

SUCCESSFUL IMPLEMENTATION OF QUOTEWIN SOFTWARE TENDERING SYSTEM: A CASE STUDY OF A MULTINATIONAL COMPANY

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ABSTRACT

The aim of this study is to investigate role of QuoteWin software in tendering system in multinational companies. QuoteWin software is designed to make software quote management hassle free and straight forward to the tendering system. This robust software provides scalable and flexible solution to manage and respond projects of any complexity level. A framework called Semantic-based Planning Optimization Composition (SPOC) is composed to evaluate the request-for-quote software and observe tender respond. In the study, four phase of SPOC: Discovery, Planning, Quote Execution and Optimization were implemented to evaluate the software performance in company tendering system. The study is to investigate QuoteWin software fulfills requirements of company works needs to be leading business software in request-for-quote process. The data was collected from Flextronics Technology (Malaysia) Sdn Bhd, and Escatec Sdn Bhd. A series of interview were conducted with the software users in both companies. The researcher identified that there are five elements important to the success of tendering process. As a conclusion, the QuoteWin software is suitable to perform as an on-line tool for tendering system. The data collected from both companies has proved that the performance of this software is better and matches with Semantic-based Planning Optimization Composition.

Keywords: *Enterprise resource planning system, Decision support system, Multinational company, Malaysia, Case study*

1. INTRODUCTION

QuoteWin software is specially design for quote management and request-for quote processing solution for manufactures industries. The software manages all aspect of material quote management and product costing process. In this study, QuoteWin software is selected as investigative tool because QuoteWin software is adopted in the companies. Request-for-quote (RFQ) is a proposal precisely structured to meet the requirements of users. The materials quotation proposal describes items to be purchase and ask for offers from suppliers who are interest to obtain bids of the project. A complete profile of a project' material quote will pull in material cost, compare and judge by the selection criteria that the project organizations has established. In the end of process, Material Quotation Manager will evaluate and approve the materials quotation profile.

Semantic-based Planning Optimized Composition (SPOC) is the first implemented framework to compose RFQ web services, which participated into four phases: Discovery, Planning, Quote Execution and Optimization. SPOC will develop in the study to investigate the performance and benefits of QuoteWin software.

In the study, there are many similar web based service software available in the industry, users may confuse with the similar software which facilitates creation of RFQ documents, data entry and streaming bidding process. Due to current situation in market, the researcher wants to identify the benefits of QuoteWin software features by evaluating it with SPOC to understand the software is correspond to the industry needs. In previous research by Carlo et al. (2007), SPOC is designed for RFQ in material quote management framework.

The empirical research is to investigate the use of QuoteWin software in tendering system under the



requirement of Semantic-based Planning Optimized Composition (SPOC) for request-for-quote (RFQ).

The research questions are:

- i. How does QuoteWin software fulfil the four phase's requirement of Semantic-based Planning Optimized Composition?
- ii. How QuoteWin software perform efficient in tendering system?
- iii. How does the implementation of QuoteWin software improve the tender performance?

In the past, there were not many research made on request-for-quote, because it was a minor part in the Procurement process but intended as an important process for request seller response.

The objectives of the project are:

- i. To investigate QuoteWin software in the framework of RFQ process and explaining SPOC phases in company operation.
- ii. To determine the implementation of QuoteWin software to improve the tender performance in Material Quotation Department.

2. RELATED WORKS

Beaver (2014) put forward that successful implementation is measured over the complete life-cycle of the technology that would be graded on all the projects and tasks performed on the infrastructure during the complete life-cycle of the development. According to Oxford Dictionary (2013), software is the programs and other operating information used by computer, and, case study in research is a particular instance of something used or analysed in order to illustrate a thesis or principle. Business Dictionary (2014) defines e-tendering as an internet based process wherein the complete tendering process, from advertising to receiving and submitting tender-related information are done online which enables firms to be more efficient as paper-based transactions are reduced or eliminated, facilitating for a more speedy exchange information. Electronic manufacturing services (EMS) as described by Venture outsource (2006), is an industry based on providing contract design, manufacturing and

product support services on behalf of OEMs and OEM define as a company that designs and specifies products under its own company brand and name.

