Leveraging Engaged Parties in SIP Domains of eTOM Framework by using ITSM Reference Model

Faranak Mireskandari[1], Ramin Nasiri[2], Gholamreza Latif Shabgahi[3]

Abstract — Today, the telecommunications industry plays an important role in providing ICT services for customers. Also in the last 5 years, in addition to individual customers, enterprises and companies have been joining the operators' and this plays a significant role in returning the investment of the operators. So, these customers should not be ignored. Therefore, the new services that are called Business to Business (B2B) services were created to provide services for the B2B customers. The business process framework item is one of the best practices framework in the telecommunications industry, which has standardized and improved B2B processes in the Engaged Party domain. It should be noted that the required infrastructure to provide B2B services is more advanced than the infrastructure needed to provide Business to Consumer (B2C) services for any operators. So, an operator which has an up to date and powerful infrastructure can provide successful B2B services.

In this paper, by using ITSM model we try to leverage Business Process Framework eTOM in B2B domain. Here, by considering the customers' demands and needs (in this paper customers and businesses and companies and enterprises) and using Customer Relationship Processes (ITSM Processes) in the Engaged Party domain and some extra processes we can leverage eTOM based on communication criteria.

Index Terms — Business to Business, Business process Framework eTOM, Demand Management, Requirement Management, ITIL, ITSM.

1- Department of Computer Engineering, Kerman Branch, Islamic Azad University, Kerman, Iran.(zahrashahpar@yahoo.com)
2- Faculty Member of Islamic Azad University, Kerman Branch, Iran.
3,4- Department of Computer Engineering, Kerman Branch, Islamic Azad University, Iran.

I. INTRODUCTION

In recent decades, according to technologies progresses and the evolution of ICT, the telecommunication customers are increasing and the new types of customer that calls enterprise customers are added. These customers are one of the most important customers for each operator and meet their requests are required to provide and development of services which are offered by operators for these customers and therefor make infrastructures stronger and developed [1]. In this regard, the services which are offered to individual customers (Business to consumer) are changing into Business to Business (B2B) format to offer to enterprise customers to meet their requirements. In order to achieve this goal, e-Commerce played an important role for these customers and cause reduce transaction costs and increase supplier's productivity [12]. In order to receives demands and requirements of parties and enterprise customers (In this paper, focus on Middle East's operators), the Request Management (RM) system is added to the eTOM framework in the Engaged Parties domain. The Request Management system is responsible for managing all the demands and requirements which are given by enterprise customers and partners.

According to technology progresses in internet and telecommunication devices, demands and requirements of B2B customers are increasing and their expectation of services which are provided by operators are growing. Therefor telecom operators have to improve the quality of their provided services and reduce their costs to increase customers' loyalty and customer

satisfaction. Because of that, operators need to manage these demands and expectation and in eTOM framework we can manage these demands by providing RM system in the Engaged Parties domain for B2B customers.

1. eTOM Information

As defined by ITU-T, eTOM is the business process collection. On the other hand, eTOM is a framework to categorize and standardize all business activities which are used by service providers [13]. eTOM is a Business model which is not just related to service providers. In other words, this framework is not examined strategic issues or requirements which are related to service providers, market section, missions and visions. In fact, this framework is independent from organizations, technology and specific service.

Figure 1 is shown a conceptual view of Business Process Framework eTOM. As seen in the figure, this level provides the overall content of eTOM framework that include two vertical operation process grouping and six horizontal grouping which are represent functional areas. In the next levels, each groups and processes are divided into smaller groups and processes [1].
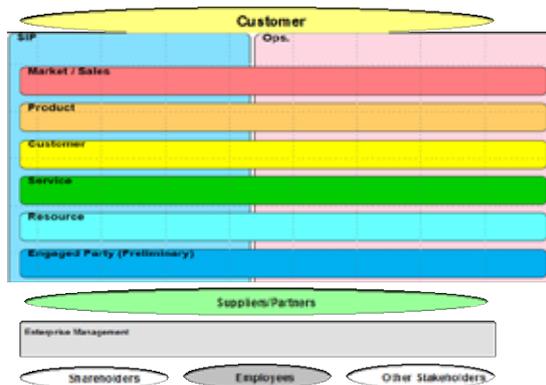

Fig. 1. Business Process Framework Conceptual Structure[1]

eTOM framework is used for providing solutions to manage business processes of enterprises. The result of eTOM framework, creates and improves relations between systems and business processes in enterprises [1].

