

# Sales Process Management of Project-based Telecom Services

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**Abstract**—The enterprise customer’s demands for telecom applications often vary from case to case and contain many customization needs. In order to meet the demands of enterprise customers, many project-based sales cases have been carried by the telecom carriers. It is important to build up a company-wide standard process to help the telecom carrier effectively manage these sales cases. In addition, a good sales process could help the sales team of telecom carrier to run the sales cases in the most efficient way and help the sales manager to monitor the sales cases and forecast the revenues explicitly. Based on the sales processes defined in eTOM, a sales process management approach is proposed and an experimental information system is implemented in order to manage the project-based sales cases and to verify the effectiveness of this sales process management approach.

**Keywords**—Sales Process Management; Project-based Telecom service; Project Scale Level; Project Scale Value; Lead; Opportunity

## I. INTRODUCTION

Due to the intense competition, the traditional telecom business has become the Red Sea [1]. Most of telecom carriers try to open up new markets, by providing bundled services and ICT integrated solutions to accommodate enterprise customer’s demands[2][3]. These services or solutions are often delivered in the form of project on the contract between carriers and customers, and we call it as ‘project-based telecom services’ in this paper.

In general, the enterprise customers bought the project-based telecom services with customization. The selling channels for such kinds of telecom services are not the sales counters, but the sales teams consisted of account managers, project managers, sales forces, etc. The sales process is much more complex than one in traditional telecom services [4]. In order to enhance the performance of selling, a standard sales process and co-work rules among the members of the sales teams are necessary [5][6][7].

There are many researches and studies about sales process standardization proposed [8][9]. The TeleManagement Forum (TMF) has issued many publications about selling. In the topic of process management of enhanced Telecom Operations Map (eTOM), the Selling and Order Handling frameworks of CRM define the blue print of the processes of selling (Figure 1 and Figure 2).



Figure 1. Decomposition of Selling

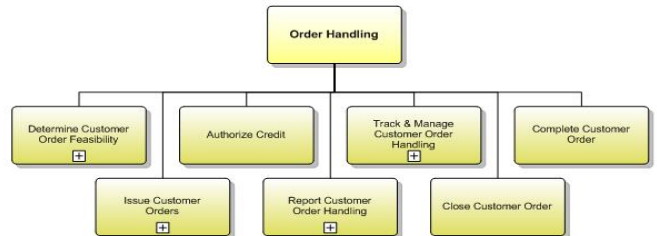


Figure 2. Decomposition of Order Handling

## II. DESIGN OF THE BUSINESS PROCESS

### A. Analysis of the Sales Process

The project-based telecom services require more resource to handle customization needs. In order to cooperate with each other, the telecom carriers need to build up a standard sales process to manage these projects, thus the sales teams can achieve sales goals with the standard rules.

This paper developed a management approach with nine project sales processes according to Selling processes and Order Handling processes of eTOM and the experiences from sales organizations. The relationship between these nine processes and the processes of eTOM is described in Table I.

At the beginning of a project-based telecom services sales case, the sales team must evaluate what the project scale level (PSL) for each sales process. We propose an approach to help the sales team find out an appropriate project scale level. By evaluating the value of sales attributes (defined in Table II) and calculating via formula bellow, we get the PSV (Project Scale Value) value of the sales case.

$$PSV = \sum_{n=1}^7 P_n * W_n$$

Table I. Sales Processes of Project-based Telecom Services

Level2 Process (eTOM)	Level3 Process (eTOM)	Sales Process
Selling	Manage Prospect	Lead Acquisition
		Lead Qualification and Discovery Meeting
	Qualify Opportunity	Opportunities Analysis and Needs Assessment
	Cross/Up Selling	
	Manage Sales Accounts	
	Develop Sales Proposal	Proposal Development
Negotiate Sales/Contract	Bid/Price Negotiation	
Order Handling	Determine Customer Order Feasibility	Contract
	Authorize Credit	
	Track & Manage Customer Order Handling	Solution Construction
	Complete Customer Order	
	Issue Customer Orders	
	Report Customer Order Handling	
	Close Customer Order	Check and Acceptance
Warranty/Contract Extension		

The values of sales attributes and weights are defined by a group of sales experts. After the ranges of PSV values are defined for PSLs, for each PSL, a set of typical sales cases are prepared to validate the attributes and weights in Table II. Table III is an example of project scale level definition, and it contains 'Large' 'Medium' and 'Small'. However, sales managers can define more numbers of PSL to meet the actual needs of the project-based telecom service sales cases in the real world. Table IV is an example of the relationship between PSL and sales processes. For the sales cases evaluated as 'Large', all the nine processes are treated as 'Milestone-Process', which must be checked and approved by the sales managers. For the sales case evaluated as 'Small', some of the sales processes are not milestone-process. For example, the 'Proposal Development' process could be passed-through to next process because there are existing template proposal.

