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Integrating Business Transformation with Service Management – A Foundation for Innovation in Services

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***Abstract*—The increasing importance of service innovation in global economy motivates researchers in the fields of innovation and information technology (IT) to give attention to develop framework as a foundation of managerial and IT management for implementing a long-term organization capability on delivering service innovation. We have seen a body of knowledge in Business Transformation Management Methodology and ITIL® IT Service Management as a comprehensive guiding principle for managing organization, service process, technology and people to be more effective, aligning the business and IT for achieving the challenging business strategy. This paper addresses the importance in integrating BTM^2 methodology with service management and develops a framework that enables service innovation. The proposed framework is reviewed by business practitioners in service innovations in business consulting, financial service, healthcare and academic organizations in Thailand. The results suggested that the framework aids innovation leaders on evaluating the organization's service capability, formulating a transformation program to improve the capability, and resolving the gaps in aligning the capability towards the company's service innovation strategies as well as improving the overall service innovation efforts.**

Keywords-Business Transformation, Service Innovation Management, IT Service Management

I. INTRODUCTION

Service delivery has been an important agenda for running business in global economy with the market values "making up about 70% of the aggregate production and employment in the Organization for Economic Cooperation and Development (OECD) nations and contributing about 75 percent of the GDP in the United States." [1, p.56], and has recently been estimated to be 80 percent [2]. Innovation in services is vital for maintaining company's sustainable competitive advantages [3]. Several researches have been conducted with an attempt to examine the organization's capability to make a success in service innovation [4, 5] by improving new service development (NSD) process [3] and service innovation strategies [4].

The success in service innovation is related to an understanding of what customers need and how operational capabilities of service design must be aligned to economically benefit the operation of the service company [6]. Although the success seems promising, it is difficult to achieve as the company will need a lot of efforts to explore customer tradeoffs for service innovation and examine the additions of innovative offerings as well as the benefit contributions to the company's core service concept [6]. A number of resourceful books have suggested a rigorous planning for service management and a comprehensive framework for standardizing the business operations for improving business capabilities to be transformative and adaptive for changing needs of customers. However, it is likely the fact that in reality it does not work that way. That is why unsurprisingly each week a new suggestion in dealing with challenges and difficulties appears [7].

Our view is that, in practicality, service management framework should provide more than just management on service process, technology and people; it must, above all, provide an improvement on the business transformation in enabling service innovation [7]. Improvement means to "assess" service innovation capability and "provide" a set of implementable actions towards creating the value of service. While the framework cannot completely give all the answers, it rather gives some guidelines on what is the feasible and actionable path that leads to greater probabilities of success [8]. This paper starts out from an IT Infrastructure Library (ITIL®) IT Service Management (ITSM) framework version 3.0 [9, 10] and attempts to integrate the ITSM framework into an integrative Business Transformation Management Methodology (BTM^2) [11].

With the practicality of the transformation lifecycle in BTM^2, the service management can be efficiently integrated as part of the enablement disciplines in aligning with BTM^2 and

Transformational IT Management. The service management can be efficiently organized following the four iterative steps which are envision, engage, transform and optimize that provide a well-defined map for iterative nature of business transformation. The proposed integration of BTM^2 methodology with services management is an extension for the body of knowledge in the field of service innovation that moves progressively towards implementing organization's capability. It also provides a set of service management process in supporting the BTM^2 that "seeks to develop organizational capabilities facilitating excellence and innovation in business" [11, p.110].

The key perspectives of Service Innovation, ITIL® ITSM version 3 and BTM^2 methodology are summarized in the following section, and therefore the integration BTM^2 methodology with service management will be proposed. Next, we address the focus group reviews on how the integrated framework can enhance a strategic planning and implementation of service innovation. The final section concludes framework implications, limitations, directions for future research and conclusions.

II. Literature Review

A. *Service Innovation*

Service innovation is defined as "a prototype for service, covering the need of the customer and the design of the service" [12, p.149]. Service innovation refers to a new development in activities that are undertaken to deliver the core product and make it useful to customers [13]. Service innovation differs from product innovation that service is more on the product delivering activities while product innovation refers to new product offerings or product improvement which is more on the tangible product units [13]. Service innovation also differs from process innovation which involves creating or improving methods of production, service or administrative operations as well as developments in processes, systems and reengineering activities undertaken to develop products [13].