First column (SIP) include Strategy and Commite, Infrastructure Lifecycle Management and Product Lifecycle Management and second column include Operations, Fulfillment, Assurance and Billing and Revenue Management. Also, this framework involves six main row, which are cross those columns. These rows are Market/Sales, Product, Customer, Service, Resource and Engaged Party. An Engaged Party domain is a new domain which is added to eTOM framework after version 14.5. This domain includes business interactions with other parties such as suppliers. These processes are responsible for supporting the development processes and supply chain management, as well as manage the types of B2B2X agreements which are include foundation of products and infrastructures. In the other hands, Engaged Parties domain responsible for managing operational interfaces between the parties. Vertical columns are as follows [1].

- Strategy, Infrastructure and Product Domain which including the processes related to strategy development and create strong infrastructure and improve them as well as product management. This concept is explaining the necessary infrastructure to support operational processes such as Customer Relationship Management (CRM). It should be noted, these processes enable and guide operational processes. Strategy and commit processes, Infrastructure Lifecycle Management processes and Product Lifecycle management processes are End-to-End processes. In Strategy and Commit domain focus based on the development of clear strategies and business incomes for enterprise. Infrastructure and product lifecycle processes are responsible to provide products with the best quality and conditions for customers. These processes focus on customer's expectation with suggests new and efficient products, create infrastructure to support functional operations and provide them to customers.

- The operations are the main part eTOM framework. These parts include all customer's operational processes. This domain processes are includes support and preparation of Operation, Fulfillment, Assurance, Billing and Revenue Management (FAB).

2. ITSM Information

ITSM include 8 groups as describe below [5-11]:

a. Transition: is responsible to provide specific and reusable approaches and provides critical

information to support all aspects of solution changing in all over the life cycle.

b. Operation: is responsible to monitors the operation of infrastructure and services, increase service's life cycle and settle down problems as soon as possible. In fact, this group is the center of gravity to receive and responds the requests of customers.

c. Resilience: is responsible for required preventive planning to enable flexible infrastructure, applications and services. In this group, with using knowledge management to reduce problems and ensure alignment of rules and standards.

d. Administrator: is responsible for support services, forecasting and managing financial resources, as well as support agreements.

e. Governance and Management System: this group is proposing management model, guiding principles, methods, organizational design, information framework, process structure and policies to guide organization to achieve its goals. Governance identifies strategic principles of the management framework and is a framework for decision – making, control and implementation of ICT activities in order to achieve the organization's goals.

f. Customer Relationship: is responsible to improve communication and understands customers need and identifies opportunities in the market, as well as responsible to coordinate between marketing activities and sales services.

g. Direction: is responsible to create strategies in the ICT based on business strategy and technology requirements. Other responsibilities of this group include providing IT strategy, planning, implementation, monitoring and continuous improvement portfolio and IT architecture.

h. Realization: is responsible for creating a solution including engineering and construction products and services, production or purchasing strategies, systems and integrate them. System integration includes hardware components, software and network.

II. PROPOSED FRAMEWORK

In this paper, first, examine the existing gaps within the eTOM framework and B2B. After that, try to improve and complement these gaps. For this purpose, Request Management System (RMS) has been added to this framework. RMS consists of two mainly parts. The first part called Party Demand Management which is covered all parties and enterprise customers' demands. The second part called Party Requirement Management which is axtracted and handling all parties and enterprise customers' needs and requirements. RM system is created by using some of the IBM Tivoly reference model processes and added these processes to eTOM. The first part of RMS (Party Demand Management) is added to the Strategy and Commit domain and the second part of RMS (Party Requirement Management) is added to the Infrastructure lifecycle Management domain of the eTOM framework in SIP (Strategy, Infrastructure and Product) group. SIP domains with use RM system are shown in figure 2.
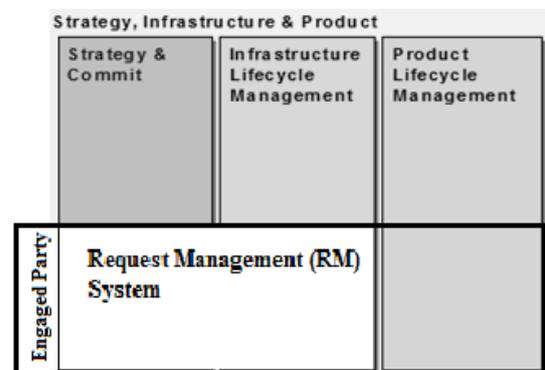