The sales manager can determine the combination of 'Milestone-Process' for each PSL described in table IV. For the sake of efficiency, it's not necessary to set all the process as 'Milestone-Process' for the 'Medium' and 'Small' sales cases.

After calculating the project scale level, the sales cases are aligned with milestone-process combination according to Table IV. For example, in large cases, all the nine processes described in table IV are milestone process and must be checked and approved by the sales managers. The workflow of the sales processes is illustrated in Figure 3.

Table II. Sales Attribute Weights of Project-based Telecom Services

n	Sales attribute	Point(P <sub>n</sub> )	W <sub>n</sub>
1	Estimated contract amount	< 1 million dollars: P <sub>1</sub> =1; >=1 million and <5 million dollars: P <sub>1</sub> =2; >= 5 million < 20 million dollars: P <sub>1</sub> =3; >= 20 million dollars: P <sub>1</sub> =4	1
2	Intensity of competition	P <sub>2</sub> =Number of competitors	1.5
3	Execution complexity	P <sub>3</sub> = Number of co-operation within the company	1
4	External cooperation needs	There are k cooperation manufacturers: (index a = 1~k) Factors of cooperation manufacturers: (index b=1~3) Factor 1:Products or technical guidance needed: Y <sub>a,1</sub> =2 Factor 2:Technical assistance in other areas need: Y <sub>a,2</sub> =3 Factor 3:The need to integrate existing systems with customers: Y <sub>a,3</sub> =4 $P_4 = \sum_{a=1}^k \sum_{b=1}^3 Y_{a,b}$	0.7
5	Customer type	Big company: P <sub>5</sub> = 2; Medium and small company: P <sub>5</sub> =1	0.5
6	Demands of sales force	X <sub>1</sub> = Duration of Lead Qualification and Discovery Meeting X <sub>2</sub> =Duration of Opportunities Analysis and Needs Assessment X <sub>3</sub> =Duration of Proposal Development X <sub>4</sub> =Duration of Bid/Price Negotiation X <sub>5</sub> =Duration of Contract $P_6 = \sum_{k=1}^5 X_k \quad (k = 1\sim 5)$	0.3
7	Bid style	Tender: P <sub>7</sub> = 2; Negotiate: P <sub>7</sub> = 1	2

Table III. PSL of Project-based Telecom Services

Project Scale Level (PSL)	Project Scale Value (PSV)
Large	PSV > 10
Medium	3 < PSV <= 10
Small	PSV <=3

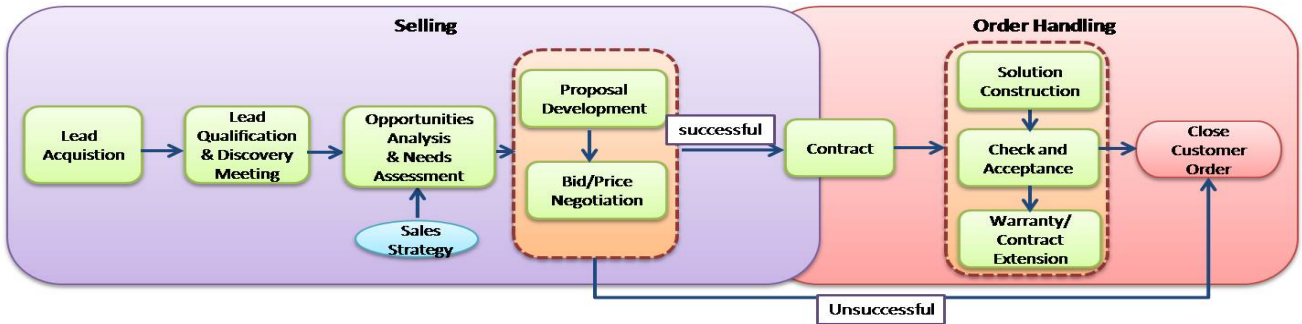


Figure 3. Workflow of the Sales Processes for Project-based Telecom Services

Table IV. Sales Processes of Project Scale Level (PSL)

