Practical Methodology to control QCD of Information systems in super upper stream

-- How to enable IT to contribute to achieve business goals --

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Abstract: More than 70% of IT project was recognized as failure project. Major cause of failure is analyzed as low quality of planning phase which is called super upper stream. Quality of IT project plan is depending on human skills in current processes. The methodology to control the quality which can summarize and streamline all stake holders' initiatives is created to improve QCD of planning. The methodology have been applied many projects and got excellent results.

1. Problems of Japanese IT projects

Purpose of Information system deployment in enterprise organization is business improvement in certain area, however, few IT project is recognized as enabler of business contribution. Main issues are existed in IT project planning phase.

Currently, procedures of IT project planning is not clearly defined and automated, even lower stream processes are clearly defined. Some famous guideline for planning activities indicate only What to do, however, they do not describe How to do them. As a result, Quality of IT project plan is depending on human skills

More than 70% of IT projects were recognized as failure project shown as fig 1.



Fig. 1 Project success ratio. User recognizes that 73.3% is Failure, and 26.7% is Success. [Nikkei Computer, Fact-Finding of IT projects, 2003.]

The 2013 Cisco Global IT Impact Survey shows that business leaders and other non-IT teams roll out new applications without engaging IT (76 percent) and that IT professionals are brought into the planning and deployment process late (38 percent), which indicates that the importance of IT introduction planning is not considered equivalent to that of business planning even now shown as fig.2.



Fig.2 2013 Cisco Global IT Impact Survey/IT and Business Alignment

It is very important to coordinate every stake holders' requirements with company strategies which are created by management. The system which fused with a company strategy and the business processes must be required to build efficient system.

If direction of system is not match stake holders mind in planning, the gap grows big whenever a process advances. As a result, it may happen that a project to be never completed or the system which are not used by end users.

The 19th Corporate IT Trend Survey, 2012, which is issued by Japan Users Association of Information Systems, indicates that among the primary tips for successful business innovation are close communication between the IT department and management or other head office divisions and understanding of the business process across relevant divisions to reach total optimization for the organization.

Currently, that very important planning procedure is not clearly defined; therefore, quality of the project plan is depends on human skill sets.

Fig.3 shows 45% of features of information system are never used. Only 20% of features are always and often used. It obviously issue came from bad planning.

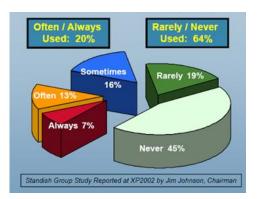


Fig. 3 Standash group study report at XP2002 by Jim Johnson, Chairman

In conclusion, helpful methodology and tools are required to help project planner in planning phase.

2. Effective methodology for IT project planning

I developed total planning methodology to support planning which is called SUSD.

SUSD consists of two main parts.

Part one is workshop which extracts information from stake holders regarding to the project such as strategy, business objects, and required abilities on their business. Required IT capability will be identified based on the information. Base number of ROI is also extracted in this workshop. The information are almost automatically identified through workshop by using the SUSD QFD tool. (Hereinafter SUSD QFD tool referred to as QFD tool.) The QFD tool is not only implements QFD logics, but also adds templates and issues/ROI analysis capability. All information through workshop are summarized, streamlined and contained in QFD tool, expect business process chart.

Part two is documentation work. Project plan is documented based on output from the workshop.

All the procedure to execute SUSD workshop and documentation work is predefined in QFD tool.

SUSD part one takes one week and part two takes one week, which is very fast planning work.

Overview of SUSD procedure is shown as Fig.4. Automatically identify following through SUSD tool



Fig. 4 Overview of SUSD concept, Dream IT Research LLC

SUSD promote collaborative discussion with stakeholders based on following three models to understand all stakeholders' intentions for the project:

1. Business model—Usually, each stakeholders has slightly different expectation for certain IT projects. It is necessary to correspond to their intention to achieve goals of IT project. Clear goal setting is the first step to success. Company goal is Breaks down to Strategies. Strategy breaks down to business objects which achieve strategies. Business object breaks down to abilities, as well. Strategies are differentiator from competitors. Business objects are internal objects to achieve strategies. Activities are Action or capability to achieve business objects. This model express what business initiatives are expected to be achieved.

