Investigating Business and IT strategy Alignment: A Preliminary Study of Consumer IT Product Failures

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Abstract

Many consumer IT products from reputable organizations fail despite their prestige and enormous investments. The frequency and the cost of failed technology products make these occurrences intriguing and concerning. Smart and high-performing organizations such as Apple, Google, and Microsoft face these failures and are unable to prevent them. The study relied on the Delphi method to interrogate a panel of IT professionals with product expertise to investigate the role of organizational strategy in their failures. Our findings showed that there was shortage of strategy culture. We propose a framework to address the shortage. The framework will help practitioners. The contributions to the discipline include creating a new research stream on strategy culture.

Keywords*: Consumer IT products, Strategy alignment, Strategy culture, Strategy framework, Strategy readiness,*

1. Introduction

Consumer IT products (henceforth, IT products) are prevalent examples of technological innovations. These products are continuously manufactured and introduced to large fanfares annually. They potentially carry with them great promise for business organizations and consumers. When value is delivered and overall promise is achieved, positive return on assets (RoA) benefits result [10]. Despite their organizations' prestigious reputations and vast investments, the frequency and the cost of failed technology products make these occurrences intriguing and concerning [28], [10]. Smart and high-performing organizations such as Apple, Google, and Microsoft face these failures and are unable to prevent them [20]. Technological innovations are costly because many of these smart and innovative IT invest large amount of money on failed product. The study adopts the view that product failure is defined as "*…the inability to meet previously set objectives…*" [12] of profitability or market share.

A wide array of literature theorizes about factors that help or inhibit success in new IT products. Wang and Lestari [25] looked at competencies that organizations need to succeed in the IT product market and industry. They highlighted business network, new product development and marketing management. Mawaddah et. al [14] also listed business network as a significant factor, in addition to competent management and research and development and D teams. They used the technology-organization-environment (TOE) framework to guide their research [23]. They listed the organizational culture (and inclination toward innovation) as one of the factors as well as market demand (receptive environment). They stressed that organizations support their commitment by facilitating access to the requisite resources. Wheelwright and Sasser [26] reasoned that lack of product distinctiveness is another reason for the failure of new products.

The starting point of the current project, we explored case studies of failed consumer IT products between 2000 and 2020. These failures included personal devices and software products. They included Google Glass, Samsung Galaxy 7, Windows Vista, Facebook Home and HP Touchpad. We intended for this list to showcase products from highly reputable organizations to emphasize the rationale of the research. Our study sought to answer the question: Are consumer IT product failures the result of misalignment of Business and IT? We employed questionnaires to investigate such failures in the quest to answer the research question. We aimed to generate a framework to help business organizations minimize new product failures. Ultimately, we aspired for this study to provide an impetus for additional future research on strategy alignment and IT products.

2. Literature Review

Much of IS literature focuses on strategy. The Introduction section highlighted some of that literature. We intended for this review to be an extension of the discussion on strategy and add more about consumer

DOI: 10.20533/ijibs.2046.3626.2022.0065

IT product failures. We started searching for our literature using keywords (IT products, IT Strategy, Product Management, etc.) on the websites of highly ranked journals such Journal of Strategic Information Systems, and Journal of Management Information Systems, Decision Sciences, etc. Then, we used Google Scholar and focused on finding academic journals and trade publications. The reference list at the end of the article shows the results of our process.

Bronkhorst, Schaveling and Janssen [2] emphasized the importance of strategy in the success of IT products. They conducted a study of 248 business managers that explored IT product commoditization. Their research supports the idea that commoditization of IT product innovations is important to organizational performance. Further, they underscored the idea that innovation should be intentional and planned. They called for a mix of innovations and investments in systems and processes. Also, they recommended that assessment of organizational practices become a fixture in firms' strategies. It was suggested that business organizations continuously assess their strategic planning by comparing their performance to other similar organizations. Thus, businesses explore new ventures to gain competitive advantage.

