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IT support services conceptual engagement model

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Abstract

The Information Technology (IT) Support Engagement Conceptual Model was considered in light of IT service management (ITSM) frameworks, including the IT Infrastructure Library (ITIL) and the Service Support and Service Delivery (SSSD) models in addition to the Ansoff strategic planning model. The IT service growth strategies model proposes a standardized approach to frame the enterprise Business to Business (B2B) IT services growth strategies from operational efficiency, diversification, evaluation, and incubation. The model identifies the IT support service strategies and priorities by examining the product maturity and support service status in the organization. The IT Support Conceptual Engagement Model provides a standardized decision-making strategic framework to view the support service 'onboarding' decision-making criteria. This model proposes three service influencing constructs that are; impact, volume, and complexity, aligned with corporate strategy to govern the service delivery decision-making process. The main contribution of this paper is to introduce the IT Support Engagement Conceptual Model as a novel framework to explain how enterprises can capture, identify, and strategize opportunities to expand an organization's IT services in line with the corporate objectives. The model recommends different approaches and strategies to deal with different impact, volume, and complexity influencing factors while catering to any organization's nuanced factors.

Keywords: IT support services, IT support services planning, knowledge sharing, IT support strategies.

Introduction

The delivery of world-class scaled engineering support services is an important enabler for ensuring Information Technology (IT) products success. IT corporate teams tailor the service supply offering to meet the specific customers' demand through Quality of Service (QoS), leadership, or cost differentiation business strategies. Adopting a service leadership business strategy requires thoughtful and highly skilled customer-focused service delivery to distinguish an organization from its competitors by providing a world class Quality of Service (Wheatcroft, 2007).

This paper describes the design of an IT Support Conceptual Engagement Model to provide a structure for the development of decision strategies that enable support service delivery (Galup et al., 2009). Further, it provides a practical view of how the model can be applied to support service delivery processes, rather than developing the philosophical arguments that underpin the

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relationship between IT service delivery, value creation for service customers and the nature of the organization.

IT support services operate at the cusp of interrelated business areas, functions and processes where they act to facilitate the organization's internal and external activities. As stated by Dumas et al. (2018),

> business processes are what companies do whenever they deliver a service or a product to customers. The way processes are designed and performed affects both the "quality of service" that customers perceive and the efficiency with which services are delivered. (p. 2)

Effectively IT support services have a boundary-spanning role and seek to match the business drivers with the common purpose of the organization such as developing new products and services, achieving customer satisfaction and organizational outcomes (Harmon & Wolf, 2016; Sharp & McDermott, 2009). The IT service sector continues to be fast growing and as stated by Eikebrokk and Iden (2017), "IT practitioners strategize IT service delivery by developing and implementing a reference process: the IT Infrastructure Library (ITIL)" (p. 238). As such organizations rely on process frameworks to provide "a variety of resources, including standard process descriptions and terminology, benchmarks, and best practices" (Sharp & McDermott, 2009, p. 24) to support and achieve the organization's overall purpose in the fast-growing IT service sector (Winter et al., 2006). Yet, there are a plethora of IT Management (ITM) process frameworks and "the number of available ITM standards has increased significantly, giving rise to a confusing landscape" (Auth, 2021, p. 302). There is a need for an IT Support Conceptual Engagement Model to define how an organization's IT support services are strategized with a clear focus on the delivery, effectiveness, as well as efficiency of the end-to-end incubation and support process. This engagement model should ensure that support requests are handled in a timely and appropriate manner and that the right people are involved in resolving issues. It must also allow for better communication and collaboration between the IT support team and external customers. A well-defined engagement model can help to ensure that the IT support team can provide an adequate degree of service to cater to the organization's specific needs and that the IT support budget is effectively allocated. The IT Support Conceptual Engagement Model aims to help to ensure that the organization's technology scaling needs are met and that the IT support function is aligned with the organization's overall goals and objectives. This paper presents a review of existing methodologies and models their main focus and their limitations in addressing the service nature of engineering services. There is a need for a novel engineering services engagement conceptual model as much of the current research in IT service tends to focus on service design (PLAN), launch (BUILD), and post-launch (RUN) efficiency and standardization. While this paper aims to provide a standardized engagement model focusing on the differentiation service incubation factors to help IT organizations with deciding on support service strategies and the factors, that the IT organization needs to consider as a prerequisite to the support service onboarding tasks. Accordingly, we propose the hierarchy of an engineering services engagement model which examines three service incubation constructs for assessing the different maturity stages against business demand (impact, complexity, and volume) consistent with the relevant corporate strategy to govern the service delivery decision-making process. Several concepts and

models are introduced from inside and outside the IT sector and we conclude with a novel practical conceptual model developed by the authors specifically for IT services incubation.