2. Business process model—Organizations must define ideal business processes to achieve above business model. The ideal business process might be different form current business processes. We call "AS IS" for current business process, and "TO BE" for ideal business processes. Optimized business processes must be created from a goal-centric perspective as "TO BE".

3. IT solution model—This is the ideal solution overview to support the ideal business process. The business process contains not only tasks that are executed manually, but also tasks that should be supported by an IT solution to obtain an effective result.

Overview is shown as Fig.5.

Total Optimization for Business Process and IT based on Strategy

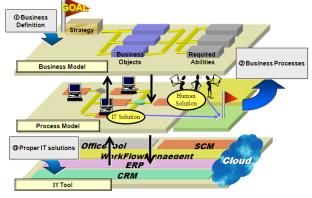


Fig.5 Relation of Business, Process and IT, Dream IT Research LLC

SUSD is designed to identify those matters.

Breakdown Picture of Business model is identified, like Fig.6. It is a kind of big picture of IT project to

guide all related people.

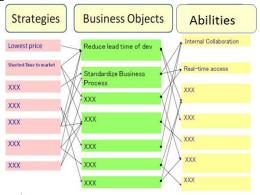


Fig. 6 Relation of Strategies, Business Objects and Abilities, Dream IT Research LLC

As next figure, we need to identify AS IS figure which include current business process and issues, and TO BE figure which include improved new business processes and solutions, like Fig.7. Also, Estimation of ROI (Return on Investment) and Setting of KPI, key performance indicator, is required to evaluate the project efficiency.

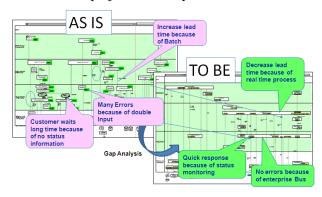


Fig.7 SUSD AS IS model and TO BE model, Dream IT Research LLC

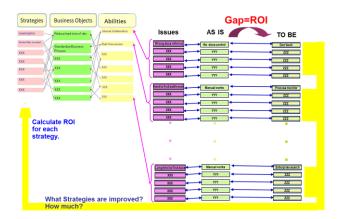


Fig. 8 SUSD ROI calculation, Dream IT Research LLC

The models express Business Processes and linked

IT solutions. The Gap between AS IS and TO BE is ROI.

Identified Ability is the item must achieve to realize Strategies and Business Objects. That means Activities have not been realized. So, some issues are existed to prevent realizing the activities. Important point of issue finding is that find issues directly give impact to strategies. We need to find out the each issues and AS IS and TO BE. Total sum of those gaps will be ROI. Concept of this ROI calculation is shown as Fig.8.

3. How SUSD works in real IT project planning Following is the procedure of SUSD.

3.1 Define Scope

At first, we need to define scope to create IT project plan. If scope is not clear, nobody can identify anything. Scope must be very clear and agreed by stake holders.

3.2 Preparation for Workshop

Identify stake holders and select participants for SUSD workshop. Arrange room and schedule.

3.3 SUSD Workshop

Now, scope is very clear; however, every stake holder has different intention to improve their business. This is because they take different responsibilities in different environment; even they talk with every day. They do not know about business of other division.

We must find the directionality that all the members can make consensus.

SUSD workshop is consists of five part to clearly identify above matters by using QFD tool. Facilitator of workshop leads the activities and guides participants during workshop.

3.3.1 Identify Strategies in the scope

In this session, several managements participate in workshop as representative of scoped division. The participants must be MECE for scope. At first, we identify strategies in the project scope based on participants' input. And then, priority and importance of strategies will be defined by numeric by using QFD tool.