Service innovation plays an important role in product differentiation of a company from its competitors [14]. Service innovation provides a value-added to customers' experiences in addition to product design and specifications [15]. The differences between products and services are classified into four areas 1) degree of intangibility as services cannot be easily touched, smelled, or consumed; 2) degree of inseparable as services cannot be separated from the production or consumption; 3) degree of heterogeneity as the level of service may vary and cannot be standardized as products; and 4) degree of perishability as services cannot be inventoried like products [16].

Service innovation is an integration of strategy-driven process and technology-driven process by which the company follows a "service professional" trajectory and transforms its business operations to improve service values to customers [17]. "It is the task of managers to guide service innovation process" [18, p.890] regardless of whether their companies are in a service industry or in a manufacturing industry that increasingly rely on the service operations for generating profits. How the company could develop service innovation capability to gain a long-term profitability is always an intriguing study [4, 5, 18].

B. *ITIL ® ITSM version 3*

IT Service Management (ITSM) is an ongoing effort on establishing a body of knowledge on how the organization can effectively implement the IT infrastructures as a service to support the business strategy. The main objective of the ITSM framework is "to provide services to business customers that are fit for purpose, stable and that are so reliable, the business views them as a trusted utility" [9, p.5]. The framework was growing radically since 1980s as the "services became underpinned in time by the developing technology" [9, p.3]. While the framework has evolved and changed its breadth and depth for applicable to changing business landscape, it remains the most recognized framework for managing IT service in the world. The framework preserved the fundamental concepts of leading practice to "unite all areas of IT service provision toward a single aim – delivering value to the business" [9, p.3]. The core guidance topics of ITSM are depicted in figure 1

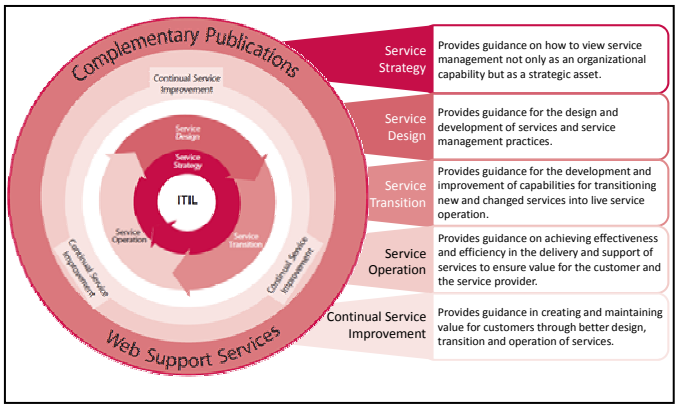

Figure 1. ITIL® ITSM – Core Guidance Topics [9, p.11]

"The structure of the core practice takes form in a Service Lifecycle. It is iterative and multidimensional." [9, p.5] Service Strategy is the core of the lifecycle in guiding answers to the services offerings and values. Service Design, Transition and Operation are the revolving lifecycle practices in developing and improving capabilities to the services deliveries. Continual Service Improvement is the feedback processes in continuous improvement as day-to-day service operations. The process architecture for overall practices is shown in figure 2. The detailed processes in each area are also offered in the core guidance books for further references [9].

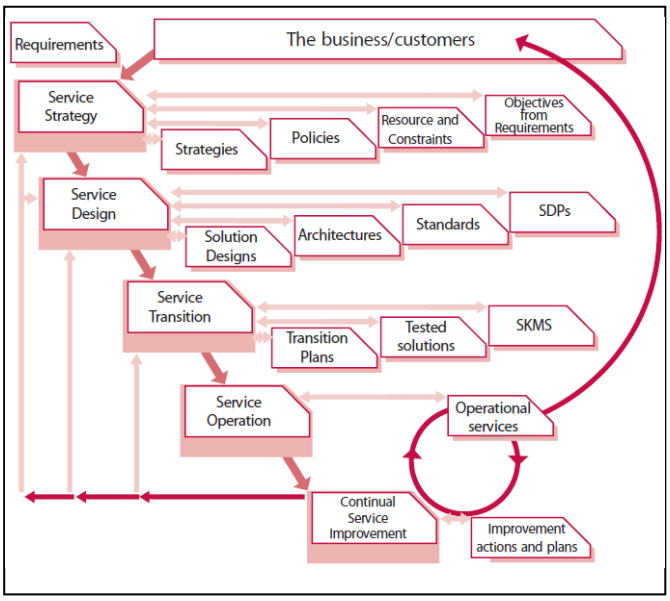

Figure 2. ITIL® ITSM – Process Architecture [9, p.125]