Fig. 2. Business Process Framework, SIP Category Groupings

1. Party Demand Management

The Party Demand Management is the first part of RM system. This process is inspirited from the Customer Relationship domain. As described above, this group is responsible to provide mechanisms to understand, monitor and effective implementation in IT market to service providers. Thus, this process can be used to explore, manage and improve the engaged parties' demands. In order to communicate efficiently, is needed to evaluate the existing demands. Fist, party consumption patterns must be extracted. Then, process routine to meet

customer's demands must be done. The purpose of this process is understanding behavioral patterns of parties and enterprise customers and relations between these patterns are effective IT service provision. The main goal of this process is alignment between consumption and capacity of available resources. By using this process, efforts to create value for parties and enterprise customer's business. This process identifies gaps and deviations between supply and demand and provide policies to minimize or eliminate these gaps. One of the most important services that can have relation with this process is Service Marketing and Sales.

The processes of Party Demand Management which are inspirited from IBM Tivoli Reference Model are as follows:

1. Establish Party Demand Management Framework

2. Value of demands and Classify Party Business Demands

3. Consolidate Party Business Demand Patterns and Forecasts

4. Identify and Plan Party Demand Management Initiatives

5. Determine Party Demand Feasibility

6. Assess and Report Party Demand Management Outcomes

7. Evaluate Party Demand Management Performance

1) Establish Party Demand Management Framework:

In this process, party demand management framework is created. This framework provides a method to manage the existing demands of parties and enterprises customers. In this work, determines all regulations and laws related to the interaction among all organizational units, customers and parties and how related this process with other existing processes in eTOM framework will be specified. In this process is also performed allocation of responsibilities.

2) Value of demands and Classify Party Business Demands:

This process first, verify customer's demands and its values which are proposed from parties and enterprise customers. Then, by using a set of criteria, assessed the demands and rating them and consider which of them are more

critical. Ultimately, this process is responsible to classification and set value for each demand. One of the benefits of this process is in the all levels of this process, collection, analysis and decision – making of parties information are involved.

3) Consolidate Party Business Demand Patterns and Forecasts:

This process is responsible to research about resources related to demands in order to achieve the understandable and complete results. In this process, tasks such a searching, collecting, analyzing patterns which are related to demand, standardized these patterns, demand analysis, demand forecasting and notify these forecasts to the parties.

After developing the pattern of demand in the parties business domain, we are using the output of Forecast Service Demand and Capture New opportunities in the Product Service Business Plan in Service Domain as well as using the output of Forecast high level Resource and Capture New Opportunities in Produce Resource Business Plan in Resource domain to determine resources which are related to patterns, analyzes them by using existing service and demands modeling by considering variables which are effective on demands[2].

4) Identify and Plan Party Demand Management Initiatives:

In this process, analysis the difference and the lack of demands and services alignment and ability to respond to customer's request will be discussed. For this purpose, all gaps are identified.Then they are examines whether or not a solution to solve them. In this regard, it needs to collect and prioritize comments related to proposed solutions and identifies better and effective solutions and coordinate them among the business parties, as well as considers capacity management.

5) Determine Party Demand Feasibility:

In this process, we added Determine Party Demand Feasibility. By using this process, we can assess whether these demands can be operationally implemented or not. In fact, this process responsible to assess feasibility of implementation and performance demands. Here the implementation's risks of demands are evaluated and advantages or disadvantages of this implementing will be assessed.