2.1 Semantic-based Planning Optimized Composition

Bryan (2011) explained semantic as a study of meaning, it focuses on the relation between words and phrases due to the relationship in context. A semantic platform is an infrastructure that is able to pull in undefined data and push out defined data with the proper meaning attached in the form of new semantically relevant meta-data describing the unstructured content. It's in turn creates new insight and knowledge or people to access at the right time in a usable presentation. A minimum human intervention imply into the web services composition process, which means that user will input values and will receive the proposed web services compositions at the end. Data is requested in the middle of the process in order to execute the services and to obtain estimated quote values. User can manipulate the compositions or restart the process. It is to minimal user intervention in an automatic composition framework. SPOC divided into four phases: Discovery, Planning, Quote Execution and Optimization. The phase of Discovery is where the services are found using semantic features. The second phase is Planning where determines which services achieve the user request based on their pro-conditions and effects. The third phase is Quote Execution concerns a simple call to each candidate web services found from the Planning phase which retrieves estimated values from each service. Finally, the fourth phase is Optimization which optimizes the composition and finds a subset of services according to the non-functional criteria. The four phase mentioned by Carlo et al. are the frameworks which specially design for RFQ process.

2.2 QuoteWin Software

QuoteWin software provides intelligent quote management for Electronic Manufacturing Services (EMS) providers and Original Equipment Manufacturer (OEM) and Defence Contractors. QuoteWin software manages all aspects of the complex quote management process as well as sub-processes that contribute to the final price proposals submitted to end customers. QuoteWin software is used to streamline quote activities and data resulting in more competitive material costs, reduces quote cycle time and increased data accuracy (Polydyne, 2002; Statement of Perunovic,

2012). In Quotation Department, QuoteWin software is an application to serve as a tool for supporting the quotation process with suppliers. QuoteWin is developed to manage all aspects of the complex quote management process. According to Reed (2006), QuoteWin software enable to upload Bill of Materials (BOMs) from the OEMs into the system and automatically plug in any contract or negotiated pricing with suppliers into the system. The pricing recorded via the database instead of sending suppliers endless RFQs. It also provides multiple comparison and analysis capability including forecasts on variations in market conditions. (Robin, 2002).

2.3 Requests-for-Quote Process

Material Quotation Department is acting on Request for Quotation (RFQ). Bullen (2010) expressed that RFQ is an action on invitation to bid. It is focused on provider products and services and is used to solicit pricing and / or cost information providers. It is intended to be a quick turn-around tool for frame possible costs and services. The RFQ has limitations as it has limited scope including provider costs and capabilities for services. RFQ is a standard business process whose purpose is to invite suppliers into a bid process to bid on specific products.

Statement of Carlo et al. (2007), a RFQ web services allows getting quotes about products and services in the growth of web services in the growth of web services formats over the increasing Internet usage. More enterprises are publishing their application using a web service format which can be composed thus achieving a user goal.

2.4 Tendering System

The tendering process is a key business process that helps business finds a suitable contractor or suppliers. In the manufacturing industries, manufactures invite suppliers to submit an invitation to bid includes estimates of materials process and materials detail.

In the study of Lai et al. (2007) of E-tendering with web-services, a standard construction project tender should include at minimum information: form of tender, condition of contract, contract drawings, specifications, and bill of quantities.

In the design of a tendering system, Chen et.al. (2010) pointed out the main process of a tendering and bidding practice that has five steps:

- i. Making the electronic bidding document by the tenderer. Tenderer made the

electronic bidding document that has unity format.

- ii. Bidder filled electronic document and quoted price to the tenderer.
- iii. Tenderer drew out the filled electronic document handed by the bidder to the evaluation system of bid.
- iv. Syndic the filled electronic document simply.
- v. Syndic the filled electronic document particularly.

Capterra (2013) stated that the top quoting software products that cater for more than 1000 users and provide web-based service is QuoteWin by Polydyne software due to this software tool is the only supply chain management software tool developed to meet the unique quoting needs of contract electronic manufactures and function parallel with Supplywin software to come out with best tender results. The software helps industry cut material and production costs and streamline communication, making positive impact on profit margins, evaluate tender and corporate growth.

3. RESEARCH METHODOLOGY

The study conducted using qualitative method. The QuoteWin software was investigated in two multinational companies to obtain the experience with the software. The researcher had evaluated the software through Semantic-based Planning Optimized Composition. The experience of QuoteWin software users determined the performance of the software.