Literature Review on IT Service Management

The literature indicates that IT Service Management (ITSM) is a set of procedures, courses of action, and tools that are used to shape, design, roll out, operate, and control IT services. ITSM is the overarching systematic methodology to manage the delivery of IT services that meet the needs of an organization's customers. ITSM is based on the idea that IT services are essential to the success of an organization in ensuring services are delivered consistently and efficiently (Van Bon et al., 2007). ITSM involves a number of different activities, including the design and development of IT services, the management of IT infrastructure and assets, and the provision of technical support to users. There are several well-known ITSM frameworks, including and not limited to ITIL, Service Support and Service Delivery (SSSD), Control Objectives for Information and Related Technologies (COBIT), and International Organization for Standardization/ International Electrotechnical Commission (ISO/IEC) 20000. The ITIL and the SSSD models are recognized globally as these frameworks/models provide a set of practices and guidelines for IT services management that align with the organizational needs and objectives (Kashanchi & Toland, 2006). Effective ITSM requires a clear understanding of the organization's business goals and objectives, as well as a thorough understanding of the IT systems and processes involved in delivering IT services. It also necessitates solid communication and collaboration skills, as well as the ability to anticipate and respond to changing needs and requirements (Marrone & Kolbe, 2011).

The ITIL is a best practices framework that helps organizations improve the delivery and management of IT services. It provides a set of guidelines and procedures for managing IT services in a way that aligns with the needs and objectives of the organization. ITIL is widely used and recognized internationally as the most globally recognized approach to ITSM. ITSM focuses on enabling the service organization to retain several characteristics that differentiate it from other deployment and design organizations. ITIL focuses on the use of a standardized and formal process known as RUN playbooks as a means of introducing operational efficiency, rigor, and consistency. ITIL standards play a significant part in the introduction of this governance model. They also define an end-to-end responsibility for delivering a level of customer support that is appropriate for the businesses (Cook et al., 2021).

The SSSD model is a framework for managing the delivery of IT services. The SSSD was developed by the Information Technology Service Management Forum (itSMF), an organization that promotes best practices in the field of IT service management. The SSSD model is designed to help organizations understand the different activities involved in the delivery of IT services and to identify the processes and practices needed to ensure services are delivered consistently and efficiently. The SSSD model categorizes IT activities into two main components: service support and service delivery.

- Service Support refers to the processes and practices used to manage the IT infrastructure and assets of an organization, and to provide technical support to users.
- Service Delivery refers to the processes and practices used to design, develop, and deliver IT services to fulfill the needs of the organization and its customers.

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The SSSD model provides a clear understanding of the different activities involved in the delivery of IT services, a systematic approach to IT services management that aligns with the priorities and goals of the organization, a set of best practices, frameworks, and guidelines for managing IT services consistently and effectively, improved communication and collaboration among different teams and departments and enhanced customer satisfaction and loyalty (Berntsen, 2017). Examining the ITIL and SSSD models, there are wide arrays of service governance concepts, including the planning, design, operation, and management of IT systems and infrastructure to meet the needs of an organization or individuals. The goal of the support service is to ensure users have access to the needed technology, and resources to perform their work duties and meet their business objectives. This can include a wide range of services, such as providing and maintaining hardware and software, offering technical support, and implementing and managing IT systems and networks. IT services typically involve different teams, and these teams work together to identify the IT needs of the organization, design and implement solutions to meet those needs, and provide ongoing support and maintenance to ensure the systems are running smoothly and effectively. Effective IT service delivery requires a thorough understanding of the organization's business goals and objectives, as well as a clear understanding of the technology and processes involved in delivering IT services. It also requires the ability to anticipate and respond to the changing needs of the organization, as well as the ability to adapt to new technologies and trends in the industry. IT service delivery and support are two distinct areas within the field of information technology. However, many organizations group these services into one operational support department that oversees both service areas in a combined approach (Eikebrokk & Iden, 2017). Bringing IT delivery and support together can bring improved customer satisfaction through efficiency, better collaboration, increased visibility, better decision-making, and increased agility. While bringing IT operations and integrations together can offer many benefits, there are also some disadvantages to consider like workflow complexity, increased costs, resistance to change, and importantly privacy and security concerns as sensitive data can be shared across different systems and teams (Esteves & Alves, (2013). It is important to weigh the potential benefits and drawbacks of integrating IT delivery and support and to carefully plan and manage the implementation process to ensure a successful outcome (Drogseth et al., 2008).

The idea of separating IT operations into "PLAN", "BUILD", and "RUN" activities is a common way of organizing and managing IT departments and aligning them with the overall goals and priorities of the organization. This concept is often used in the context of ITSM and IT Governance and is outlined by the ITIL and SSSD (see Figure 1). The ITSM models focus on the process of designing, developing, implementing, integrating, and testing the IT solutions that have been identified as necessary for the organization which is known as “BUILD”; in addition to the day-to-day operation, maintenance, incident management, problem management, and service level management of the IT systems and services that have been built which is known as “RUN”. There is a need for extensive research by ITSM researchers for IT service managers around the “PLAN” category and alignment with strategic planning and decision-making, IT governance, portfolio management, and enterprise-grade service architecture. The “PLAN” category amalgamates the process of determining what the organization's IT needs are and how they can be met. Yet this concept covers the areas associated with operations rather than performance, limiting its scope in strategic service decision-making (Edition, 2018).