6) Assess and Report Party Demand Management Outcomes:

This group is responsible to investigate the performance of service compared with the formerly forecasts. Actually, in this group, the elimination of gaps between supply and demands will be analyzed and the results of that will be performing to the parties. In fact, in this group, the effectiveness of proposed solutions and their success of failures will be investigated.

7) Evaluate Party Demand Management Performance:

In this group, overall performance of above processes according to the demands which are proposed will be addressed and tries to improve these processes.

These processes are shown in figure 3.
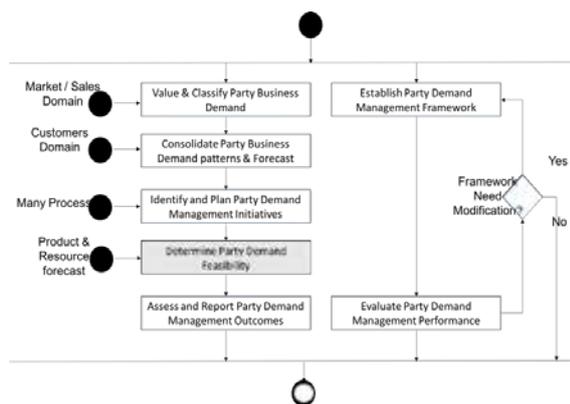
Fig. 3. Demand Process Flow

2. Party Requirements Management:

The Party Requirement Management is the second part of RMS. This process is inspirited from the Customer Relationship domain. By using this process, in order to supply and manage the party's requirement information in Engaged Party in eTOM framework. This process is used to collect, upgrade, classification, maintenance the existing services and provide related information in all levels of lifecycle. Party Requirement Management determines parties' needs and requirements and try to manage these needs and requirements to help them in managing their business. The aim of this process is establishing facilities to create agreement between service providers and parties according to their requirements. When needs arise by the parties or enterprise customers, by using this process can be

created better balance between identifying needs, requirements and their expectations. As well as, the necessary agreements can be extracted from demands and needs.

It is noteworthy that according to the party's needs, we add No. 4 as "the Customize Party Requirement":
1. Establish Party Requirements Management Framework
2. Capture Party Needs
3. Transform Needs into Party Requirement
4. Customize Party Requirement
5. Monitor and Report Party Needs and Requirement
6. Evaluate Party Requirement Management Performance

1) Establish Party Requirements Management Framework:

In this process a framework for managing enterprise customers and party's requirements by creating support system will be defined. As well as the evaluation criteria for services and party requirement management solutions will be determined. Ultimately, understand the party's requirements and their specifications.

2) Capture Party Needs:

In this process, customer's need will be extracted and collected. This extraction is done in different ways, such as send requests from party's by phone, fax, in-person or follow-up by the operators.

3) Transform Needs into Party Requirement:

In this process, first, collected needs must be examined and needs that are accepted will be added to the list of accepted requirements. In eTOM framework, some of the requirements related to the products, recourses, work force and etc. have been investigated. But, in this framework about general requirements that may be raised by the parties or enterprise customers and ensure party's satisfaction not addressed.

4) Customize Party Requirement:

In this process, the accepted requirements that were created in previous process should be prioritized and requirements that initially runs as a high priority. These requirements may do not have compatibility to a organization's infrastructure or the organization does not able

to implement these requirements now (some conditions such as policies or etc.). In these situations, by considering the best requirement's implementation situation, customized them and try to increase customer's satisfaction by efforts to execute them.

5) Monitor and Report Party Needs and Requirement:

In this process, approved customized needs and requirements will be reported to the parties. The purpose of this notification, notify to enterprise customers and parties and catch approve them to increase their satisfaction.

6) Evaluate Party Requirement Management Performance:

In this process, evaluation of whole processes by considering the strength and weakness points to improve the functionality of these processes try to increase weakness points.

The process in accordance with the eTOM framework of Infrastructure Lifecycle Management Engaged Parties is added.

These additional processes are shown in figure 4.