QFD tool is consists of 11 views which can select tab button on bottom line. #1 tab which is shown as Fig.9, allows us to identify Strategies.

Facilitator asks participants to provide several most important strategies. Participant can refer the template before provide own strategies. Template gives them idea and clear direction what they must provide as strategies. Provided strategies are input to QFD tool by facilitator. Facilitator promotes the discussion why other participant provides different strategies. To understand each other's opinion and business process is important to make consensus of priority and importance of strategies.

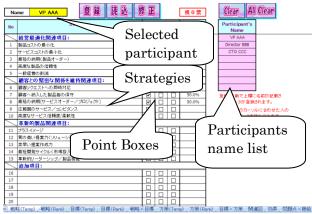


Fig.9 Initial view of QFD tool (#1 tab) , Dream IT Research LLC

After the discussion; each participant vote importance for each strategy, again. Facilitator check point box. Facilitator can select participant name from most right columns for inputting his points. Result of vote is automatically reflected and visualized on QFD tool #2 tab shown as Fig.10.

Comp	any XXX Corp.	Date	XX/1	Y/ZZ	番号順 重要順 優先順
No	Strategy	importance		Achieve	
no		Points	(%)	(%)	0% 20% 40% 60% 80% 100%
1 8	製品コストの最小化	6	100.0%	10.0%	
9 (ま範囲のサービス/コンピタンス	6	100.0%	40.0%	
6 8	講客リクエストへの即時対応	5	83.3%	26.7%	
8 4	最短の納期(サービスオーダー/ブロジェクト)	4	66.7%	33.3%	
2 1	ナービスコストの最小化	2	33.3%	10.0%	
7	顧客へ納入した製品毎の保守	1	16.7%	16.7%	
3 1	最短の納期く製品オーダー)				
4 7	制度な製品の信頼性				
5 -	一般経費の削減				
10 3	を座たサービュ 注動 座 (子 新好				

Fig. 10 Result of vote for Strategies (#2 tab), Dream IT Research LLC

Facilitator promotes participants to discuss based on result of their vote. Most important things in this session are to reach agreement about priority and importance of strategies with representatives.

Importance and priority of strategies are expressed by numeric and chart. Then, everybody can understand easily. Usually, it is very hard to make consensus by every management; however, this workshop provide environment to visually share information and efficient discussion to make consensus.

3.3.2 Identify Business Objects based on priority and importance of strategies

In this session, several middle managers participate. Business Objects to achieve the strategies are identified. Priority and importance of Business Objects will be defined by numeric.

Examples of Business Objects are contained as template on tab #3 which is shown Fig.11. Facilitator organize KJ method discussion to share wide variety of information between participants. By End of discussion, several original Business Objects are found. Facilitator adds the Business Objects to QFD tool.

Each participants vote points for top 10 important Business Objects as next step. Facilitator collects them and reflects to QFD tool #3 tab.

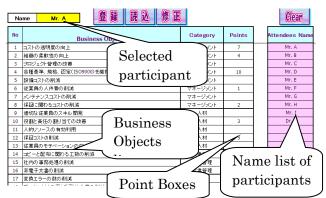


Fig.11 Business Objects template and voting point view (#3 tab) , Dream IT Research LLC

Each participant's point data is reflected to total sum of point's view which is #4 tab.

Usually, more than 20 Business Objects are voted. It is too many to forward to farther examination. Facilitator promotes discussion to select top 7-10 Business Objects. Participants can refer total points and rank on view of QFD tool #4 tab during discussion. It is very important to share other participants' opinion.

After the work, selected Business Objects are automatically reflected to next QFD tool tab. Selected Strategies are reflected, as well.