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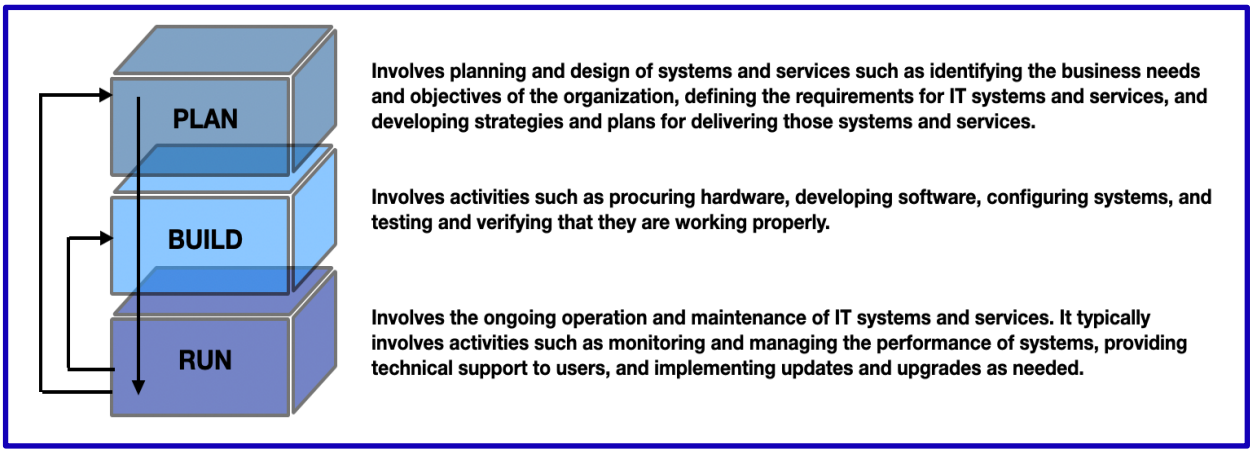

Figure 1. IT Services Categories (PLAN, BUILD, and RUN)

Conceptual Framework of IT Service Growth Strategies

Service design is an increasingly popular field of study that spans multiple business disciplines and has been widely discussed for a considerable period of time in defining service logic, service ecosystems, and value cocreation in service design in organizations (Vargo & Lusch, 2017). Understanding the fundamental components and complexities of service design is crucial to mitigate the risks associated with poorly designed service solutions for organizations. Organizations seeking to expand their IT services must identify and capitalize on opportunities, which may include the development of new services or the support of impactful products. To achieve growth, organizations must prioritize building and maintaining strong relationships with customers to ensure their loyalty as well as identifying new business opportunities. In addition, organizations can focus on improving operational efficiency and reducing costs to increase profitability. Regularly reviewing and adjusting growth strategies in response to changing market conditions, customer needs, and corporate priorities is essential (Vink et al., 2021). In light of the absence of a dedicated service growth model that is targeted at the technology sector, the authors present an IT service growth strategies model inspired by the Ansoff Matrix, which aims to model enterprise Business-to-Business (B2B) IT services growth strategies. Ansoff Matrix (which is also known as the Product/Market Expansion Grid) is a well-known marketing growth strategic tool that was developed by Ansoff (1957), which introduced marketers to a simple approach to considering product and market growth and the associated risks. This approach is known as the Ansoff Matrix, which outlines various growth strategies. The matrix has been widely used in different research papers to investigate the impact of growth strategies on a firm's functional growth and the moderating effect of the market environment (Doyle, 2016).

The IT service growth strategies model can be mapped to the Ansoff Matrix, which utilizes two variables to categorize different growth strategies (see Figure 2). These variables are product and service, which are critical elements of the world of digital business in the realm of IT services. The variables can be defined as follows:

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- Product: A software or hardware product is something created and available for end customers with a distinct name/ brand that aims to serve external customers and organizations.
    - New Product: A product in an early stage which can be in either pre-Alpha or Alpha development stages. Pre-Alpha refers to an early stage of software development where the software design phase has just commenced. Yet the product is not ready for testing, while Alpha refers to a stage of software development where the design has been concluded, and the software is still in the testing phase. The Alpha product features may not be very stable where bugs and operational disruptions would be expected.
    - Existing Product: A product in a mature development phase can be described as a Beta and Generally Available (GA) product with a number of 'live' enterprise customers. Beta refers to a stage of product development where the software is stable and ready for testing. The Beta stage aims to gather feedback and identify development opportunities, while GA refers to the final stage of product development, where the software is considered complete and ready for public release at scale. GA software is considered stable and reliable.
- Service: IT support services can be considered as reactive or proactive or predictive support services. Reactive support is triggered by customers' enquires after the occurrence of the operational incident, while proactive support is "one step ahead" where operational incidents are proactively foreseen and resolved through monitoring, and alerting before customers' enquires. Predictive support anticipates the incidents by detecting the potential problem, and resolving its root causes through Machine Learning (ML), along with self-healing in order to mitigate the incident occurrence (Retana et al., 2016).