Level 2 Process	Sales Process	Project Scale Level (PSL)		
		Large	Medium	Small
Selling	No.1: Lead Acquisition	M	M	M
	No.2: Lead Qualification and Discovery Meeting	M	M	M
	No.3: Opportunities Analysis and Needs Assessment	M	M	M
	No.4: Proposal Development	M	NM	NM
	No.5: Bid/Price Negotiation	M	M	NM
Order Handling	No.6: Contract	M	M	M
	No.7: Solution Construction	M	NM	NM
	No.8: Check and Acceptance	M	M	M
	No.9: Warranty/ Contract Extension	M	M	M

**M: Milestone Process, NM: Non-Milestone Process**

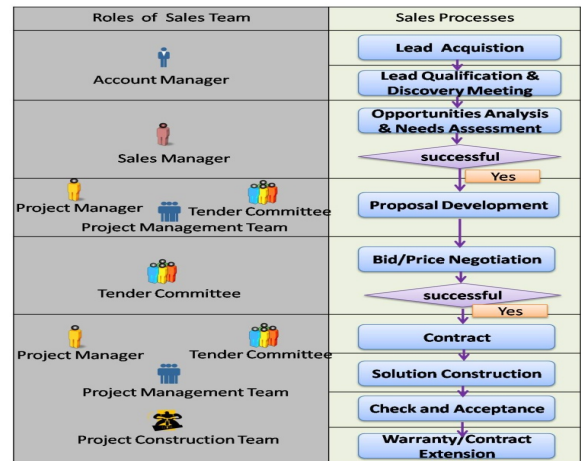


Figure 4. Relationship between Roles of Sales Team and Sales Processes

### III. IMPLEMENTATION OF THE MANAGEMENT SYSTEM

#### A. System Architecture

In order to verify the availability of the sales process management approach proposed in this paper, a web-based IT system is developed with a 3-tier structure. Figure 5 is the System Architecture of the 'project-based sales process management system' designed modularly. The user handles their sales cases by the web browser, then the sales processes are controlled by the modules in the control layer, and all the information about the sales cases are stored on the data layer.

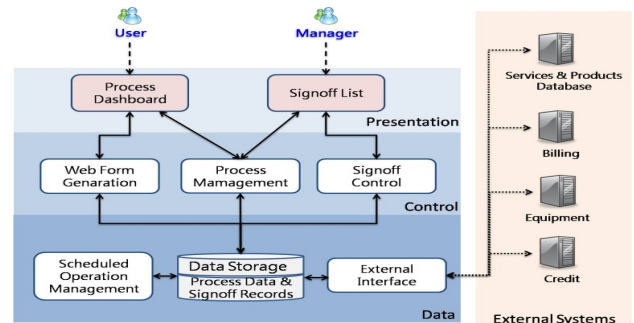


Figure 5. System Architecture of Project-based Sales Process Management System

#### B. Members of the Sales Team

After the sales processes of the sales cases are well-defined, the members of the sales team can perform their duties in the various stages of the sales processes. For example: in the sales process of 'Lead qualification & Discovery meeting', the leads are analyzed by the sales force and the needs are collected after the sales force interviewed with the customer; in the sales process of 'Opportunities analysis & Needs assessment', the assessment of the customer's needs are made by the sales team.

Figure 4 explains the relationship between roles of sales team and the sales processes under the assumption of the sales case with 'Large' PSL defined Table IV. For the sales cases with 'Medium' and 'Small' PSL, some roles of the sales team are not always existed.

### B. Control of the Sales Processes

Figure 6 explains the control of the sales processes. The 'Process Dashboard' is the module for users to monitor and operate the sales process actions. The 'Process Control' module handles the signoff records of the process. According to the process rule and signoff records, an 'Allowed-Process-List' will be produced. It identifies which process could be activated on the dashboard.

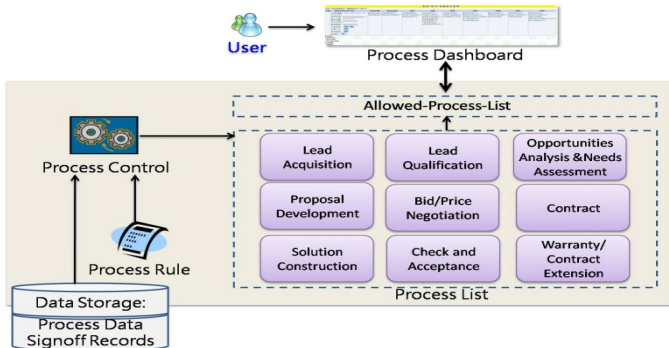


Figure 6. Process Control Diagram

### IV. RESULTS OF THE IMPLEMENTATION

#### A. Management of Different Scales of Sales Cases

In this paper, we randomly sampled 2,000 sales cases to calculate the PSV of each sales case. Table V lists three classifications of the sales project scale level and statistical distribution of the sampled sales cases.