In the research, the researcher was investigating QuoteWin software through SPOC framework, the interview group of respondents was the software users who rely on the software to work, and thus the research design was explanatory studies. This research design included the search of the literature; interviewing experts in the field; conducted in-depth individual interviews.

Data management and analysis was performed using ethnography theory. The researcher develops theory involving building up inductively a systematic theory and based on observation. The method summarized observations into conceptual categories and tests the coherence of the categories directly in the research setting.

The study was conducted in two multinational companies in Flextronics Technology (Malaysia) Sdn Bhd and Escatec Sdn Bhd. QuoteWin software develop in both companies since a period of time. Two workers from Escatec were chosen as respondents while Flextronics provided three respondents. Both companies' material quotation department locates in Penang, Malaysia. In the department, they have experts on the quotation analyst and user of QuoteWin software. Data and assessment from experts were important for the study.

3.1 Conceptual Framework

According to Carlo et al. (2007), four phases of SPOC are Discovery, Planning, Quote Execution and Optimization. The researchers have developed the framework to investigate QuoteWin software to clarify the concept relationship in the study as shown in Figure 1. Lai et al. (2007) listed out the main process required in tendering system and Fuller et al. (2006) explains the steps in RFQs which relates with four phases of SPOC.

In the beginning, users of QuoteWin software in the Discovery phase will receive the clients' requirement on the Bill of Materials documents which are the project' raw materials list..

Second phase is Planning which determining participate task in the composition order which include user requests, web services and initial parameters, the quote analyst project the sourcing strategy and locate the suppliers which are the important criteria in the quote management. Users identify the location of suppliers through QuoteWin software database and send BOMs enquiry to selected suppliers.

Third phase is Quote Execution which retrieving the estimated quote values from the candidate web services, QuoteWin software users receive respond from suppliers and then proceed with material cost bargaining with suppliers.

Last phase is Optimization which making compositions using candidate services which include materials cost, lead time and quotation turn-over. If the respond and feedback is suit to project cost, companies will maintain relationship with suppliers for further corporation.

The results will interpret the project costing and present to clients. The purpose of the action to win the bidding projects from clients. Clients determine the ideal costing of the project and distribute to tender.

In the reposition is the action on unsatisfied results, the quote analyst will replace or bargaining the suitable cost on material costing to win for the project. Users of QuoteWin software may redo a preferred composition if users want to try another supplier services.

In the reschedule action, the software users show the new compositions if there is data error occurred on the results. The users allow redoing the planning strategic and executed the quotation. The software may reduce the work errors. These two processes deduce the framework on work efficiency for composing web services.

The four phases will influence the investigation of QuoteWin software in response of RFQ process. Besides that, the four phases are executed sequentially because there is a dependency between them in order to build RFQ framework. Based on the models from Carlo et. al and Lai et. al, the researchers had formulated the following conceptual framework to investigate the problems in the research questions.

4. RESULTS

Participants' responses to interview questions addressed more than one theme, thus, the interview data were narrated where they appear to fit with the theme appropriately. Participant was assigned a pseudonym: Escatec Sdn Bhd staffs as ET01 and ET02, Flextronics Technology (M) Sdn Bhd staff as FT01, FT02 and FT03.

The implementation of the software in Flextronics International and Escatec Electronic had been more than ten years in both companies' Project Department, Global Materials Quotation Department and Procurement Department.

4.1 Thematic Analysis

Table 1: Frequency Distribution of Factors Implementation

Factors Implements	Escatec Sdn Bhd		Flextronics Technology Sdn Bhd			Total
	ET01	ET02	FT01	FT02	FT03	
Pseudonym						
Clients requirement			X	X	X	3
BOM Documents	X	X	X	X	X	5
Sourcing Strategy	X	X	X	X	X	5
Locate Suppliers			X	X	X	3
Enquiry Notification	X	X	X	X	X	5
Cost Discussion	X	X	X	X	X	5
Cost, Materials Quotation Turn Over	X	X				2
Maintain Relationship with Suppliers			X	X	X	3
Total	5	5	7	7	7	31



Table 1 shows the data from the interview with both Flextronics and Escatec personnel voting for the most important factors in tendering system. From the frequency distribution table above, the highest number of votes is five (indicated by the X) which were BOM documents, Enquiry notification, Cost discussion, Sourcing strategy; the second highest vote number was three for factors Clients requirement, Locate suppliers and relationship maintenance with suppliers. The least vote was Cost and Materials Quotation Turn Over (Arshad et. al., 2013).