C. *BTM² Methodology*

Business Transformation Management (BTM²) methodology is a new approach for the holistic management on business transformation. The methodology is developed by a unique partnership of Business Transformation Academy (BTA), Business Consulting Division of SAP, and interdisciplinary team of thought leaders from psychology, information technology, strategic management, process management, and social sciences have joined together to create a '360-degree' view of what business transformation means [11]. The methodology at its core provides a Meta Management framework that integrates and extends eight well-established management disciplines that had been proven as a necessary for successful business transformations in response to the increasing pressures on organizations to perform in the face of a rapidly changing environment [11].

"Meta Management provides the overarching frame for different management disciplines and offers the linkages among the management disciplines, leadership, culture and communication which allows the transformation process to be effective" [11, p.14]. As set out in figure 3 and 4, the Pillars of Meta Management cover the Meta Management framework and the Transformation Lifecycle.

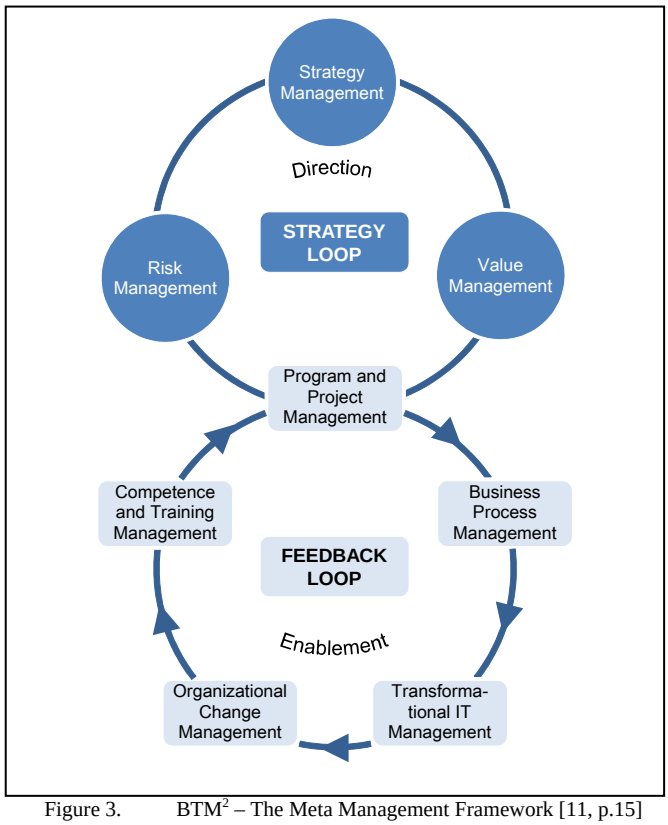

Figure 3. BTM² – The Meta Management Framework [11, p.15]

Meta Management framework, as shown in figure 3, provides the orchestration of the overall set of eight management disciplines which are strategy management, risk management, value management, program and project management, business process management, transformational IT management, organizational change management and competence and training management [11]. The eight management disciplines are chosen in a logical way and are of two types, directional and enablement, in interplaying with the transformation lifecycle in the second pillar.

- The directional disciplines of BTM² cover transformation strategy to "create the case for action and vision of the future and set the direction for the transformation effort" in a "defined considering time and budget restrictions as well as associated risks" [11, p.15].
- The enablement disciplines of BTM² cover transformation roadmap to "create new competencies through training and education, orchestrated through an organizational program management capability" by "management and synchronization of changes ranging from IT through process to organization". Enablement can also be referred as the learning feedback in leading to the adjustment of the transformation strategy for organization's adaptability and continuous improvement [11, p.16].