Table V. Sales Cases Distribution of Different PSL

PSL	PSV	Count	Sales Case Ratio (%)
Large	PSV > 10	1,82	9.1%
Medium	3 < PSV <= 10	14,56	72.8%
Small	PSV <=3	3,62	18.1%

#### B. Real-time Sales Pipeline Administration

In addition to help sales teams achieving their sales goal, the sales managers can also get the statistical chart about count and amount of sales shown as Figure 7. It would be helpful for the sales managers to manage their sales cases.

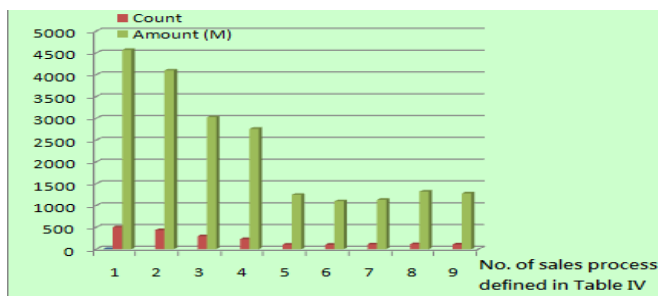


Figure 7. Case Count and Revenue Amount of Sale Process

Furthermore, the historical data of the sales cases can be analyzed using the methods of data mining/OLAP, and

the correlation relationship among the various attributes of the sales cases can be explored. Table VI is an example of the relationship among the sales case attributes.

Table VI. Statistic Information of Historical Sales Cases

Opportunity Amount Estimated (Million)	Average Contract Amount (Million)	Duration from Opportunity to Contract (days)	Sales cases cooperate with partners (%)	Average numbers of installments
More than 20	87.59	52.48	36.23%	8.11
5~20	10.74	36.96	30.07%	6.46
1~5	2.61	34.40	26.52%	4.30
Less than 1	0.25	20.89	4.17%	1.6

### V. CONCLUSION

By the sales process management approach, the sales teams could determine the most suitable sales processes to manage their sales cases. This approach has been realized by the sales process management system. It brings the benefit of helping sales teams to manage the selling progress and to forecast selling revenue. The historical data of sales cases in the system include the workflow, the contract amount, the contract revenue and performance information could be quantized and analyzed by the method of business intelligence to help the sales or marketing manager to make right business strategies.

On the future direction of the research, due to the various ICT integration of telecom business innovating constantly, the sales case is becoming more and more diversified. How to make the sales process flexible enough for various sales cases, and quickly provide the systematic support to sales teams, will be a real challenge.

### References

- [1] Shu-ling Wang, "Exploring the Telecommunication Operator's Business Strategy in Construction Industrial ICT Service", NCU, 2010
- [2] ITU(2009), "New ITU ICT Development Index compares 154 countries", available at: [http://www.itu.int/newsroom/press\\_releases/2009/07.html](http://www.itu.int/newsroom/press_releases/2009/07.html), accessed 2009/6/10.
- [3] EITO(2010), "Global high-tech market is growing again", available at: <http://www.eito.com/reposi/PressReleases/>, accessed 2010/05/01
- [4] Scott Keipper and Anna Tai, "Sales transformation", white paper, IBM 2007.
- [5] A. J. Dubinsky and W. Rudelius, "Selling Techniques for Industrial Products and Services: Are They Different?", Journal of Personal Selling & Sales Management (Fall/Winter), pp.65-75, 1980-81
- [6] Paul Viio, "Strategic Sales Process Adaptation: Relationship Orientation of the Sales Process in a Business-to-Business Context", Helsinki, 2011.
- [7] B. Cummings, "Proving the Sales Process - An effective method requires buy-in across the company", Sales and Marketing Management, 158(5), 12, 2006.
- [8] S. Dwyer, J. Hill, and W. Martin, "An Empirical Investigation of Critical Success Factors in the Personal Selling Process for Homogenous goods", Journal of Personal Selling & Sales Management 20 (Summer), pp.151-159, 2000.
- [9] J. O. Rentz, C. D. Shepherd, A. Tashchian, P. A. Dabholkar and R. T. Ladd, "A Measure of Selling Skill: Scale Development and Validation", The Journal of Personal Selling Management 22 (1), pp.13-21, 2002