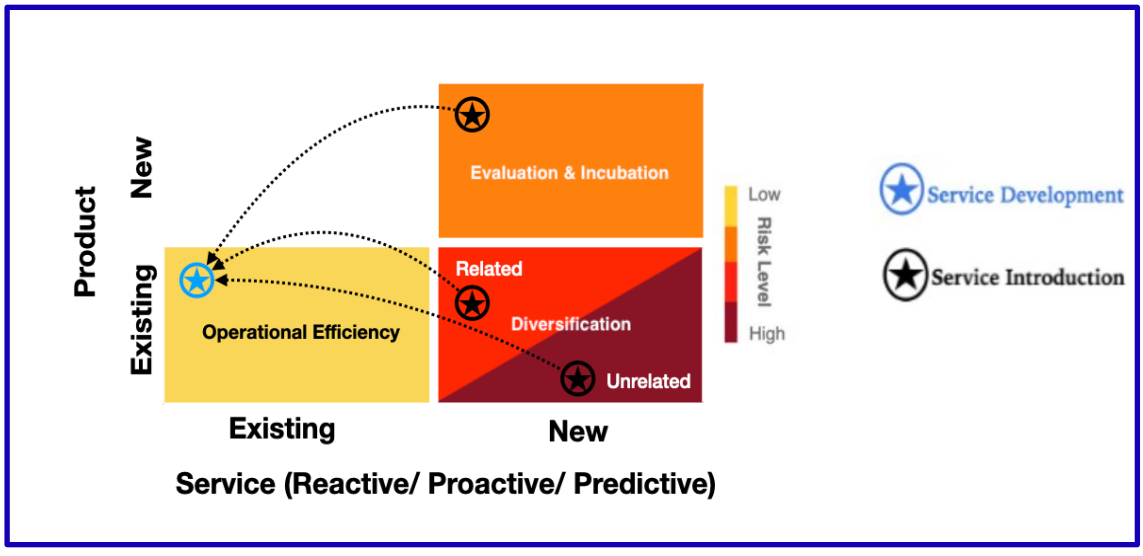

Figure 2. IT Service Growth Strategies Model Adapted From Strategies for Diversification (Adapted from Ansoff, 1957).

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Each of the four quarters in the IT service growth strategies model (see Figure 2) can aid IT services delivery teams in confirming the specific products or services being supported and their associated maturity stages. IT services then assign the targeted support approaches to each specific service (reactive, proactive, or predictive) to align with the organizational strategies. Each of the four quarters' features and associated organizational strategies are explained below. In this model, the combination of an existing service for a new product is not feasible by definition, as the service follows product development. Usually, the service is launched whenever the product reaches Beta or General Availability (GA) maturity stages. It is not recommended to launch support services for volatile under-development products in early maturity stages (e.g.: Product-Market fit, pre-Alpha & Alpha stages). The Operational Efficiency quarter is defined as an existing service at scale for an existing product (GA or late-stage Beta). This stage illustrates a low operational risk level where all the operations/product skillsets, processes, and operational models are well calibrated, and operations are well anchored. In this category, IT support organizations may adopt a defensive strategy (David et al., 2023) focusing on enhancing the service delivered through operational excellence, customer value, customer satisfaction (CSAT), product operational metrics, RUN playbooks, and governance improvements.

The Evaluation and Incubation quarter is defined as a new service introduction and development for a newly launched product at the Beta stage. This stage is associated with a medium operational risk level as all the product operations skillsets, processes, and operational models should be built from the beginning. It is not a high-risk incubation as the product/support knowledge for all internal teams and external partners is not in a fully developed stage. This may be because the knowledge is not fully developed or at this relatively early stage the outlay in knowledge investment remains modest. The demand and the number of partners base are still low allowing the service organization to have a smooth service introduction with the goal to ensure that the service is reliable, scalable, and meets customer needs. As a result, IT support organizations may adopt a prospectors-type strategy (Kalkan et al., 2011) focusing on embracing horizontal growth by supporting new products in a selective approach (niche growth) in capturing external opportunities to serve the business, products, and customers. The Diversification quarter is defined as when a new service is introduced, featuring the launching of a mature product. This stage involves high operational risk as all the product/operations skillsets, processes, and operational models moving forward need to be built around an existing product with an existing customer base and potentially high demand. Any service quality dip may trigger an upsurge in customer complaints. Unrelated diversification is even riskier - where the organization's skillset can be leveraged but in a domain outside the organization's original scope where knowledge transfer may be needed, and extra skill sets need to be developed in a costly manner and to a pressing schedule. In this case, IT support organizations may adopt a related and unrelated diversification strategy (David et al., 2023), embracing a vertical/horizontal growth organizational strategy.