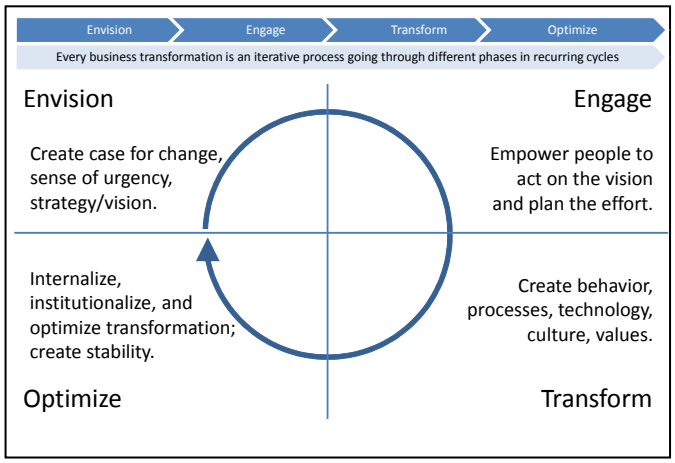

Figure 4. BTM^2 – The Transformation Lifecycle [11, p.17]

Transformation lifecycle, as shown in figure 4, provides an overall map of the change territory as an iterative nature of business transformation covering different stages in recurring cycles from Envision, Engage, Transform and Optimize. The eight management disciplines described in Meta Management framework are involved in all stages of the transformation lifecycle to provide a holistic perspective from the transformation rationale to implementation options. Transformation needs a framework of actions that fits and aligns with overall context of the company. To the effectiveness of the process, the transformation lifecycle will be emphasized "more on the directional disciplines in the early stages and the enablement disciplines later" [11, p.16].

III. The Proposed Framework – an Integration of BTM^2 Methodology with Service Management

This research attempts to integrate the BTM^2 with ITIL ® ITSM version 3 to develop a framework for delivering service innovation that is:

> "A new or considerably changed service concept, client interaction channel, service delivery system or technological concept that individually, but most likely in combination, leads to one or more (re)new(ed) service functions that are new to the firm and do change the service/good offered on the market and do require structurally new technological, human or organizational capabilities of the service organization" [19, 20].

The framework is intended to summarize a holistic view of management practices, methods and tools that are supported by business practices and academic. The proposed framework has several interfaces to other disciplines of BTM^2, as shown in figure 5, to serve as a discipline in feedback loop in Meta Management Framework. The detail framework with an alignment on the Transformational Lifecycle is depicted in figure 6.

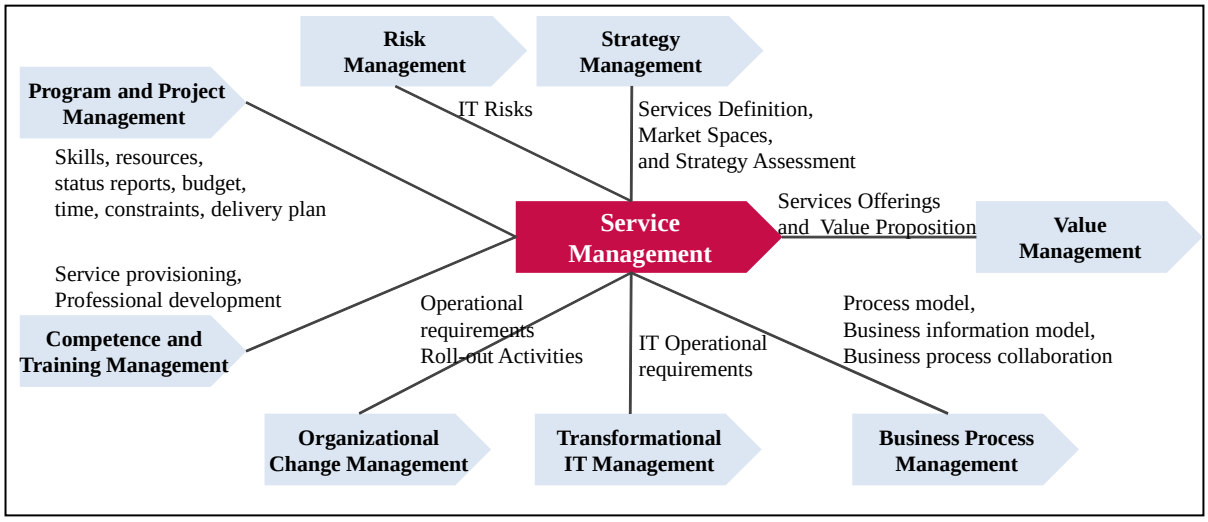

Figure 5. Proposed Service Innovation Management Framework – interfaces to other disciplines of BTM^2 (adopted from Transformational IT Management [11, p.147])

