manual equipment with automatic equipment.
- Many operational tasks have become faster due to the new computers that support the web-based system.
- With Simatic PCS neo, all information is available on every computer, providing insight into the whole plant, which extends to remote maintenance capabilities.
- The company can now access the required information very conveniently and securely, regardless of location, through remote maintenance access.

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- Better visualization options provide very precise, good visualizations such as curve diagrams, with especially fast zooming and a large variety of specific symbols for components like temperature probes, making operation easier.

Learning and Growth:[30]

- Control engineers Thomas Sonnborn and Stephan Wolf, who were already Simatic PCS 7 experts, found incorporation into Simatic PCS neo quite easy, with routine being established very quickly.
- Since 70% of Levaco's plant was already running with Simatic PCS 7, their programmers and electricians were already trained in Siemens hardware and software, which facilitated the transition.
- The internet operation level with its hardware components is the same as with Simatic PCS 7, which enables an efficient transition towards Simatic PCS neo in the whole plant at any time, keeping all opportunities open for the future.
- The company demonstrated a successful grounding in technology through its central project office for digital transformation, which coordinates initiatives, promotes IT affinity across all departments, and enables the company to sustainably create digital structures.
- As emphasized by control engineer Thomas Sonnborn: "We want to be well-prepared for the future. We want to keep up with the latest technology and have a foot in the new world."
- The transformation changed the way of working, where administrative tasks take a backseat while analytical and strategic skills are increasingly in demand.

The success demonstrates that digital transformation requires more than individual IT projects; it needs a clear, strategic structure where a central coordinating body can be embedded in the transformation concept. From grocery stores to companies in the aviation industry and chemical manufacturing enterprises, these successful digital transformation showcases the wide array of applicability of digitalization in various sectors.

Unsuccessful SME Digital Transformations:

Before examining unsuccessful digital transformation cases, it is important to acknowledge a significant methodological challenge in this research: the scarcity of well-documented failed digital transformations specifically within organizations that fit the SME revenue parameters ($1M-$50 annual revenue) established in the *Method*. This exists for several reasons, such that SMEs that undergo a complete digital transformation, or implement certain digital initiatives, rarely publicize the outcomes, as there is limited incentive to document and share explanations and details of their failures, as that may cause detriment to their credibility, and may also undermine competitiveness. Moreover, as SMEs are not immune to variable changes in their operating environment, due to the fact that digital transformations may result in the depletion of resources. Once failure is encountered, SMEs cease operations entirely, taking their transformation documentation with them, which makes the retrospective analysis impossible. Consequently, this research includes case studies of larger enterprises (General Electric) and companies that operated at the boundaries of, or exceeded SME parameters (Sify Technologies, M-Xchange), to illustrate the patterns of digital transformation failure. While these cases do not perfectly align with the SME definition used for successful examples, they can provide insights into the failure of flawed business models, lack of strategic focus, and inadequate change management that apply across the various scales of businesses.

The inclusion of these cases is methodologically justified because the failure patterns they demonstrate are not scale-dependent but rather reflect fundamental strategic and operational errors that SMEs are equally, if not more, vulnerable to, given their resource constraints. In other words, the challenges that brought down these larger, better-resourced organizations would likely have even more severe consequences for true SMEs with tighter margins and fewer recovery options.

M-Xchange:

On the other hand, an innumerable number of SMEs that have implemented digital initiatives have failed to attain a positive ROI. This can be due to various factors, such as an unrealistic market strategy and unsuccessful implementation of the digital interface, as well as the fact that incorporated changes may not sustain the projected or initial impact. For instance, M-Xchange aimed to serve SMEs that were owned by minorities by connecting them with Fortune 1000 corporate buyers through an online Business-to-Business (B2B) marketplace.[33] Specifically, the vision of the company revolved around the production of such a platform, to remove the inefficiencies and barriers that other SMEs faced when they sought to manufacture contracts with larger corporations. While the initial stages of the company after its release did not result in a significant amount of revenue, its digital transformation strategy centered on creating a unified online procurement environment through which suppliers could upload catalogues, receive orders, and transact digitally, while large organizations could conduct automated supplier searches and process tenders online instead of using traditional, paper-based systems. In practical terms, this represented a shift from fragmented, relationship-driven procurement to a data-driven and automated exchange.[34]

Even though it was a publicly recognized company with the financial and moral backing from other large enterprises such as DaimlerChrysler and Delphi, M-Xchange shut down after 3 months of its release, due to a flawed revenue model.[33] By way of illustration, the firm's transformation effort required developing a secure online portal, integrating the active tracking of transactions, and introducing an automated payment and verification module for supplier registration. The business model depended on charging a small percentage fee on each completed transaction, with expectations that network effects would lead to exponential transaction growth as both buyer and supplier participation increased. However, as M-Xchange attempted to implement all of these large changes, coupled with the fact that it changed its pricing structure to accelerate adoption by lowering supplier fees and increasing transaction costs for buyers, the initial user base was destabilized. Addi-

tionally, the transaction volume decreased sharply as both sides of the market hesitated to participate under the new terms, and investor confidence quickly deteriorated, resulting in the company ceasing to operate, consequent to insufficient revenue flow or additional funding.