Tallon and Pinsonneault [22] investigated strategy from the perspective of how aligning IT with business would help organizations become more agile, and thus, more competitive. The study shared the advantages and drawbacks of said alignment. Some of the advantages were knowledge sharing to help business executives and IT personnel anticipate opportunities and detecting threats from industry and competition. Some of the drawbacks were excessive automation that might decrease agility, thus, defeating the very purpose of the alignment.

Winkler and Wulf [27] argued that management around the world is using information technology service management (ITSM) approach for IT services. They investigated 256 organizations and found out that business and IT alignment was important to providing value through customer service. They emphasized that IT is important to creating business value. Hence, IT has great strategic importance.

Daghfous, Belkhodja and Ahmad [5] investigated practices by IT firms that enhanced adoption of their offerings in their target market. They looked at mechanisms these firms adopt to transfer knowledge to their customers. Their study highlighted three research gaps: 1) Lack of knowledge-based view of the firm; 2) Rarity of knowledge-transfer studies; and 3) Dearth of study on knowledge-transfer mechanisms. Their findings emphasized the importance of knowledge sharing in building loyal partnerships with customers. That, in turn, will contribute to the success of IT product adoption. Simester [18] suggested that companies with great innovative new products sometimes fail because they do not focus enough on how customers evaluate products and make purchase decisions. While they focus on creating value to satisfy customers, companies frequently neglect assessing whether customers will recognize the purported value.

Caldeira and Dhillon [4] conducted a study that sought organizational competencies to gain the benefits from IT investments. They identified twenty-three (23) competencies that they categorized as either fundamental or facilitating. Some of these included conducting IT strategic thinking and planning, align IT with business processes and objectives, getting top management support in IT projects, ensuring user application knowledge, identifying business IS requirements, increasing the credibility of the IT department and increasing service accountability. Wong et. al [28] posited that the quality of a new IT product is closely influenced by the building process of said product. They used that position to emphasize the relationship among organizational leadership, IT, product designers and other stakeholders suggest the need to form a single system and function as one.

The foregoing literature summary shared a variety of published works that studied strategy in relevance to IT products. It aimed to underscore the importance of strategy's role in innovation. Also, the researchers were intentional on making it a review, and not a critique of the literature.

3. Methodology

The study used the Delphi Method for data collection based on the information pursued. The Delphi Method is a process of polling, gathering, and organizing data from a group of experts to form a consensus. Dalkey and Helmer [6] developed the method to facilitate group decision-making. They explained that the Method's objective was to *"…obtain the most reliable consensus of opinion of a group of experts"* (p. 1). They added that such approach would be effective in acquiring independent thoughts from each of the expert. They based that on two factors: Controlled interaction and elimination of confrontation among participants. Skinner, Nelson, Chin and Land [19] mined the IS literature and shared 61 studies that used the Delphi method to collect their data. They shared many aspects of the method such as its characteristics (use of experts, panel, anonymity, rounds and iteration and feedback), process (questionnaires and multiple rounds), and themes (issue identification, development of taxonomy, identification of factors relevant to some IT context).

DOI: 10.20533/ijibs.2046.3626.2022.0065

The Delphi method relies heavily on questionnaires as instrumentation. The data collection process is a cycle of polling the same experts a few times, so that the researcher can formulate the consensus. The consensus is formed upon facilitating communications among a group of experts who are geographically dispersed. The consensus, as a goal of the Delphi process, is the result of finding a group agreement to solve a problem or make a decision. Considering this goal, using the Delphi Method makes the best choice for data collection. The process polled a panel of business education and corporate experts to share their expertise and opinion on this critical matter. The study used questionnaires to collect data to accommodate the geographic dispersion of the participants. This is one of the main benefits of using the Delphi method.

3.1. Sample and Questionnaires

The data collection included three rounds of questionnaires. We contacted a sample of 25 IT professionals. All of them agreed to participate initially, but only 15 (5 females and 10 males) completed the first questionnaire. We made connections with the initial group via various colleagues who knew the participants in the Business community. The 15 participants came from various industries: Retail, Technology, Finance, Healthcare, Telecommunications, Security and Consulting. All of them have experience in IT products. Thirteen of the participants work on IT products currently. Ten participants had over 15 years of experience in their industries; one had between 10 year and 15. Another had between 6 and 10 years. The remaining two had less than 5 years in their industry. We contacted the participants via email to introduce the project. And we informed them of the nature of the study (3 phases and 3 questionnaires). We indicated that a gift card would be presented to all participants who complete the three questionnaires.