4.1.1 Transcript excerpts

Table 2 shows the excerpt from the interview done. Each interviewee explained the reason behind the number of votes.

4.1.2 Clients Requirement

In planning stage of Client requirement, material specialist will receive the customer's request for quotation through account manager, program manager, quotation executive or project manager. In the query, not many customers have special request on commodity part or request for customize product, thus, this process does not concern crucially in the phase.

4.1.3 Bills of Materials (BOM)

In the interview session, BOM documents are important factor to develop in Discovery due to the process to identify material future use in the project. The list of materials provides the information to a project or a production which may cost huge number of earning. From the interviews, when asked about the ability of QuoteWin software as a tool to execute Bill of Materials (BOM) from customers who develop in different format from QuoteWin required format, interviewee from Escatec emphasized that the old version of the software was not able to execute bill of materials directly, and it was quite a troublesome to upload the BOM, because some customers arrange the column differently, although the software version from 8.2 onward allow to rearrange the title and element column. The same goes for interviewees from Flextronics which supports the statement from the former company about the system's lack of functions.

4.1.4 Sourcing Strategy

In the SPOC' second phase, planning, it is much relatable as the software determine the project task from the beginning as a Sourcing strategies planner. Interviewees responded towards the way QuoteWin

software determine task to participate in order (Manual setting or software system setting) in the planning strategy.

According to Escatec, the system is operated automatically by software system setting. The software allocates data one by one and retrieves the information to relevant departments.

Flextronics personnel had the same operation, explaining that the system works automatically to determine all tasks. For some cases, if users want to increase the number of suppliers, users are allowed to send notification manually and contact supplier through email. The system setting allows to work manually based on user's intentions. Hence, it can be concluded that QuoteWin software able to work in both setting either in manual setting or software system setting and the sourcing strategy.

4.1.5 Supplier's Location

Regarding of difficulties to obtain materials through QuoteWin software, Escatec interviewees said that the location of suppliers are not important and they have no trouble obtaining them. Flextronics however argued that the location is important. Priority was given to suppliers who are located nearby to reduce lead time and cost.

4.1.6 Enquiry Notification

In the Planning phase as well, the Enquiry notification is important in the process. It is an action to invite and remind material suppliers respond immediately. But somehow, according to the interviewees, the suppliers did not respond immediately.

Both companies mentioned that suppliers respond do not based on the software functionary, it is all about supplier's responsiveness instead of the software itself. It's also relied heavily on the relationship between the two parties.

ET02 further described the coming up process after sending the RFQs to suppliers, users or material quote analysts need to follow up the request-for-quote, and this was where QuoteWin software became handy to users who can takes single action to direct sent to multiple recipients rather than have to send one by one to recipient to require price quotation for them. QuoteWin would detect replies from which email sent in prior and this had helped the companies so much.

4.1.7 Cost Discussion

In Quote Execution phase, the cost discussion is important, through the observation and

conversation with interviewees, they emphasized that the cost of material need to run and summarize after the received material quotation price. For ET01 and ET02, they mentioned that the cost of project need to include labour cost in calculation, after that, the total project costing have to present to customer and verify by business team.

FT01 and FT02 stated that the material price will end up have the added values, which are the origin price and the cost mark-up. Materials specialist will run out the price and submit to account manager.

4.1.8 Cost, Materials Quotation Turn Over, Maintain Relationship with Suppliers

In the Optimization stage, the Cost, materials quotation turn over and maintain supplier relationship works on different company. In Escatec, ET01 and ET02 did collect the material information such as material costs and making compositions using the software. The material quotation result will be respecting a compromise and complete RFQ package. The recorded material cost will be kept for next quotation requirement.

For supplier’ relationship maintenance, FT02 stated that the department will save new supplier contact information into database although the supplier not the contractor. The company prefers that the suppliers will have more choices in the future.