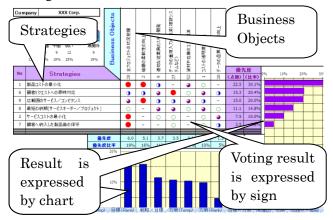


Fig. 12 Identify Priority of Business Objects (#5 tab), Dream IT Research LLC

QFD tool #5 tab which is shown as Fig.12 is now ready to evaluate importance and priority of Business Objects. It is typical QFD matrix. Strategies are already sorted by priority; and selected Business Objects are lined to identify priority. Facilitator promote voting workshop. All participants vote point for each cell depends on efficiency of Business Objects for each Strategy. Point is indicated by sign which represents point. It is easy to understand by participants. Result is reflected weight of Strategies; and draw as chart.

Point is decided by majority vote; however, if minority request to speak, it must be carefully listened. Because the participant may know something what no one in the room does not know.

After the Business Objects workshop, participants show the result and reasons to next workshop participants.

3.3.3 Identify Abilities based on priority and importance of Business Objects

Around 10-15 on-site experts in the scope divisions participate in workshop as representative of on-site.

We identify Abilities to achieve the given Business Objects in this session. Priority and importance of on-site Abilities will be defined by numeric.

Examples of Abilities are contained as template on tab #6 of QFD tool. Facilitator promotes discussion to add other original activities other than template.

After the discussion, each participants vote points for top 10 important Activities. Facilitator collects them and reflects to QFD tool #6 tab; total sum for each ability automatically reflects to QFD tool #7 tab.

Then, facilitator promotes discussion to select top 7-10 Abilities. Participants can refer total points and rank on view of QFD tool #7 tab during discussion.

After the discussion results are automatically reflected to #8 tab of QFD tool. Prioritized Business Objects are reflected, as well.

QFD tool #8 tab is now ready to evaluate importance and priority of Business Objects. The #8 tab is similar as # 5 tab which is QFD matrix view. (Refer to Fig.12)

After voting, facilitator can create relation chart of Strategies, Business Objects and Abilities on #9 tab.

The chart is shown as Fig.6. This chart is very useful to everyone understand what they must achieve in the project. It is good for review for participants of workshop, as well.

In conclusion, Identified required Abilities is very important for project plan. Usually, if top 1-2 Abilities realized, more than 90% of problems are resolved as my experience.

3.3.4 Identify issues and business processes

This session is held separately every division.

We already identified required abilities to achieve

Business Objects in previous workshop. So, we can identify what is the issue to prevent to realize the abilities in current business processes. Those issues, cause, current business process, improved business process and effect of the improvement are found in this session by using #10 tab shown as Fig.13.

Required Ability means that it is not realized now; and some issues prevent to realize it. Facilitator focus the Ability one by one; ask participants the issues, cause of issue, AS IS figure, TO BE figure, effected Strategies by the Ability and ROI.

Ability	Issue	Cause	As Is	To Be	ROI	Effected Strategy	Sub Total	Total
チーム共同作業 の 推選		作業状況が分らな い。	小の色の必要は見たい	チームの作業状況 が分りNNの際にも 余分な時間がかから	作業人数×月あたり 短縮時間×チーム 数×時間単価	製品コストの最小化	JP100000000	JPYYYYYYYY
	AAが分らないので、 調査に時間がかかる	情報的思知のいつ	調査の時間が長くか かり、納期が遅れ る。	更新が帯に最新な ので、調査に時間が とられない。		最短の約期〈製品 オーダー〉	X000X Hours	YYYY Hours
	BBが分らないので、 無駄な作業をする	進捗情報がわからな し、		進捗を見て作業をす るので、素早い応答 が可能。		顧客リクエストへの 即時対応	X000K Hours	YYYY Hours
プロセス統合	ZZのためて戻りが発 生すろ	処理履歴がない。	間違えた情報で提案 オレエレまう。	正確な情報で提案で きるので受注確率が		質の高い提案力(ソ リューション/ブレ	JPY/0000000	JPININI

Fig. 13 Example of filled in #10 tab, Dream IT Research LLC

At the same time, identify business processes and overview of systems around the issues. In this time, it is not necessary to identify all detail business processes because we already identified issues which .gives big impact for strategies. We can concentrate to those issues and related business processes.