A different Web-based questionnaire was used for each round of interrogation. Each included the IRB details and consent form. Upon agreeing to participate, the participants were asked to create an ID that they would need for the three rounds. For the first questionnaire, they were also asked about their gender, education level, their industries and their organizations. Additionally, respondents were asked about their familiarity with some failed IT products and whether they used some trade publications (for example, Mac World) and that response in short sentences and paragraphs will be recommended. The responses from this questionnaire were distilled and collated into a list as a basis for a second round of questioning.

A second questionnaire was created based on the responses from the first questionnaire's collated list and mailed out to the participants. They were asked to rate every item on the list using a defined numbering scale (e.g., a five-point scale of importance, priority, feasibility, relevance, and validity…). Also, the participants were requested to add any new items to the list. The ratings and additional items were used to develop the third questionnaire.

The third questionnaire was created and contained the averaged ratings from phase 2. In this questionnaire, the participants were asked to share their agreement or disagreement of how the top 5 factors were ranked (*Should be lower, Just right, Should be higher)*. The panel members were asked to indicate their opinions about the order of ratings, and if that ranking order needed to be improved.

4. Findings

During phase 1, Fifteen participants completed the questionnaire. It included 30 questions with an introduction that asked consent to participate. The participants were asked to provide an ID (for example, initials+area code) to help the researchers keep track of their participation in the three phases. They were asked about their experience, industry, titles, years in industry and experience with IT products. Some of the titles that were shared included Security Architect, Director-Data Analytics, Project Director, among others. Few other questions about their familiarity with consumer IT products such as Google Glass, Apple Watch, Amazon Fire Phone, and Microsoft Zune. Also, they were asked about their use of IT-related websites such as wired.com, C/Net, cio.com and ZDNet.

4.1. Round 1

The questionnaire then focused on strategy. The participants were asked if they considered their organizations to be IT-progressive (early adopter of technology). Ten participants answered "Yes", and the other five said "No." Seven of the participants said their current positions had authority on IT strategy development. Nine participants confirmed that their organizations had a respective documented IT strategy; four said their organizations did not. The other two respondents indicated an inability that they did not know. In particular, we highlight next some of the questions on strategy and IT products that we believed were most helpful in answering the research question.

Q20- Based on your expertise, what are the most positive signs of a healthy IT strategy? Please list at least three (3). You are welcome to list as many as you would like.

DOI: 10.20533/ijibs.2046.3626.2022.0065

The participants shared 40 items in response to Q20. The 40 items discussed organizational culture, commitment, attention to customer's needs, technology adoption and need for performance expectations. Many of the items in the data overlapped. Thus, we combined the overlapping and similar responses. A list of 13 items was the result. Some of the specifics in the final list included executive buy-in, strategy documentation, key performance indicators among others.

Q21- Based on your expertise, what are must-have components on which to build a healthy IT strategy? Please list as many you would like.

The responses to this question varied from the general, specific to unrelated. For example, one of the participants listed "*People, Process and Technology."* Another participant listed one item only*: business buy-in at all levels."* Other responses discussed the need for the IT unit to understand the business and alignment of strategy, IT and resources. The responses were distilled to 21 items.

Q24- Based on your expertise, what are the top factors that doom (cause to fail) new IT products? Please list at least three (3). You are welcome to list as many as you would like.

The responses to Q24 generated 54 items. Some of these overlapped in meaning if not duplicate wording. Accordingly, we distilled them to a list of 17 factors. We thought that some of these were common-sense (for examples, *bad user interface, compatibility, and weak marketing/promotion*). Other items underlined strategy shortfalls (for examples, *building to budget/timeline vs. building to specs, misalignment of resources,* and *disconnect between business and IT*. The last notion was echoed in other forms: "…*IT and Business not listening to each other", "not understanding the business of the customer", "Lack of business buy-in", "Unclear need/market demand"* and *"corporate overhead."* The responses for Q24 relayed technical and business factors that contribute to IT product failures. All are worth discussing while an organization charts its strategic plan.