The IT service delivery teams can monitor and realign support approaches as the products/services mature in the category over time, taking into consideration that the service's operational efficiency shall be the overarching objective to achieve. The main expectations of the service introduction categories (Evaluation, Incubation, or Diversification) are to introduce new service onboarding prerequisites (process, workflow, Responsible, Accountable, Consulted, and Informed (RACI) matrix, Service Level Agreements (SLAs), cross functions heat-map, technical gaps

identifications, training plans, etc.) paving the way for the transition to the operational efficiency category within a short time frame and a low-risk process. The operational efficiency expectation is to introduce a continuous improvement mechanism (Gisi, 2018) including but not limited to automation, tooling, customer experience, operational key performance indicators, and end-to-end quality of service enhancements. The IT service growth strategies model can provide a current snapshot of the complete IT service support delivery portfolio and capture the changes as the service portfolio evolves. The service portfolio often tends to grow rapidly, especially in the IT service sector which moves at a fast pace. David (2011) referred to the IT service sector as positioned in "turbulent, high-velocity markets" (p. 155). This IT service growth strategies snapshot can be used to help balance the support service resources and budget requirements over all areas, facilitating a more targeted configuration to achieve organization goals, competitive advantage, and gain commitment from organizational managers (David et al., 2023). The value realized over time in identifying the support service categories in the IT service growth strategies model may be because "many IT service providers rely on reactive approaches in providing support to their customers" (Jäntti & Cater-Steel, 2017, p. 212) rather than considering where gains might be made by applying reactive, proactive and predictive approaches at each of the service maturity stages. The value of the IT service growth strategies model to the IT service delivery team is the ability to identify key services and support their transition to the operational efficiency category.

Conceptual Framework of IT Support Engagement Model – IT Rubik's Cube Model

Organizations strive to develop selective growth strategies and make precise and well-informed decisions in order to prevent inaccurate and conflicting IT support onboarding and incubation decisions. It becomes important to define the nature of IT engagement to discern IT service engagement clearly based on definite criteria. Several factors influence these decisions. However, this proposed model focuses on the most important constructs influencing the end decision: Impact, Volume, and Complexity, as illustrated in current research (see Figure 3). The three constructs are explained with associated features and measures to ascertain the relative weighted effect and are best presented in separate tables to view the overall score (see Tables 1 and 2). The three constructs of the IT Support Conceptual Engagement Model are viewed from the perspectives of both practitioners and academics and derived from service practice in project management. The Impact construct acknowledges the importance of managing IT service projects in different conditions (Ciric Lalic et al., 2022) and works to identify and prioritize factors to enable project success based on the organizations' goals. Using Impact as the higher level construct enables project management and strategic management factors to be identified and considered in the assessment of the impact of service delivery success using the quantitative scoring method. The Complexity construct is well recognized by project managers but in this context it moves away from a focus on goals and methods (San Cristóbal, 2017), and instead considers how to create value from complexity to limit the effects of "poor responsiveness to customers, weak risk management, inefficient processes, and confusion and stress among employees" (Heywood et al., 2010, p. 2). The factors associated with complexity are derived from the organizational strategies

and are assigned weights to prioritize support to customers and minimize inefficient processes and risks.