As the situation worsened for this platform, investors retracted, leaving M-Xchange completely exposed to external changes, which consequently forced it to shut down. It is noteworthy that adaptability to extrinsic environments is pivotal to ensuring the success of a corporation, as described by the BSC model.

Further analysis through the BSC lens can show that while the intent of the company was to create value in customer access (through a B2B platform), there was a lack of a clear and strong business model, resulting in the inability to reach financial success. Moreover, the organizational dependency on external investors reduced the scalability of the model, making the corporation extremely vulnerable to external changes and exposed to the market.

A detailed evaluation of the outcomes using the proposed framework is presented below:

Financial Performance:[33]

- The revenue model based on transaction fees became unsustainable due to intense competition driving fees down.
- Unable to secure second round of financing in hostile B2B market conditions
- Much of the funding came from the founders' personal resources rather than a sustainable investor base.
- The company shut down after only three months to conserve investor capital.

Customer Perspective:[33]

- Strong customer need validated by corporate partners like Delphi, who stated, "We're really disappointed that it's closing down. We thought it had a lot of potential."
- However, it was unable to convert market need into an actual transaction volume sufficient to sustain operations.
- Cross-industry approach may have diluted focus and made it difficult to build deep customer relationships in any specific sector.

Internal Process:[34]

- Lacked specific industry expertise necessary for B2B exchanges to foster community
- No evidence of established processes for supplier verification, quality assurance, or transaction management before shutdown
- Insufficient time (three months) to develop operational maturity or optimize processes

Learning and Growth:[33]

- The company ceased operations before organizational learning could occur.
- Founders recognized the vision remained valid despite execution failure, with Roberts stating, "I believe in it as much now as I did when I started it."
- Owner of ChemPak, Mel Brown, reflected, "The intent of M-Xchange remains valid. Many will be disappointed at this announcement. I hope Mr. Roberts will continue to pursue ways to make his vision work."

Simply put, M-Xchange did “too much at once” without a strategic plan. By attempting to scale rapidly across multiple industries without adequate data infrastructure or stakeholder retention mechanisms, the corporation failed to achieve the critical mass that digital platforms require for sustainability.

Sify Technologies:

This case study of Sify Technologies represents a more nuanced case rather than a simple, straightforward failure, as it explores adapting to the increasing relevance of digitalization in global markets. Founded in 1995 as India’s first private Internet Service Provider (ISP), Sify Technologies was in many ways responsible for the technological boom in India in the early 2000s. Specifically, with a target audience of both residential and commercial consumers, its original operations included the introduction of broadband services and over 1,300 cybercafes, which allowed it to capture 13% of market share amidst competitors, with over 900,000 customers.[35] With an already established market share through this operational strategy and web-hosting facilities, at a time when less than 1% of the population of the host country had access to initiatives like this, it was one of the most successful technology-related companies of its time.[35] Despite its success, the executive board of Sify Technologies defined a commitment to democratizing internet access by building physical-digital bridges for users who did not yet have personal connectivity.

Firstly, Sify altered its initial strategy and focus, and shifted its strategy to adapt to the ‘new’ digital era, through immense investments in digital infrastructure, including but not limited to regional broadband hubs, data centers, and enterprise network services. Inherently, it was one of the first Indian technology firms to introduce, manage, and host early-stage cloud offerings for other SMEs, positioning itself as a hybrid digital connector between enterprises and the network, both of which are provided by Sify itself. Particularly, the new strategy introduced was twofold: creating digital infrastructure through data centers and backbone connectivity, and delivering digital experiences to consumers using *Sify iWays*,[36] which was the name given to cybercafes that provide secure access, email services, and digital payments. In the primary operational country of India, where paper currency was the primary medium of financial transactions, this evolved approach was appealing to the general public.