Q25 - Based on your expertise, what are the top symptoms of a failing release of a new IT product? Please list at least three (3). You are welcome to list as many as you would like.

The responses to Q25 included a good list of reasons. We chose to share them as the participants had written them. These statements included - *Too early to market, too late to market, too costly for adoption, inability to supply market, lack of focus/mission, unrealistic expectations, technology decisions driven by Exec Management/Marketing, short sighted view of project, Poor performance (User experience and/or volume based). Users not using the product. Users dumping data out of the product only to load it to another to do their work, product does not meet market demand, launched in the wrong market, poor marketing…Not meeting promised deadlines 2. Not meeting user expectations, over budget, software bugs, lost functionality with release, poor customer support, attempting to add new features. Lack of screening of customer feedback. "Chasing shiny objects.", customers are not happy with the product, navigation of the product is not intuitive, different browsers give different results/errors, the runtime of the software is slow…Poor word of mouth, Understaffed support (thereby leading to frustrated consumers), lack of use by registered users would all be symptoms, incompatibility with other products; speed to market not met; bugs/defects , not capturing actual vs perceived market demand; lack of use case diversity; poor tech and customer support; slow response to issues, rushed timeline, lack of QA* (quality assurance), *lack of research on edge cases, low adaptation, low value to the business, poor awareness, IT start hiding the reality of their failure to deliver as promised; root cause analyses and debug cycles take longer than expected to resolve; IT asks for more resources during the project, bad processes for development; scope creep; missed deadlines.* We aimed for the raw form to illustrate the participants' expertise in IT products.

Q26 – Based on your expertise, what are the steps technology organizations must include in their initial plans for new IT products? Please list at least three (3). You are welcome to list as many as you would like.

The responses to Q26 varied from the technical (*"Define the problem statement", "Budget/resource allocations", "release date and engineering design"*) to the philosophical *("Leave decisions in the hand for the experts", "Effective product management leadership", "collaborative relationship between business-IT-product management teams").* The group generated 47 items that were distilled to 17 in preparation for Phase 2.

Q27- Based on your expertise, which units in the organization are usually the biggest suspects in causing IT product failures? Please list as many as you would like.

The participants listed many culprit units: *Management, Marketing, Sales, PM (Project Manager), Sponsors, business/IT relationships,*

DOI: 10.20533/ijibs.2046.3626.2022.0065

Scoping/Requirement teams, QA (quality assurance and even, *HR (human resources unit*). Some of the responses discussed technical shortcomings *("quality IT/business relationships", "quality assurance without solid and complete test plans"*). Also, there were some philosophical responses ("*rogue dev/bus relationships"," lack of Vision/Strategy", "lack of/willingness to understand technical limitations"*).

The findings highlighted here were taken from Phase 1's questionnaire. That served as the gateway to panel members' thoughts, and in some places, raw feelings. The latter was apparent in many instances where the participants did not provide objective direct answers (ex. Q24 and Q27). The nature of Phases 2 and 3's questionnaires did not allow for philosophical input because the input was a matter of ranking the findings from Phase 1 (Table 1).

Table 1. Responses for Q21

Based on your expertise, what are must-have components on which to build a healthy IT strategy? Please list as many you would like.
• *People, Processes and Technology*
• *Market/demographics, business processes/needs, really smart people that understand how to connect the business need to the available software*
• *Business related goals, team alignment, customer focus, visionary leadership.*
• *1. Budget and sufficient resources allocated that align with strategy*
• *Effective and collaborative IT leadership that understands the business model*
• *Risk assessment. Organizational structure. Solid business objectives.*
• *1) People. You have to have the right people. 2) A customizable platform. Your strategy can't be as adaptable as possible if you can't adapt your platform.*
• *plans for growth, expansion and unexpected scope; includes strategy for redundancy and consistent delivery; consideration for total picture and direction; informed knowledge of technical direction*
• *Scalable platforms/solutions; governance and advisory infrastructure; data asset strategy alignment*
• *Strong prioritization efforts and focus on technic research before execution*
• *Business buy-in at all levels.*
• *Up-to-date training/knowledge of strategy team; security as high priority; performance vs cost analysis; stakeholder requirements, including business unit partners (e.g. sales, marketing, finance*
• *source repo + tdd; ability to spin up mirrored dev, test, uat environments*