Example of issues and business process mapping chart is shown as Fig.7 Everyone can understand the format; it is easy to share information with outsourcers of the project, as well.

3.3.5 Summarize and report

All activities in the workshop are summarized in QFD tool. Report it to all participants and stakeholders to get feedback from them.

3.4 Overview of SUSD Documentation

Summarize and streamline all information extracted in workshop in QFD tool and Business Process model drawing.

Map all current issues to current business processes, and map all improved points on improved business processes which is TO BE process model.

Create grand design of IT solution to realize TO BE process model. # 11 tab of QFD, which is shown as Fig.14., helps to identify priority of IT solutions.

Evaluate efficiency of Solution corresponds to issue on each cell in matrix. Total sum of point is displayed bottom line. Order of importance of solution is calculated.

Create achievable project schedule based on above information. Implementation plan should be separated

several phase to get early return. Most important solutions must put in first phase.

Create ROI chart for each project phases based on information of ROI matrix of QFD tool.

Finally, collect and unify them as IT project plan.

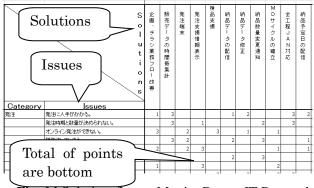


Fig. 14 Solutions/Issues Matrix, Dream IT Research LLC

4. Example of SUSD Workshop

SUSD effectiveness are proved by many projects, such as IT project planning for Automotive company, Heavy Industry company, Telecom company, Semiconductor equipment maker and so on. Following is the example deliverables for automotive maker.

One of the division of this maker had been straggling to create IT project for more than one year, and, they decided to apply SUSD in their project planning as methodology. The plan was completed in one month and approved by authorities to start the project.

This project achieved 3 main goals in certain duration, 1. Dev Period Reduction by 30%, 2. Dev Cost Reduction by 30%, 3. Equal quality of Global Production processes as target of plan which is created by SUSD.

Issues, causes, AS IS, TO BE and ROI is not permitted to show detail.

Usually, more than several thousands of issues are existed in the company, and, SUSD does not have to investigate all issues. SUSD can find only high priority issues to resolve to achieve strategies very easily. Member of the maker told me that they are not expected not only prioritize Activities and issues, but also estimate effects for each strategies by such a logical way.

Schedule is not permitted to show detail.

The member of this project told me that usually IT project is not complete by deadline, however, this SUSD applied project is easily completed by deadline because few change requests are submitted.

The members of the project were appreciate that

relation between Strategies, Business Objects, Activities, issues, cause, AS IS, TO BE and ROI is clearly linked by charts in logical way. They can evaluate effects of project at any milestones clearly.

Also, SUSD documentation format are applied for summarizing contents of many success case studies. Many summary of success cases are written in SUSD format in my written book.

5. Conclusion

SUSD is not only very effective to extract valued information from management through on-site people accurately in short time, but also useful to classify items in numbers. Lists, charts and pictures in SUSD allow smooth discussion to unify intentions and initiatives of participants. Big goal – small targets of IT project are identified by SUSD very clearly.

5. 1. Effects of SUSD methodology

Summary of SUSD benefits to keep up QCD of planning which extracted from customers are following.

- 1. Unify all stake holders' initiatives in shape.
- 2. Total optimization is realized. Because every targeted section sends participants for workshop as their representative.
- 3. Everybody who is related to the project can share clear view of IT project very easily, such as big picture, issues, milestones, expected effects. Because that information are expressed charts, picture by using real number extracted from stake holders.

References:

Fig. 1 Project success ratio. User recognizes that 73.3% is Failure, and 26.7% is Success. [Nikkei Computer, Fact-Finding of IT projects, 2003.] Fig.2 2013 Cisco Global IT Impact Survey/IT and Business Alignment www.cisco.com/en/US/solutions/collateral/ns1015/

Cisco_IT_Impact_Survey_Results_2013.pdf Fig.3 Standash group study report at XP2002 by Jim Johnson, Chairman,2002