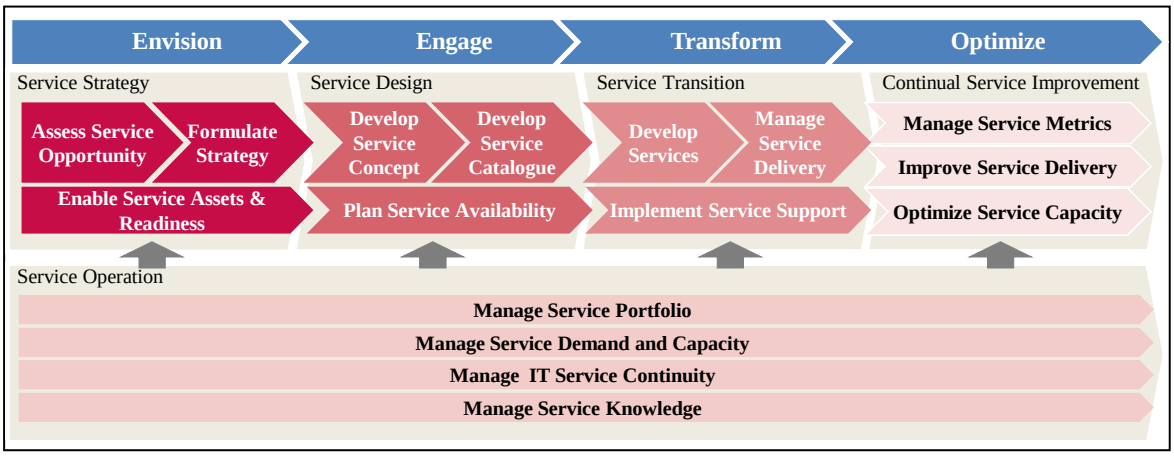

Figure 6. Detail of Proposed Service Innovation Management Framework

As depicted in figure 6, the proposed integration framework is rested on the BTM[2] core transformation lifecycle which covers four phases of service innovation delivery:

- **Envision** is formulated via service strategy in identifying service innovation opportunities that contributes to the business values. In this stage, the market spaces that the service will thrive in to deliver business value must be evaluated and formulated as overall strategy. "Assuming we have a Service Portfolio in place, the creation of a service must be subject to an evaluation of the existing services and provider capabilities to determine the best course of action" [9, p.155]. As the scope of envision is understood as "the process of translating business vision and strategy into effective enterprise change by creating, communicating and improving the key requirements, principles and models that describe the enterprise's future stage and enable its evolution" [21, 11, p.149], this step needs to prepare the organization to build the service assets that will enable the capability development in the later stages as a necessary for service innovation delivery.

- **Engage** is enabled via Develop Service Concept, Service Catalogue and Plan for Service Availability. In developing a clear understanding of what is the innovation concept that is required, why it is required, how it is to be achieved and measured and who is responsible; this stage starts out with involvement and collaboration throughout middle management and employees in generating and brainstorming ideas. Innovative ideas are coming from uncovering employees' ideas and voices of customers such as open innovation [22-24] and lead user innovation [25-28]. In this stage, the idea generation methods and design experiments are using for developing the concept. Such methods that widely used and recommended are Brainstorming/ Brain-writing, TRIZ, Cognitive Modeling, Perceptual Mapping, Scenario Analysis, Morphologic Analysis, Divergent/Tangent Thinking, Concept Screening, Feasibility Determination, Ethnography, Excursion and Empathic Design [29]. The methods in evaluating the service innovation concepts are Balanced Scorecard, Benchmarking, Best Practice, Concept Testing and Value Analysis [29]. The concept evaluation is aimed at providing a list of plausible service innovation concepts that is valuable for both business organizations and customer values and implementable with the organization capabilities. The service availability plan is then a part of development to summarize the performance and capacity of all services in reflections of the current and future needs of the business.