4.2. Round 2

Q20, Q21, Q24, Q25, Q26 and Q27 from Phase 1's questionnaire yielded many five lists that were used to form Phase 2' questionnaire. Some of the input items were "*People, Process and Technology, Business related goals, team alignment, customer focus, visionary leadership, Budget and sufficient resources allocated that align with strategy,"* and "*Business buy-in at all levels*." All words in italics were copied exactly as the participants wrote them. Some items were more technical than strategic. Some of these items were *"Effective and collaborative IT leadership that understands the business model," "Your strategy can't be as adaptable as possible if you can't adapt your platform," "Scalable platforms/solutions," "Strong prioritization efforts and focus on technic research before execution,"* and *"Market /demographics, business/processes/needs…"* These and other items in Table 2 indicate different understandings or perspectives on what *strategy* meant. Some of the responses sounded like venting frustrations with the organizational approach. In addition, there were many similar sentiments repeated in other questions of Phase 2' questionnaire.

4.3. Round 3

In Phase 3, participants shared their final thoughts on the highly rated items that were extracted at the conclusion of Phase 2. We used the items from the previous five lists and asked the participants to rank them from Not important (1) to Very important (5). Then, we averaged the inputs to articulate Phase 3's questionnaires. In this last phase, we included the items that averaged 4 or more. We asked the

DOI: 10.20533/ijibs.2046.3626.2022.0065

participant to share this agreement or disagreement of the numeric rank. The questionnaire included eight questions. Most of them (Q3, Q4, Q5, Q6 and Q7) asked about the ranking scores of the top items (with score 4+).

5. Discussion

The findings shared in the previous section highlighted the importance of strategic IT alignment. We shared earlier in the document in multiple locations some of the literature that emphasized the importance of strategy to a firm's competitive advantage [22], [2], [21], [28]. IS literature is rich with business and IT strategy discussion. The literature relayed many models for said alignment like that of Venkataraman, Henderson and Oldach's Strategy Alignment Model (SAM) [24].

Based on our findings of this study and borrowing the two domains from Venkatarman et. al's [24] model, we propose a framework that carries a practical approach to alignment. The framework is of behavioristic nature. It focuses on the cultural aspects of the relationship between the domains instead of infrastructure and processes. We argue that if there is a healthy alignment between Business and IT, the organizational strategy including processes and infrastructure will be accordingly healthy.

Our proposed framework (Figure 1) assumes that strategy has been developed and the alignment is the result of implementation. Each domain assumes its respective responsibilities to ensure successful implementation. Our rationale is that if these responsibilities are owned and executed, they will facilitate the relationship between the two domains. The Business domain is responsible for communication, commitment and IT acumen. In turn, the IT domain will be responsible for business acumen, strategy readiness and technical qualifications. We explain all of these in the next few paragraphs.