4.2 Model Development

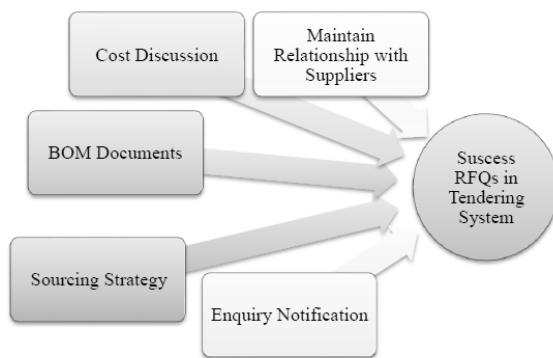


Figure 2: Model Development

The model development shows the five processes in request-for-quote made the complete quotation package in tendering system. The five processes:

- i. BOM Documents in Planning stage which responsible to list all materials require for a project and the possible substitute materials for the production. The BOM will load into QuoteWin software and categorize the materials according to the commodity.
- ii. Sourcing Strategy in Planning stage which interfaces with suppliers in continuous information flow of pricing, material availability and other information.
- iii. Notification Enquiry in Planning very important which the suppliers notify respond in the software with the information require. This step is important to quote coordinator in order to receive respond or to expedite the material quotations.
- iv. Cost Discussion in Quote Execution is important steps to gain the precise and accurate material quotation. The project cost will affected if the cost of materials influents by unstable business price.
- v. Maintain relationship with suppliers in the Optimization phase show the company sustain the good relationship and provide more choices for tendering suitable supplier. The materials quotation will be log into history price and allow users access it for reference.

5. DISCUSSION

From the data collected on the study, the researcher found out that the QuoteWin software is suitable to classify as premium on-line tool for tendering system. The data collected from Flextronics Technology and Escatec Electronics proved that this software qualifies to be the request-for-quote on-line software. Both companies do agreed the performance of this software is efficient and match with Semantic-based Planning Optimization Composition framework.

In the theme, participants concurred the implementation of QuoteWin software improve the tender performance. From the beginning of RFQs process which started with Bill of Materials until the complete process of materials quotation in procurement, the system do helps in saving time consume, and saving in man power needs.



Although participants of both companies endorsed the software performance, they do suggest some recommendation to improve this software. By comparing and concluded the result from the interviewees, they have suggested to this software:

- i. Customize the column on the Bill of Materials template for user convenient
- ii. Increase some column in the coasted BOM such as: payment term, date in international format
- iii. Provide clear instruction on the software

Theme 1: How does QuoteWin software fulfil the four phase's requirement of Semantic-based Planning Optimized Composition?

This part was based on participants' experiences and perceptions, describing the four phase of Semantic-based Planning Optimized Composition which is Discovery, Planning, Quote Execution and Optimization. SPOC is an implemented framework to compose web services for tendering system and resources planning. In the clues statement from both company interviewees, they felt that the software fulfil the four phase's requirement of Semantic-based Planning Optimized Composition, but do has improvement space to utilize the software such as date modifying, template customize which able to rise the efficiency of the software.

The researchers agree that four phase's requirement of Semantic-based Planning Optimized Composition framework match with QuoteWin software designed. The overall performance of the software suited with the software design. Carlo (2007) stated: "the framework compose the software based on 1) unambiguous service description, 2) automatic services combinations to achieve a proposed goal, 3) optimal services compositions." Participants in the study had many experiences with the software and able to indicate the pros and cons of the software.

The first phase of SPOC is Discovery where the services are found using semantic features who the software is an on-line tool which capable in any version of computer and networks. The second phase is Planning where determines which services achieve the user request based on their pro-conditions and effect, the software able to work from the beginning of the RFQ process and complete the process until last RFQ stage. In the third phase of SPOC, it is Quote Execution where

concern simple call to each candidate to retrieves estimated values from each RFQ, users able to execute the bill of materials into the software and retrieve the material quotation values and evaluate the RFQ into the project team or procurement team. The last phase is Optimization where optimizes the composition and finds a subset of services according to non-functional criteria, the software allow users to add in other output into the results such as the labour cost.

Additionally in this study, participants recognized that using software is fulfil the process steps in RFQ cycle.

Theme 2: How QuoteWin software performs efficiently in tendering system?