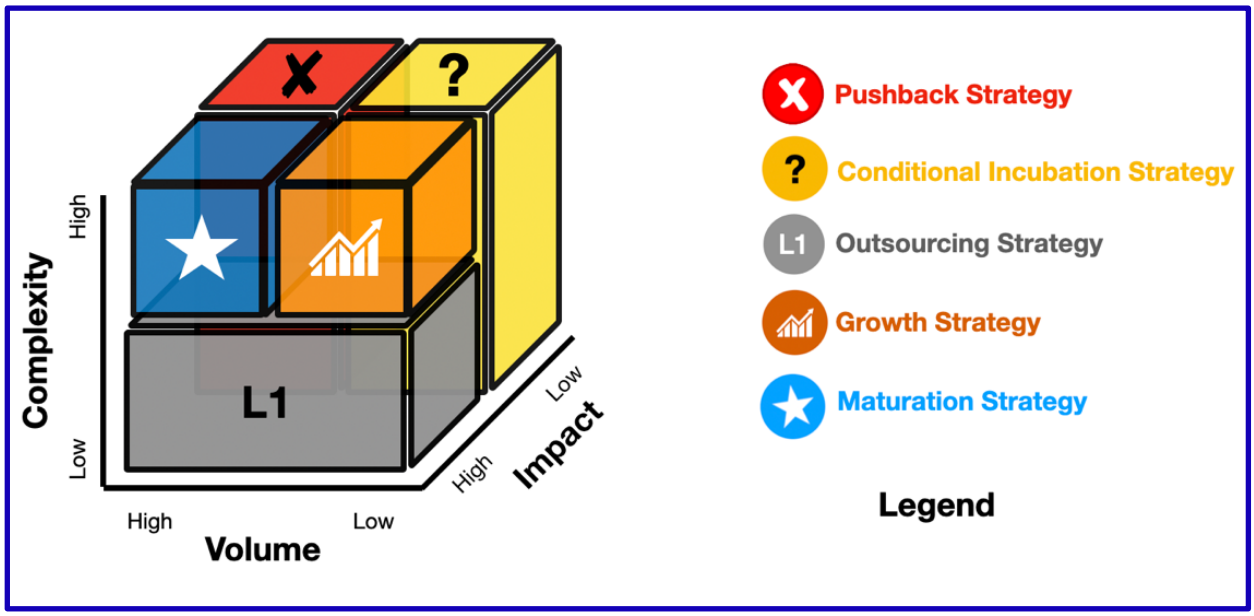

Figure 3. IT Support Conceptual Engagement Model - Rubik's Cube

The Volume construct relates to increases in the number and volume of service requests that proactive IT service delivers (Jäntti & Cater-Steel, 2017). The nature of inbound volume factors will need to be identified by the IT service to prioritize and queue services based on service support strategies. These constructs are explained further. The three constructs contain factors that are determined by the IT service managers and the list of factors can be extended to meet the organizational objectives. This type of scoring of factors is seen in strategic management and used widely as a means to quantitatively assign a rating and ranking for selected factors, and prioritize factors to realize opportunities and growth for the organization. The quantitative method requires

Table 1. Impact Model

Impact model	Description	Factor	Score	Weighted Avg. Score
Business need	A must-have service to RUN, to be profitable, to serve effectively, and to deliver successfully on company mission.	A%		
Product Scaling need	Being functionally able to do what it is supposed to do, with good quality and at scale	B%		
Organization Growth need	Positively impacts the organization's skillset growth as an emerging non-obsolete technology	C%		
Impact (I)		Sums up to 100%	0-100%	I=>80% High, 60%<= I >805 Avg. and I<60% Low

experience and sound judgment and while it is subjective it provides a valuable method for strategy implementation (David et al., 2023), provides documented evidence for the decisions and also serves the onboarding decision strategy well.

Impact (I) is defined as the current or forecast influence on the business, partners, internal organization, cross-functional organizations, product, and team growth. Several factors within the impact category can be considered for different teams and with different weights based on the IT support organization's vision. The score per impact driver can be assigned by IT managers from 0% to 100%, where 0% is the lowest and 100% is the highest Impact.

Complexity (C) is defined as the level of complexity compared to existing team skill sets, frameworks and operational maturity throughout different operations stages, level of documentation, support channel availability, knowledge transfer availability, and existing tooling.

Table 2. Complexity Model

Complexity model	Description	Factor	Score	Weighted Avg. Score
Skillset	The team skillset against the product support requirements	D%		
Documentation	The level of documentation required and Knowledge base availability	E%		
Tooling	The availability of different tools	F%		
Support Channel	The availability of support channels	G%		
Complexity (C)		Sums up to 100%	0-100%	I=>80% High, 60%<= I >805 Avg. and I<60% Low

The score per complexity driver can be assigned by IT managers from 0% to 100%, where 0% is the lowest and 100% is the highest complexity.

Volume (V) is defined as the new product support inbound volume, compared to the average supported products inbound volume. The inbound volume refers to the total number of incoming inquiries, tickets, issues, or alerts received by the support team through the different support channels including but not limited to support portals, chat, and email. The inbound volume understanding should reflect the team staffing and resourcing requirements. A low-volume product can be regarded as a new product below the average supported products' inbound volume, while a high-volume product can be regarded as a new product above the average supported products' inbound volume. We modified and further developed the Impact/Effort Matrix prioritization, which is a widely used tool in project management and product development. The concept of evaluating tasks based on their impact and effort or complexity is a fundamental principle in product management decision-making and prioritization (Lombardo et al., 2017). The authors added volume as a new decision-making construct developing a three-dimensional conceptual model. The IT Support Conceptual Engagement Model introduced by the authors suggests different approaches and strategies to deal with different Impact, Complexity, and Volume situations. While all the current ITSM frameworks focus on the post-incubation decision

processes, this model outlines the decision factors that IT support leaders should consider in order to identify the support service strategies. The three constructs; Impact, Complexity, and Volume scores are weighted by the IT service managers based on their experience and judgments and their perspective of the specific scenario in which they are being applied, and are used to inform the decision-making criteria. A key attribute of the strategy for service support is its flexibility in that it has the potential to undergo rapid modifications in response to alterations in three key constructs. (see Figure 3 and Table 3) and so needs to be reviewed and monitored regularly. It offers a versatile approach that allows flexible use by individual project managers, promoting project autonomy; while also informing cross-project oversight by the application of a consistent framework. The business strategies associated with the IT Support Conceptual Engagement Model are explained in this section. The IT sector's emphasis on implementing a business strategy is formed in recent times by a business-oriented view of projects (Winter et al., 2006) that has a sharp strategic focus on service delivery to create value for the organization, customers and stakeholders. The support strategies recommended in The IT Support Conceptual Engagement Model are based on the experiences of practitioners who engage in ITSM projects. Each of the five strategies featured in Table 3 is explained.

Pushback: This is relevant to service incubations with a high volume of support coupled with a low impact on the business, scaling, and organization skillset growth needs. The associated strategy is named pushback and is the recommended strategy as this service should not be incubated considering the limited value it will bring to the organization.