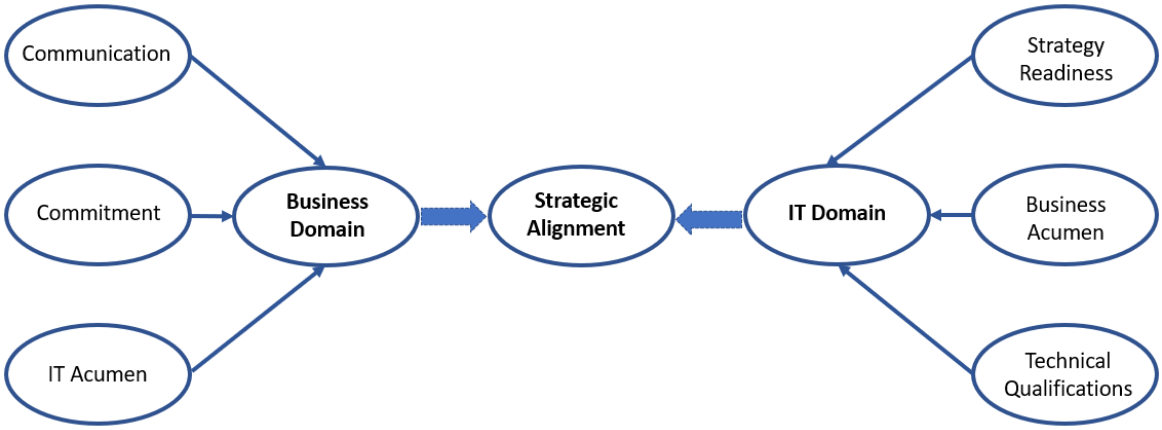

Figure 1. Proposed Framework

Business domain

i. *Communication*: We started thinking about this construct as *strategy diffusion*. We decided that communication was more inclusive and spans other actions beside diffusion. Rathnam, Johnsen and Wen [16] emphasized the importance of communication to a successful strategy implementation. It is a common-sense assumption that communication is important to organizational success. Lack of communication will pose the biggest challenge of implementing strategy was communication. It is documented as an essential management function because it relays good understanding of the business. Communication is a primary factor in engaging employees to encourage creativity, innovation and commitment. Informed human resources are more inclined to support organizational goals. Uncertainty has negative effect on employee morale. Transparent leadership tends to resonate positively [30], and thus, garners more support. Transparency can start with diffusion of strategy and organizational goals. The result will be more employee awareness, and consequently, more-focused effort. Management literature attributes this to the principle that when employees are informed, they are more likely to take ownership of organizational goals and support them [13]. An important aspect of communication is that management must have a communication plan that considers form, flow, timing, language, etc. The plan provides a structure that becomes a fixture of business process which management should cultivate regularly.

DOI: 10.20533/ijibs.2046.3626.2022.0065

ii. *Commitment:* Effective leadership understands that competitive advantage can benefit from a healthy organizational culture [11]. A major factor to such culture is the display of management commitment to the corporate citizen [15]. Such commitment can take many forms: Support and care for various business units and their respective employees, ensuring resource availability, engaging in open-minded discussions and sharing of perspectives. Yahaya and Ebrahim [29] discussed commitment withing the context of leadership styles. Their work shared different types of leadership styles. The most effective was the transformational style, the one results in perpetuating employee loyalty, and consequently, commitment. Furthermore, management commitment will motivate employees to protect the organization and its assets. Reciprocity from the business units is needed to enhance managerial commitment. Accordingly, business units' plans and efforts become more aligned with managerial plans and goals.

iii. *IT Acumen*: IT adds great value to business. While management is responsible for charting strategic plans and goals, it is important to possess IT insight to facilitate its mission. Because Management holds decision-making powers, its knowledge of the various business units, including IT, will accelerate the process. Such effect can serve two important purposes: Showing commitment and support to the IT domain, and better response to customer needs. These two purposes are related. One of the common complaints from IT units is that management overpromises customers for the sake of completing business contracts without understanding the demands of promises made. Hence, for management trying to understand the IT domain's perspective, management will benefit from IT personnel's commitment. That will also help management to serve the customer better. Business leaders with IT competence who learn from customer can be a vital source of knowledge for the business' benefit [17]. Organizations with well-rounded business leadership help products and services succeed.

IT domain

i. *Strategy readiness*: Many organizations have IT leader (CIO or CTO) in their executive management teams. Today's CIO's or CTO's have become more than technical team leaders. They carry with them potential value to the business. Many organizations view IT as potential profit centers, and thus, CIO's/CTO's as strategic roles [7]. Consequently, IT leaders should prepare their staff to think and function in an inclusive strategic mode than a limited technical support mindset. Such mindset would help the IT domain gain more influence within the organization. While such mindset transformation carries many challenges, the IT domain will benefit by continued commitment from the business domain's commitment.