Nevertheless, due to the lack of adaptability to the rapidly changing digital environment and consumer behavior, in addition to its inability to scale the progress already made, Sify’s consumer-facing model began to fail as other companies granted internet access to private individuals. From the perspective of convenience, Sify was unable to recognize or adapt to the changing viewpoints of the ‘new’ convenience of individual access to the internet, which doesn’t require travel to an *iWay*, for instance. As mobile data and low-cost broadband alternatives became widely available, Sify’s consumer business

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declined to a great extent, forcing the enterprise to close most of its cybercafes and abandon its initial mass-market strategy. Through a report done in 2015, it is highlighted that Sify, a forward-facing enterprise focused on consumer needs, was once the primary growth engine, was not viable after the initial months of operation, due to structural shifts in customer behavior and the rapid entrance of competitors offering cheaper, faster, and more convenient mobile data services, due to its inability to scale.[37]

The root cause of Sify's initial decline was not a technological incapacity, but rather a misalignment between its early digital model and the rapid evolution of the market. In essence, the large-scale infrastructure for a fixed internet service plan was built by Sify exactly when India's connectivity shifted towards convenience, and the enterprise did not possess a strategic foundation that contained the scalability of the model it employed, leading to its failure in that industry. For other SMEs carrying out digital transformations, digitalization success can become a liability when technological shifts redefine user expectations, if the company itself is not capable, or has plans to, adapt.

After a long duration, Sify was forced to again change its area of concentration, resulting in the repositioning of the enterprise as a digital transformation partner, consisting of the offers of managed cloud hosting, data center operations, and network management, proving to be of service to other corporations rather than individuals. Through the alteration of both the target market and the operations offered, which stabilized the income flow. After this stage, Sify had grown to be one of the largest clients to offer digital services to corporations, as shown by the statistics in *Financial Performance*.

The subsequent breakdown illustrates how the results align with the dimensions of the proposed framework:

Financial Performance:[38]

- Net profit growth of 48% (Rs 90 million to Rs 133 million) in Q3 2015
- Revenue growth of 18% (Rs 3.16 billion to Rs 3.71 billion) in the same period
- However, the original cybercafé business model became obsolete, requiring a complete revenue stream replacement.
- Capex (capital expenditure) of Rs 669 million in Q3 reflected continued investment needs.

Customer Perspective:[35]

- Lost the original customer base of 900,000 cybercafé users as the market evolved
- By March 2015, it retained only 5,134 internet subscribers from the total Indian base of 302.35 million (minuscule market share)
- Successfully transitioned to B2B enterprise customers, adding 110+ new customers in technology integration services.
- Expanding base of managed services customers in India and overseas

Internal Process:[38]

- Successfully pivoted operational model from B2C (cybercafés, ISP) to B2B (enterprise cloud, managed services)
- Became India's first enterprise managed services provider to launch a security operations centre[4]
- Multiple data centers and disaster recovery infrastructure build projects for PSUs and government entities
- The North American market is beginning to gain traction with increasing demand for managed services.

Learning and Growth:[37]

- Demonstrated organizational agility by completely reinventing the business model when the original became obsolete
- Developed new competencies in cloud computing, managed services, and enterprise solutions.
- However, it faced the challenge that "the maturity of the public cloud in India continues to be low."
- The market witnessed the entry of numerous new competitors, increasing competitive intensity.

General Electric:

General Electric's (GE) attempt to reinvent itself through GE Digital represents one of the most prominent cases of digital transformation failures at an enterprise scale, which can offer lessons relevant to SMEs about the dangers of unfocused digital strategies or misaligned organizational structures when carrying out a digital transformation. While GE is not an SME, the dynamics of this failure parallel many of the barriers that smaller organizations face when overestimating their readiness for technological change.

Specifically, the project was conceived in 2015 as a part of former CEO Jeffrey Immelt's ambition to transform GE from a traditional industrial manufacturer into a "digital industrial" enterprise.[39] To achieve this major effort to assert itself into the digital software space, GE established a branch called GE Digital, which is an internal business unit tasked with developing a platform to handle data. The long-term goal of this digital transformation was to transform GE's original business model for digital infrastructure and industrial manufacturing.[40]

As a result, GE successfully developed the *Predix platform*, namely consisting of a cloud-based software ecosystem designed to collect, analyze, and monetize industrial data of the apparatus and equipment regularly utilized by GE Digital.[41] The transformation itself consisted of integrating Internet of Things (IoT) sensors in GE's industrial products, including turbines and engines, to generate continuous operational data that would then feed into the Predix system for predictive maintenance and analysis of performance. Thereafter, in 2018, after the reports of disappointing results were considered, GE announced a restructuring initiative of GE Digital, including the reduction of staff and scaling back revenue targets. While the original idea was to shift GE's business model from one-time sales of hardware to recurring sales of software, GE ultimately failed the transformation in 2019, even though predictions by GE included the forecast that Predix alone would generate $15 billion in annual software revenue by 2020.[42] During this period of time, GE invested "billions of dollars in technological

innovations, including Predix…"[43] ranging from investments in digital infrastructure, the recruitment of thousands of software engineers, and data sharing systems to integrate analytics into its manufacturing operations.