- **Transform** is implemented via Develop Services, Manage Service Delivery and Implement Service Support. In this stage, the organizations build its capabilities through developing new business processes and enhancing employee competencies to enable service delivery, collaborating for value co-creation, and driving service-value networks (i.e. service systems). With the clearly defined service concept in prior stage, the service development could be implemented with a focus on the customer-centricity, aimed at converting the efforts in each service delivery to increase the customer relationships and tangibilize as a long-term customer values.

- **Optimize** is emphasized via Manage Service Metrics, Improve Service Delivery and Optimize Service Capability. The goal is to optimize the performance of service delivery and reducing overall costs caused by poorly managed services. In value-based competitive paradigm, service optimization requires a clearly defined and measured service performances metrics as elements of customer value. By having service standards and reliable metrics, the business organizations can optimize all the dynamic elements needed to deliver service value. Well-defined, value-based service measures can enable an organization to evaluate the return on investment of existing services and to calculate the expected return from new service designs and new service innovations. Service value

optimization goes beyond tracking the discrete customer-centric metrics and finding an ideal balance among the many other dynamic variables in the value equation. It requires the ability to access, integrate, and analyze information across multiple business functions – creating a holistic view of service delivery across different sales and service channels – to assess and optimize customer value – to mobilize resources around specific service demands and dynamically predict customer value before committing resources [7].

The foundation laid the service operations in managing on-going service operations. Assuming we have a service portfolio in place, managing service portfolio is a critical part of ensuring that the service innovations that we have developed and delivered are producing the predicted results and meeting the business and customer values as we started with. This foundation is to ensure that "the service becomes 'business as usual' and is continuously monitored and controlled, becoming part of the overall service value to the business customer" [9, p.162].

IV. Methods And Results

A. Literature Summaries

The literatures on ITIL ® ITSM [9] and Business Transformation Management (BTM^2) methodology [11] serve as the starting point to identify the initial integration of framework. We followed the academic literatures on Normative Model of New Service Development [30] and Synopsis of Service Innovation Framework in mapping the service innovation development activities [31]. The result is summarized as in table 1.

TABLE I. Mapping of Service Innovation Framework as Suggested by Literatures

BTM^2	**ITIL ® ITSM v3**	**Key Activities**	**Authors**
Envision	Service Strategy	Sensing activity – strategy formulation	
		1. Formulate new service objectives and strategy	[30, 32, 33]
		2. Develop objectives for the service process	[34]
		3. Strategic assessment	[35]
		4. Signaling user needs and technological options.	[36]
Engage	Service Design	Seizing activity – service conceptualization	
		5. Idea generation	[30, 32]
		6. Idea screening	[30]
		7. Concept development and testing	[30, 32, 33, 35, 36]
		8. Define process to be designed	[33, 34]
		9. Select design factors (i.e. process type, layout, environment, capacity, quality, IT)	[34]
Transform	Service Transition	Seizing activity – service development	
		10. Service design and testing	[30, 32, 34]
		11. Implement the process	[34, 35]
		12. Marketing program design and testing	[30, 32]
		13. Personnel training	[30]
		14. Full-scale launch	[30]
Optimize	Continual Service Development	Seizing activity – service routinization and improvement	
		15. Post-launch review	[30]
		16. Routinization/ adaptation	[37]
		17. Feedbacks and learning	[35]
	Service Operation	18. Business analysis	[30, 32]
		19. Project authorization	[30]

B. Questionnaire Survey

To further review the proposed framework and the detailed mapping of key activities in covering the domain of service innovation development, we conducted a survey with PhD students in Technopreneurship and Innovation Management program in a top graduate multi-disciplinary school in Thailand. As the program qualification criteria, the profiles of the students are covering a business background in innovation area in product, process, service, system and policy with work experiences in business consulting, financial, healthcare, information technology and telecommunication industries.

The questionnaire was conducted with 100 respondents. The return of survey was 68 responses and the 66 responses are valid. From 66 valid responses, 41% of respondents are male and 59% of respondents are female. The work positions of respondents are 77% in business operations level, 9% in manager level and 14% in executive level.