Outsource as Level 1: For incubations with a low complexity coupled with a high impact on the business objectives, outsourcing to vendors or contingent workers is the recommended strategy. This service is considered as level 1 support following the ITIL standards where we see high volume and low complexity in place. Level 1 support refers to the first line of support defense responsible for triaging technical cases, providing basic user inquiries, troubleshooting common technical issues, and providing initial resolutions or routing more complex issues to higher support levels. This service could be incubated as the first level of support in the short term with a long-term strategy of workflow automation through Artificial Intelligence (AI) chatbots.

Growth: For incubations with a low volume of support coupled with a high impact on the business objectives and high complexity in terms of skillsets, documentation, tooling, and support channels, growth is the recommended strategy. This service is still in the early stages without a high customer demand, and accordingly, the IT organization needs to focus on skillset growth, building competencies, identifying the RUN playbooks, and other technical factors.

Maturation: For incubations with a high volume of support coupled with a high impact on the business objectives and high complexity in terms of skillsets, documentation, tooling, and support channels, maturation would be the recommended strategy as there is a demand for this service aligned with the customers and corporate needs. The IT support strategy should focus on scaling, training, and boosting supply to cater to the business demand.

Conditional Incubation: For incubations with a low volume of support coupled with a low impact on the business objectives, conditional incubation is the recommended strategy. If an IT organization has expected eventual product growth and an anticipated uplift in impact in the longer term, they may choose to onboard a service with a low return on investment in the short term, to

capture and nurture the interest. Incubation is the process of developing a new service until it becomes a viable offering with a clear impact and operational model. On the other hand, onboarding begins the process of integrating new customers into the designed service until they have a positive and effective experience, which can increase customer satisfaction and overall product adoption in the longer term. This conditional incubation strategy could be adopted if there is a clear path planned toward the growth, maturity, or outsourcing strategies. Continuous monitoring is needed for this category, and a support wind-down approach should be followed if needed.

Table 3. IT Support Conceptual Engagement Model - Rubik's Cube

	Impact	Complexity	Volume	Strategy	Focus Areas
	L	L/H	H	**Pushback**	N/A
	H	L	L/H	**Outsource as Level1**	- Operational efficiency - Develop workflows Automation - Develop AI Chatbots
	H	H	L	**Growth**	- Build competencies - Skillset growth - Develop Run books & frameworks
	H	H	H	**Maturation**	- Support Scaling & Efficiency - Boost supply to cater for business demand
	L	L/H	L	**Conditional Incubation**	- Monitor actual vs. growth plans and reassess

The IT Support Conceptual Engagement Model aims to fulfill the needs of IT support services to align service strategies with wider organizational strategies and goals. This view is supported by Winter et al. (2006) who stated there is "a growing conceptual shift away from the traditional engineering view of projects, towards a more business-oriented view, in which the primary concern is no longer the capital asset, system or facility etc, but increasingly the challenge of implementing business strategy, improving organizational effectiveness, and managing the realization of stakeholder benefits".

Further, there is evidence to support the need for a model that considers a bottom-up approach to IT service management as "IT organizations still face challenges in establishing and improving ITSM" (Jäntti & Cater-Steel, 2017, p. 192), and this model can be a focal point to align the support services growth and support engagement synergies in ITSM more closely with organizational goals.

Assumptions and Limitations

The implicit assumption that Impact, Complexity, and Volume are the only constructs that warrant weighted contribution to determining the service engagement strategy may limit the decision-making capacity of the approach. As it is, other constructs that contribute less than those constructs are not considered in the model. Further research is needed to identify if further constructs should be adopted in the model. However, to overcome any potential limitations and present an agnostic

framework, the model does allow for additional factors to be incorporated into each construct (with associated features and sub-factors) for Impact, Complexity, and Volume. This empowers IT organizations to capture specific nuances by adding extra sub-factors under the three stated overarching constructs and to adjust the scoring per factor based on the different organizations' levels of maturity and business needs.

Conclusions

This work contributes to extant research on ITSM in knowledge sharing by addressing the specific areas of ITSM knowledge with a focus on the "PLAN" IT frameworks in response to the emerging need for quality-of-service differentiation. The work focuses on how to methodically onboard and strategize IT support services to meet the organization's needs, informing the effective allocation of the support budget and ensuring that the organization's scaling needs are in line with its overall objectives.

The advances made by this study are:

- The posting of a novel IT service growth strategies model attempts to explain how an IT service organization can determine the support strategies for new and existing products at different maturity levels.
- The role of reactive, proactive, and predictive approaches that need to be aligned to service growth strategies by outlining the evolution of support strategies from diversification to operational efficiency to evaluation and incubation.
- The introduction of the IT Support Conceptual Engagement Model, a tripartite model of IT service engagement based on three different constructs (Impact, Volume, and Complexity) and provides a guide to the types of factors to include with the option to extend the list of factors to cater to any organization's distinctive characteristics.
- The application of the quantitative scoring method that can serve as an evidence base and a means to convey knowledge for the justification of service onboarding decisions.
- The combined models complement the IT support service decision processes to provide both a snapshot of the IT support services portfolio; inform service support strategy approaches (reactive, proactive or predictive); and provide quantitative measures based on managers' expertise for the justification of specific service strategy onboarding decisions.