This part was based on participants' experiences and perceptions, evaluating the software performance efficiency in tendering system, when answering this section, some participants respond in neutrally description and some talked about the positive impression. In answered the research questions, both companies' participants felt that the QuoteWin software perform efficient in tendering system since the system operate automatically without much manual operating, RFQs can be obtained on-line without any boundary and obstacles, and the system designed based on users need, considered as user-friendly tool. QuoteWin software is used to streamline quote activities and data resulting in more competitive material costs, reduces quote cycle time and increased data accuracy, stated Polydyne (2002).

Basically, all participants agreed this theme that this software performed efficiently in tendering system; the RFQ can be retrieved easily through the existing software function. The software automatically plug in any contract or negotiated pricing with suppliers and the pricing keeps via the database instead of sending suppliers endless RFQs.

RFQ is an action on invitation to bid, the basic includes 1) requirements and deliverable, 2) type of contract, terms and special conditions, 3) pricing and discounts, 4) change clauses, and 5) payment terms.

However, through the interview session with experiences QuoteWin software users, the research concludes that the efficiency of the software most rely on the suppliers, explain that if the material suppliers interest to build business with user company, they will certainly respond in priority, but in the opposite, the material suppliers who does



not have the interest in business with the company, they will just delay the respond until users expedite to them.

Theme 3: How does the implementation of QuoteWin software improve the tender performance?

This part was based on participants' experiences and perceptions, evaluated the performance of QuoteWin software after implementations in for tendering process. When answering this section, most of the participants respond in neutrally statements.

All participants agreed on the implementation of QuoteWin software improve the tender performance. By comparing with the old ways of RFQ process, it usually takes 13 days to complete a RFQ, but with the implementation of QuoteWin software in company, the time cycle shorten to three days to complete a RFQ. So it's time-saving and user can spend their time to other tasks. The implementation improved the tendering system, but due to some obstacles such as no connection, invalid suppliers, server down and etc. Basically the software fulfilled its customer's satisfaction.

Participants in this study do have their expertise in the procurement processes since they are the users for the QuoteWin software, they opinion and advices are important to the software manufacture. The participants did mention some company' business department does not aware the importance of request-for-quote process but only request-for-proposal process, but actually both processes should be conduct together to enhance the business process. Moreover, through providing material quotation to company especially for the large-scale manufactures, they should have the quotation department rather than combine with procurement department.

6. CONCLUSION

QuoteWin software implemented not only in material quotation, but is implemented in project department to obtain the materials tender from the suppliers. The system and format of the software are easy to adopt. It is highly suggested to recognize the request-for-quote software from the Semantic-based Planning Optimization Composition to be the efficient tendering on-line software. A RFQs on-line tool must fulfil

requirement of SPOC to classify as the suitable tool.

ACKNOWLEDGEMENTS

The researchers would like extend our gratitude to the Ministry of Higher Education (KPT for sponsoring this study under the research grant PJP/2014/FPTT (2D)/S01345. We would also like to thank the Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka for the opportunities given to us during this project period.

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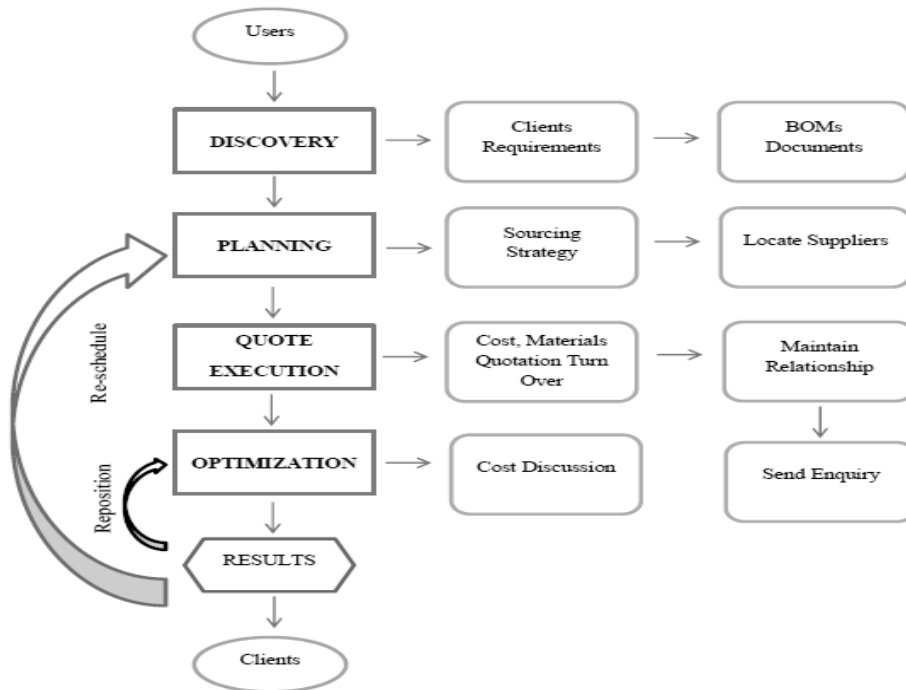