However, despite these ambitious plans, Forbes notes that GE's transformation failure contained a large organizational misalignment and overextension of products and services that already exist.[44] For instance, it built an exceptionally substantial number of overlapping software products, creating redundancy, in addition to the failure to integrate these systems into already existing hardware products. It is further explained that, while on one side, it led to slow market adoption and internal confusion, the transformation itself was detached from the company's operational foundations: while GE Digital produced high-value software tools, the industrial sector of the company resisted the alterations from the already established workflow, which reduced the adoption rate of these products even within GE itself. Consequently, the internal confusion among teams at GE, Predix, and other smaller platforms invested in never reached their full commercial and financial potential.

In essence, GE targeted various aspects of revolutionizing their digital sector through the development of a significant quantity of customer-facing applications, cloud platforms, and other technologies. In this case, the core issue was that the scope was overly large. Without narrowing the company's focus to a few cases that may yield high impacts, the corporation invested billions of dollars into a variety of approaches that may not work. As a result, it faced an innumerable number of technological setbacks, involving bugs and integration problems, and had to abandon these developments, as sustaining them would bear a large financial burden on the company. Inherently, the failure of the digital transformation was not because of the lack of skillset to implement the technologies, or the technical skillset itself, but rather governance issues and conflicting priorities, as well as a mismatch between the company's values and operations and the aims of the digital initiatives.

Despite the fact that GE had an ROI metric, the actions of the corporation did not reflect the core goals. A detailed evaluation of the outcomes using the proposed framework is presented below:

Financial Performance:

- GE projected US $15 billion in annual software revenue by 2020, but actual results reached only US $4 billion, representing less than one-third of expectations[44]

- The company invested over US $4 billion in digital infrastructure and software development between 2013 and 2017, yet the return on investment remained minimal[45]

- Internal reports from 2014 cited more than US $1 billion in Predix-related revenue; however, this largely reflected internal sales and service credits within GE's own business units rather than external customers[41]

- The failure to meet growth targets contributed to a broader loss of investor confidence, which coincided with a drop of approximately US $500 billion in market capitalization between 2000 and 2018[44]

Customer Perspective:

- Despite major marketing investment, Predix adoption among external clients remained limited. Many customers perceived the platform as incomplete and overly complex to integrate with existing industrial systems[43]

- External customers preferred sector-specific solutions instead of the universal platform GE attempted to offer, which led to low conversion rates[43]

- As one industry analyst summarized, "You cannot boil the ocean … GE tried to do everything at once, and that is where the strategy unraveled."[46]

- Even within GE's internal divisions, many business units resisted using Predix, citing poor compatibility with legacy operational systems[44]

Internal Process:[43]

- GE Digital's organizational structure is fragmented into overlapping software teams; Forbes notes that multiple redundant applications were developed without cohesive integration.

- Decision-making was centralized at the corporate level, creating delays between software development and deployment within industrial divisions.

- Integration difficulties between Predix and GE's legacy ERP and control systems led to inconsistent data pipelines, hindering cross-divisional analytics.

- The company's lack of agile project governance prevented iterative testing, causing long release cycles and poor responsiveness to customer feedback.

Learning and Growth:[47]

- GE's experience revealed that successful digital transformation requires an incremental, iterative approach rather than a top-down corporate overhaul.

- The company later restructured GE Digital into smaller business units and shifted from proprietary platform development to partnerships with established cloud providers, signalling adaptive learning.

- Analysts observed that GE's misalignment between technological ambition and cultural readiness became "a case study for over-centralization and digital overreach"[45]

- The lessons from GE Digital now inform industry best practices for large organizations and SMEs alike, emphasizing the need for cross-functional alignment and measurable, small-scale pilots before enterprise-wide rollout.

Solutions:

The findings from this paper have significant implications for how SMEs should approach digital initiatives. Firstly, organizations that are planning a digital transition should consider creating an ROI measurement system to quantify the results of whatever is implemented and the ability to track those outcomes. Although larger corporations may have specific task forces and teams to do this, SMEs might not have the financial resources to employ that manpower; thus, they should work with B2B platforms to obtain these measurement systems. In addition, SMEs should adopt a diverse approach in order to contain both 'quick-win' systems, as well as digital initiatives that can be sustained over long periods of time. More

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importantly, this approach would ensure the maintenance of the organizational momentum by receiving small benefits, but would also allow for a long-term advantage.