Fig. 4. Promoting Domains (Strategy & Commit and Infrastructure Lifecycle Management) with additional Processes

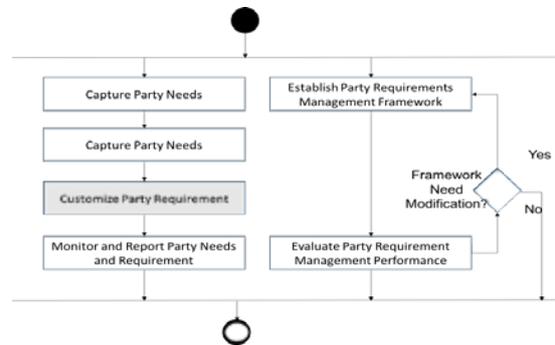Also The Requirement process is shown in figure 5.

Fig. 5. Requirement Process Flow

III.   THE COMPARISON OF ENHANCED FRAMEWORK WITHIN THE EXISTING ONE:

In the current eTOM framework, party's needs and requirements does not consist. Although in some parts of eTOM framework we can see partial refers to product requirements and customer's demands related to their orders, but, there are no separates and specific part related to B2B customers and their requirements and demands.

In our upgrade framework, we consider all needs, requirements and demands of B2B customers in specific part that called Request Management System and efforts on increases customer satisfaction and customer loyalty.

In this system, B2B customers can express their demands or needs by using different communication channel and then by using Request Management System these demands or requirements can be processed and finally provides a good solution for their requests. Also this system can extract demands or requirements. In this system, by considering eTOM's lacking in B2B customers and Engaged Party domain we added some special parts such a Customize Party Requirement or Determine Party Demand Feasibility try to cover this deficiency.

IV. CONCLUSION

The Request Management System is added to the Engaged Party domain of the eTOM framework to respond and satisfy B2B customers. This system is added to SIP domain and responsible to extract and solves demands and requirements which exist in B2B customer's enterprise. This system has 2 parts, Party Demand Management and Party Requirement Management. As described above, enterprise customer's demands rapidly increasing and in order to establish a balance between supply and demand, we need to manage these demands by using Request Management System. This system consists two parts, Party Demand Management and Party Requirement Management. The first part is in the Strategy and Commit and the second part is in the Infrastructure Lifecycle Management and both of them placed in the Engaged Party domain of eTOM framework. Each part consist 6 or 7 separate processes which are duty to manage needs, requirements and demands. The first process of both parts is creating a framework for managing each part and the last processes are evaluating the performance of each part. In this system, we used ITSM processes in customer relationship and also added two new processes by considering the lack of eTOM framework in B2B processes which are called Customize Party Requirement (which is added in Party Requirement Management) and Determine Party Demand Feasibility (which is added in Party Demand Management). By using this system effort to extract and manage all demands and requirement which exist in party domains.

V. FUTURE WORK

In this paper by considering the customer's needs and demands, social conditions and available resources try to extract enterprise customer's needs and demands. In this regard, this system is just supported 3 levels of atoms framework. In this regard, we can upgrade this system until 5th level also we can add some processes to complete this system.

REFERENCES

[1] Business Process Framework (eTOM), Concept and Principle , v. 15.0.0 , 2015

[2] Business Process Framework (eTOM), Process Decomposition and description, v. 15.0.0, 2015.

[3] PRM. IT IBM Process Reference Model for IT, V.3.0, 2008.

[4] ITIL Advisory Group, "Service Strategy of ITIL® V3", The UK Chapter of the itSMF, 2007

[5] ITIL Advisory Group, "Service Design Overview of ITIL® V3", The UK Chapter of the itSMF, 2007

[6] ITIL Advisory Group, "Service Transition of ITIL® V3", The UK Chapter of the itSMF, 2007

[7] ITIL Advisory Group, "Service Operation of ITIL® V3", The UK Chapter of the itSMF, 2007

[8] ITIL Advisory Group, "Service Improvement of ITIL® V3", The UK Chapter of the itSMF, 2007

[9] ITIL Advisory Group, "An Introductory Overview of ITIL® V3", The UK Chapter of the itSMF, 2007

[10] P.Fauska, N. Kryvinska, C. Strauss, " E-Commerce and B2B Services Enterprises" IEEE, 2013.

[11] ITU-T Recommendation, "Enhanced Telecom Operations Map (eTOM) – B2B integration: Using B2B inter-enterprise integration with the eTOM", ITU-T, 2004.