The questionnaire was designed as three sections. In the first section, the respondents were requested to rate the importance of the issues in managing service innovation based on their past experiences. Then, in the second section, the proposed service innovation management framework was presented in detailed covering the framework, the mapping of key activities and the approach in managing the activities. After reviewing the framework, the respondents were requested to rate the relevance of the framework in improving the efforts in managing the addressed issues and to review the mapping of key activities across four phases of service delivery. The descriptive statistics on summarizing respondents' reviews on the proposed service innovation framework are summarized in figure 7, table 2 and table 3.

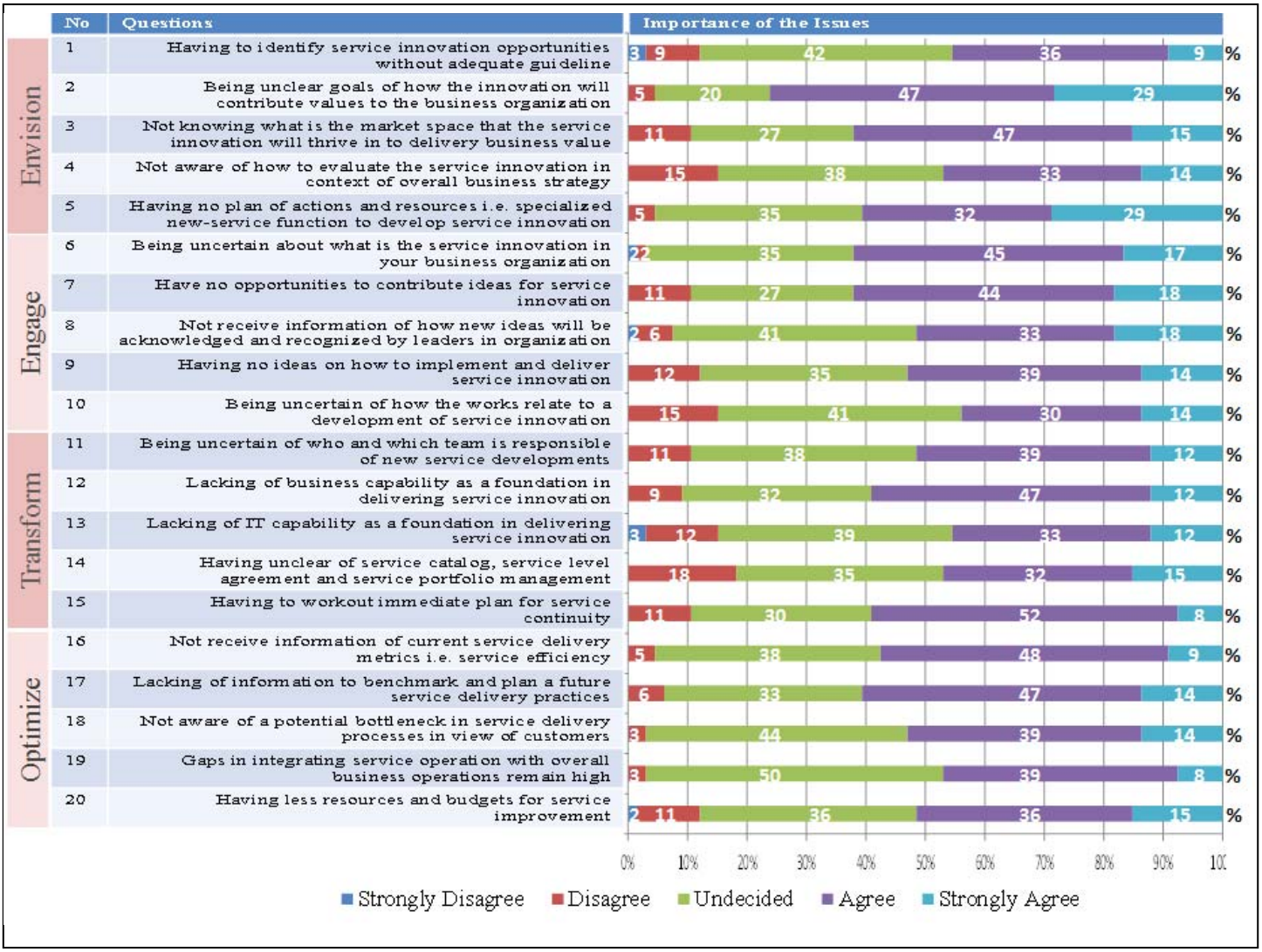

Figure 7. The Importance of the Issues in Managing Service Innovation Delivery

TABLE II. ONE SAMPLE T-TEST OF IMPORTANCE OF THE ISSUES IN MANAGING SERVICE INNOVATION DELIVERY

	Mean	Std. Deviation	Test Value = 3		
			t	df	Sig. (2-tailed)
Envision	3.673	.5898	9.266	65	.000***
Engage	3.600	.5280	9.279	65	.000***
Transform	3.509	.5734	7.212	65	.000***
Optimize	3.597	.4855	9.990	65	.000***

* p = .05, ** p = .01 and *** p = .001

TABLE III. ONE SAMPLE T-TEST OF RATING SCORES ON THE RELEVANCE OF THE PROPOSED FRAMEWORK

	Mean	Std. Deviation	Test Value = 1.5		
			t	df	Sig. (2-tailed)
Envision	2.070	.204	22.483	65	.000***
Engage	2.076	.285	16.399	65	.000***
Transform	2.040	.310	14.025	65	.000***
Optimize	2.040	.284	15.484	65	.000***

* p = .05, ** p = .01 and *** p = .001

The descriptive analysis on one sample t-test of importance of the issues in managing service innovation delivery have been rated as agree and strongly agree at significant level p = .001, refer from table 2. The result is analyzed as follows.

- **In Envision cycle**, the most important issues as experienced by service innovation practitioners are that the organizations are unable to formulate service strategy. 76% of respondents had suggested that the issue is because the organizations are having unclear goals of how the innovation will contribute values to their businesses. While the business practitioners are not aware of how to capture and evaluate the innovation opportunities in context of overall business strategies, they are unable to create a plan of actions and resources such as specialized new-service function, department or team to implement the strategy.