As indicated by the case studies, corporations should not succumb to the temptation of implementing digital initiatives without a strategic plan or a measurement framework, because a poor plan may lead to a waste of money in the digital sector, a dilution of focus of the corporation, and eventually, insufficient tangible returns. Furthermore, without the ability to track AI specifically from digitalization, SMEs may implement technologies that are disconnected from core business objectives, thus creating temporary activity without much digital value creation.

As a result, SMEs should instead allocate a significant amount of the budget for their digital transformation to the training and implementation of the technologies, as the training of employees for these changes emerges as a consistent theme among most, if not all, digital transformation successes. If the skillset of the business does not reach the desired level, B2B databases are helpful in order to bridge the skill and knowledge gap by hiring other SMEs, without the high costs of the same services provided by larger corporations.

As stated in a study by McKinsey,[29] the failure rate for digital transformation projects is "as high as 70%" in some cases, which highlights the severity of the issue. The same study portrays strategies to overcome this obstacle of the failed implementation, or the failed results of a digital transformation, which are summarized below:

- It requires strategic depth and a strong business model.
- Founders and employees must have a clear vision and a 'go-to-market' approach.
- Initial financial stability.

Ultimately, for SMEs to successfully change from a tool-driven mindset to a value-driven one and to adopt and benefit from a digital transformation, they must establish clear strategic objectives, allocate sufficient resources, and implement measurable frameworks to guide and evaluate the process. The emphasis should be on comprehending how the newest technology can increase efficiency and customer satisfaction, and implementing that in the strategy allocated for such a transition. By doing this, SMEs will be able to fully convert to a digital transformation, not because it is a trend but as a sustainable pathway to become a competitor in future markets, be adaptable and resilient, as well as steadily grow.

Conclusion

The evaluation of ROI in SME digital transformation initiatives requires a significantly broader and more nuanced framework than that used for large corporations (explained in Method). This paper has developed such a framework by adapting the Balanced Scorecard methodology to capture value creation across the Financial Performance, Customer Perspective, Internal Process, and Learning and Growth dimensions. The diversity in SMEs, including the availability of resources and the position in the market, would both be factors to consider when calculating both tangible and intangible ROI. As exemplified through successful case studies such as GreenGrocer Tech, Levaco Chemicals, and 2assistU, it can be inferred that market positioning and the type of SME are the largest factors when taking into account the implementation of digital initiatives, in addition to strategic alignment, proving to be one of the most important factors. These are not just improvements in profitability, but also in the overall efficiency, the future capability of an SME, and the access to new markets. All successful cases shared common patterns: focused digital strategy targeting specific operational challenges, phased implementation with clear milestones, significant investment in training and change management, and systematic measurement across multiple dimensions beyond financial metrics.

Conversely, the unsuccessful transformations analyzed, containing M-Xchange, Sify Technologies, and General Electric's GE Digital, reveal consistent failure patterns: misalignment between digital initiatives and business models, inability to adapt to market evolution, and overextension without clear priorities. These failures demonstrate that resource abundance does not guarantee success if strategic clarity is absent, a lesson particularly vital for resource-constrained SMEs.

However, as explored throughout this paper, traditional ROI metrics alone fall short in capturing the full scope of these benefits. For SMEs, the value often lies in the potential, such as the future cost avoidance, the adaptability to changes in the market, and the opportunity to compete on a broader stage. As stated in the concept of "digital value creation," digitalization must also be measured by its ability to generate long-term strategic advantage, even if the short-term gains seem modest. This is especially vital in the SME context, where digital skills are scarce, and capital limitations persist, yet agility and willingness to adapt often exceed those of larger corporations.

The findings of this paper hold broader implications that go beyond the performance of individual businesses, extending to the economic and societal levels. Since SMEs make up close to 50% of the significant number of nations, their ability to undergo a successful digital transition would directly influence all factors of their growth and sustenance in the market. Therefore, it becomes vital for SMEs to design efficient ROI frameworks to quantify the profits, short-term and long-term, to maximize success. In particular, the ROI framework (Balanced Scorecard Method) presented in this research is an example of a common method that can be specialized for an SME's specific status. The broader global situation reinforces the urgency for SMEs that have not done so already to embrace a digital transition. The World Economic Forum now estimates that 70% of new business value created over the next decade will be driven by digitally empowered companies, while a 2024 Forrester report projects that by 2028, the digital economy will be worth $16.5 trillion, which accounts for just over 17% of the global economy.[48] This proves that digital transformations represent the shift of priorities in modern-day corporations and will massively influence the modern business world.

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