Figure 1: Conceptual Framework of SPOC in QuoteWin software

Table 1: Transcript Excerpts from Interviewees

Respondent	Transcript	Themes
ET02	Customers does not made any special request or customize product.	Clients requirement
ET01	The Bill of Materials from customer usually sent to our key account, or business development.	BOMs
FT02	Bill of materials from customers will tidy by key account manager who responsible to oversee the input of bill of materials data into the software	BOMs, customers
ET02	Software system setting allocate data one by one and retrieve the information to relevant departments	Sourcing strategy
FT02	Able to work in both setting either in manual setting or software system setting and the sourcing strategy	Sourcing strategy
FT03	Locate suppliers is more easy to made the material shipment and communication within local area	Suppliers location
ET01	Their respond fast or their respond slow actually is very much depends on supplier	Enquiry notification
ET02	Have the added value, which mean the origin price and the cost mark-up	Cost discussion
FT02	Department will save new supplier contact information into database	Suppliers relationship
ET01	Collect the material information such as material costs and making compositions using the software	Material quotation cost

Table 3: Theme 1 data comparison

Theme	Flextronics Technology	Escatec Sdn Bhd
Theme 1: How does QuoteWin software fulfil the four phase's requirement of Semantic-based Planning Optimized Composition?		
Question 1: How does QuoteWin software retrieving the materials supplier profile through on-line?	The supplier retrieve information through email and software portal.	The supplier retrieve information through software server and database.
Question 2: What are the outputs from QuoteWin software other than standard outcome? (Standard outcome: material price, lead time, MOQ packaging, Packaging quantity, and Delivery term)	Satisfy with the standard output.	Besides standard output, user hope to have the payment term and standard quote data for materials.
Question 3: Does QuoteWin software optimize the role as request-for-quote on-line tool?	Agree.	Agree.

Table 4: Theme 2 data comparison

Theme 2: How QuoteWin software perform efficient in tendering system?		
Question 1: How does QuoteWin software determine task to participate in order (Manual setting or software system setting)	Software can be work in manually or follow system setting.	Software setting determine task process.
Question 2: Is there any obstacle to obtain RFQs in QuoteWin software?	No obstacles to obtain RFQs.	No obstacles to obtain RFQs.
Question 3: Is there any limitation that effect QuoteWin software to reach material suppliers?	The supplier users unable to reach due to information invalid. Zero trouble from the software.	In the past time is due to server connection down, nowadays no more problem.
Question 4: Does QuoteWin software perform efficient in tendering system?	Agree.	Agree.



Table 5: Theme 3 data comparison

Theme 3: How does the implementations of QuoteWin software improve the tender performance?		
Question 1: Does the Bill of Materials (BOM) from customers able to direct execute into QuoteWin software?	Not allow to direct execute. Key account will filter unrelated information in BOM and rearrange the format according to software setting.	Customers do not have direct access to the software, BOM will check by users.
Question 2: Do materials suppliers respond efficiently after receive the notification sent by QuoteWin software? How do they respond?	Suppliers respond according to contract business.	Suppliers respond according to business interest.
Question 3: Compare to old ways of request-for-quote process (manual RFQs), does QuoteWin software perform as an advance tool?	Yes, increase work efficiency.	Yes, save a lot of time.
Question 4: Is there any significant impact after implementation of QuoteWin software? What is the factors cause to bad performance?	No impact cause. Significant improvement in RFQs process.	Basically acceptable, in level of satisfactory.