- **In Engage cycle**, the most important issue is a lack of involvement and collaboration from middle management and employees in generating and brainstorming ideas. 62% of respondents had rated this issue as a major cause. They suggested that being uncertain about what is the service innovation in their business organization and having no opportunities to contribute ideas for service innovation are the top two important issues that caused less participations from key organization members to ensure the success in implementing innovation.
- **In Transform cycle**, the most important issue is a lack of business capability as a foundation in delivering service innovation. The importance of business capability was rated higher than IT capability. 60% of respondents had suggested that while the organizations are having no clear direction and unable to obtain engagement from its employees, the service delivery often been as less than standard and unable to react with the changing market. Having to workout immediate plan for service continuity and ad-hoc unplanned processes are commonly found in the organization's day-to-day operations leading to extra efforts and times in improving the current services to be more innovative.
- **In Optimize cycle**, the most important issue is a lack of information to benchmark and plan for future service delivery practice. 61% of respondents had rated this issue as the most importance. While service innovation needs a plan of action, they suggested that the assessment on the organization's current practices and benchmark in customer values are important in drawing a focus to the organization around minimizing bottleneck and improving the integration of services across multiple functions.

After the respondents have reviewed the proposed service innovation management framework, the mapping of key activities and the approach in managing the activities, they had rated the relevancy of the framework in improving the overall efforts, with descriptive analysis on one sample t-test of relevance of the proposed framework have been rated as agree at significant level p = .001, refer from table 3.

V. FRAMEWORK IMPLICATIONS AND RECOMMENDATIONS

This research proposed a framework for delivering service innovation by integrating ITIL® ITSM version 3 [9] into BTM^2 methodology [11]. The framework was developed by following the Normative Model of New Service Development [30] and Synopsis of Service Innovation Framework in mapping the service innovation development activities [31]. Based on the questionnaire results, the proposed framework can be used as a general guidance in indicating important processes and provoking ideas on how the organization can develop service innovation along with the business transformation lifecycle. To be of true benefits, this framework needs to be adopted and tested empirically in more service companies, and revised in accordance with the results of such implementation.

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