References

Ansoff, I. H. (1957). Strategies for diversification. *Harvard Business Review*, *35*(5), 113-124.

Auth, G. (2021). The evolution of IT management standards in digital transformation: Current status and research implications. *Engineering the Transformation of the Enterprise: A Design Science Research Perspective*, 301-318.

Berntsen, K. R. (2017). The use of ITIL and its effect on organizational culture. *Ostfold University College*.

Brenner, M. (2006, April). Classifying ITIL processes; A taxonomy under tool support aspects. *Proceedings of the 2006 IEEE/IFIP Business Driven IT Management* (pp. 19-28). IEEE.

Ciric Lalic, D., Lalic, B., Delić, M., Gracanin, D., & Stefanovic, D. (2022). How project management approach impact project success? From traditional to agile. *International Journal of Managing Projects in Business*, *15*(3), 494-521.

Cook, A. E., Gann, A. S., & Ray, D. A. (2021). Effective ITSM practices. *Journal of Information Technology Management*, *22*(1), 45-60.

David, F.R. (2011). *Strategic management: Concepts and cases, global edition (13th ed.)*. Pearson Education, Inc.

David, F. R., David, F. R., & David, M. E. (2023). *Strategic management: A competitive advantage approach, concepts and cases, global edition (17th ed.)*. Pearson Education Limited.

Doyle, C. (2016). *A dictionary of marketing*. Oxford University Press.

Drogseth, D., Kristensen, K., & Smith, G. D. (2008). IT operations integration: A review and future research directions. *Journal of Information Technology*, *23*(2), 97-113.

Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2018). *Fundamentals of business process management*. Springer.

Edition, P. S. (2018). A guide to the project management body of knowledge. *Project Management Institute. Pennsylvania*.

Eikebrokk, T. R., & Iden, J. (2017). Strategising IT service management through ITIL implementation: model and empirical test. *Total Quality Management & Business Excellence*, *28*(3-4), 238-265.

Esteves, R., & Alves, P. (2013). Implementation of an information technology infrastructure library process- The resistance to change. *Procedia Technology*, *9,* 505-510.

Galup, S. D., Dattero, R., Quan, J. J., & Conger, S. (2009). An overview of IT service management. *Communications of the ACM*, *52*(5), 124-127.

Gisi, P. J. (2018). *Sustaining a culture of process control and continuous improvement: The roadmap for efficiency and operational excellence*. CRC Press.

Harmon, P., & Wolf, C. (2016). The state of business process management. *BP Trends*.

Heywood, S., Hillar, R., & Turnbull, D. (2010). How do I manage complexity in my organization? *McKinsey and Company*.

Jäntti, M., & Cater-Steel, A. (2017). Proactive management of IT operations to improve IT services. *JISTEM-Journal of Information Systems and Technology Management*, *14*, 191-218.

Kalkan, A., Erdil, O., & Çetinkaya, Ö. (2011). The relationships between firm size, prospector strategy, architecture of information technology and firm performance. *Procedia-Social and Behavioral Sciences*, *24*, 854-869.

Kashanchi, R., & Toland, J. (2006). Can ITIL contribute to IT/business alignment? An initial investigation. *Wirtschafts Informatik*, *48*, 340-348.

Lombardo, C. T., McCarthy, B., Ryan, E., & Connors, M. (2017). *Product roadmaps relaunched: How to set direction while embracing uncertainty*. O'Reilly Media, Inc.

Marrone, M., & Kolbe, L. M. (2011). Uncovering ITIL claims: IT executives' perception on benefits and business-IT alignment. *Information Systems and e-Business Management*, *9*, 363-380.

Retana, G. F., Forman, C., & Wu, D. J. (2016). Proactive customer education, customer retention, and demand for technology support: Evidence from a field experiment. *Manufacturing & Service Operations Management*, *18*(1), 34-50.

San Cristóbal, J. R. (2017). Complexity in project management. *Procedia Computer Science*, *121*, 762-766.

Sharp, A., & McDermott, P. (2009). *Workflow modeling: Tools for process improvement and applications development*. Artech House.

Van Bon, J., Van der Veen, A., & Pieper, M. (2007). *Foundations in IT service management basierend auf ITIL*. Van Haren.

Vargo, S. L., & Lusch, R. F. (2017). Service-dominant logic 2025. *International Journal of Research in Marketing*, *34*(1), 46-67.

Vink, J., Koskela-Huotari, K., Tronvoll, B., Edvardsson, B., & Wetter-Edman, K. (2021). Service ecosystem design: Propositions, process model, and future research agenda. *Journal of Service Research*, *24*(2), 168-186.

Winter, M., Andersen, E. S., Elvin, R., & Levene, R. (2006). Focusing on business projects as an area for future research: An exploratory discussion of four different perspectives. *International Journal of Project Management*, *24*(8), 699-709.

Wheatcroft, P. (2007), World class IT service delivery. *British Computer Society in Association with CAPDM*.

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