ii. *Business acumen:* It is incumbent upon members of the IT domain to understand the business of their organization [9]. Organizational knowledge is a competency that could benefit IT workforce if acquired. It denotes understanding of the IT personnel's business relevance. Gleghorn [8] noted that career some career advertisements promoted business acumen as a technical skill. Bassellier and Benbasat [1] emphasized relationship between business and IT as *"…a primary determinant of success in gaining business advantage through IT…"* (p. 674). We discussed commitment as a responsibility of the Business domain toward the IT domain. The latter must reciprocate by endorsing the strategy and adopting supporting behavior. The IT domain should be effective at making business decision. We use the term *effective* here to indicate competence in making decisions that contribute to the business domain.

iii. *Technical qualifications:* The bigger the role of IT in today's business, more is asked of IT personnel [8]. It is assumed that human resources are hired based on meeting the qualifications of their respective jobs [9]. Technological advances happen frequently and quickly. Thus, IT personnel is responsible for staying qualified by seeking professional development to maintain effectiveness and usefulness to the organization. We are suggesting that such professional development includes training on new advances. We call for this professional development to be intentional. To make it so, the IT domain must identify this professional development as one of its strategic fixtures. Furthermore, the IT personnel should dedicate effort to learn about the business impact of the new technologies, not just their technical aspects. That would enhance the IT personnel's strategy readiness and business acumen.

We proposed a model to facilitate Business strategy and IT alignment. We based our proposal on the findings from polling IT professionals through three rounds of questionings. We intended for the

DOI: 10.20533/ijibs.2046.3626.2022.0065

model to highlight for management and IT to seek improvements in specific areas [3] for both. We used the literature to support our argument.

6. Limitations

The focus of the study was to assess the role of organizational strategy in these failures. Twenty-five business professionals were contacted and asked to participate in the study. 15 completed the Phase 1's questionnaire. 11 of these completed Phase 2's questionnaire and 10 responded inquiries of Phase 3. The small sample was the first limitation.

Another limitation of the study was that some of the responses were not consistent with the requirements of some questions. We attributed this to discrepancy in understanding of "strategy" among the participants. Earlier, we mentioned that some members shared technical or philosophical responses to some questions (Q20, Q21, Q24, Q26 and Q27) where we sought concrete strategy items. The limitation has enlightened us to re-articulate some of the questions with more specificity to minimize the opportunity for abstract or philosophical input.

7. Contributions of the Study

The findings of this study are expected to inform both discipline and practitioners. Contributions to the discipline included introducing a new thread of research to project management. The current literature focuses on the project failures, but hardly discusses strategy as a potential cause. Furthermore, the literature does not have a lot on organizational strategy education or training. We argue that organizations do not spend enough time on nurturing a culture of strategy where everyone is aware and works in unison. From several participants' responses, it seemed to us that many did not have strong grasp of the concept. Others sounded frustrated with the lack of consistency in management behavior.

The last observation made us believe that management, in general, did not show commitment to documented strategy. Some input mentioned *scope creep, cost, speed to market* and similar sentiments. The findings of the study suggest that the blame for IT product failures spanned many units - Management, Sales, IT, Marketing, and Human Resources were mentioned. The wide blame was another indication that there was division of perspectives and efforts that need to be studied and addressed.

8. Conclusion

The study was a preliminary exploration of IT product strategy. It sought to assess the role of strategy in IT product failures. Based on the various methods we presented a preliminary framework that can help organizations minimize product failures, and as a result, costly losses. The most salient aspect of the study was the discussion of strategy stirs IT professionals. In many places, a few of the responses conveyed feelings instead of direct answers to practical questions. We shared some of these in the *Findings* section. Strategy is important but is not studied as a component of the organizational culture.

9. Future Work

The study had many challenges but presented many opportunities for more robust future research opportunities. We highlighted both in the Limitations section. Accordingly, we see opportunity to expand the investigation of a much larger sample. We predict that we will get similar findings to the ones we shared in the study. Furthermore, we believe that there is a huge opportunity for work on strategy alignment and diffusion with focus on organizational culture, especially the relationship between Management and the IT domain. Special attention should focus developing frameworks for integrating strategy into the organizational culture.

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 DOI: 10.20533/ijibs.2046.3626.2022.0065