

Proposed Improvement to Contract Management in Supply Department

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Abstrak: Industri tambang batubara saat ini sedang dalam kondisi yang kurang baik sehingga perusahaan harus mengurangi biaya dan/atau meningkatkan efisiensi untuk menyeimbangkan penurunan harga batubara. Penurunan biaya dapat dilakukan dengan 2 metode yaitu pengurangan penggunaan yaitu kuantiti dengan efisiensi atau pengurangan biaya yang biasanya dilakukan dengan negoisasi sebagai strategi utama perusahaan. Di samping negoisasi, manajemen kontrak yang baik akan memberikan kontribusi baik secara langsung maupun tidak langsung terhadap penurunan biaya. Gejala mengindikasikan kebutuhan terhadap perbaikan manajemen kontrak. Solusi yang didapatkan adalah manajemen yang efisien, peningkatan kemampuan staf, peningkatan motivasi staf, perbaikan kebijakan dan prosedur, pembuatan spreadsheet, pelaksanaan strategi biaya optimum, peninjauan estimasi biaya, and melakukan sosialisasi rutin. Nilai tambah yang dihasilkan dari solusi ini termasuk produktifitas staf, saving yang lebih tinggi, kualitas kontrak yang lebih baik, peningkatan posisi tawar, memperkecil kehilangan hari kerja, dan penghindaran tambahan biaya.

Kata Kunci: manajemen kontrak, analisa keputusan, prinsip 5-tepat, model MARS, matriks Kraljic, SMART

Abstract: Coal mining industries currently are in unfavorable condition, therefore the Company shall reduce the cost and/or increase efficiency in order to equalize the decrease of coal price. Reducing the cost can be done by 2 methods either reducing the usage i.e. quantity by efficiency or reducing price which is usually done by negotiation as the main strategy of the company. Beside negotiation, appropriate contract management will deliver a good contribution either directly or indirectly towards cost reduction. Symptom indicates a requirement of improvement to contract management. The solutions are efficient management, increasing staffs' ability, increasing staffs' motivation, improvement of policy and procedure, development of simple spreadsheet, implementation of optimum cost strategy, owner estimation review, and holding regular socialization. Value added delivered by these solutions includes staffs productivity, higher saving, better contract quality, higher bargaining position, minimizing loss of production day, and avoidance of additional cost.

Keywords: contract management, decision analysis, 5-right principles, MARS model, Kraljic Matrix, SMART



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PT Borneo Batubara Jaya (BBJ) is a corporation that engages in coal mining and sales for both domestic and international industrial customers.

Coal that BBJ produced can be classified into three types of quality coals, which are PM Coal, PN Coal, and MW Coal.

All BBJ's operational activities are conducted in Indonesia which its operations includes a series of

open pits, coal preparation facilities, overland conveyor to the coast and a world class marine terminal capable of handling bulk. Mining method applied is conventional truck and shovel method. Approximately six to twelve open pits are in operation at 24 hours a day, and 365 days a year.

Supply with Store Inventory Control and Logistic Transport are departments under Supply Chain Division.

Major tasks of Supply Department are as follow.

(1) Procurement of Goods. (2) Procurement of Service (3) Supplier and Contractor Management System (4) Administration and Database. (5) Local Business Development.

Brief of business process in Supply Department is: the procurement of goods or service starts with request from internal customer continued with tendering process, clarification, evaluation, negotiation, award, registration, preparation, and work commencement. The procurement is supported by supplier and contractor management system, admin and database, and also local business development.

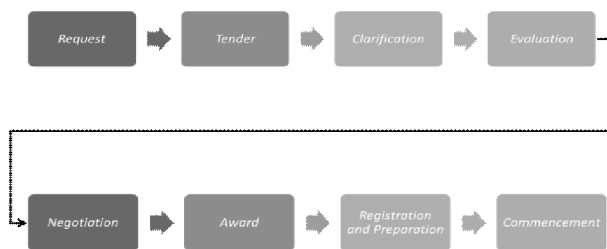


Figure 1. Supply Brief of Business Process

Coal mining industries, including BBJ, currently is in unfavorable condition so that BBJ shall reduce the cost and/or increase efficiency to balance the decrease of coal price.

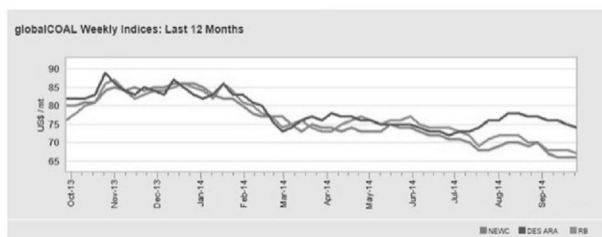


Figure 2. GlobalCOAL Weekly Indices: Last 12 Months

Source: <https://www.globalcoal.com>, 2014

Reducing the cost can be done by 2 method either reducing price or reducing the usage i.e. quantity by efficiency, as refers to: Cost = usage x price.

Reducing the price is usually done by negotiation as BBJ main strategy. Beside negotiation, appropriate contract management will deliver contribution either direct or indirect to reduction of cost.

Supply Department is now straggling to serve its internal customer with outstanding level. The symptom is that many complaints were arising.

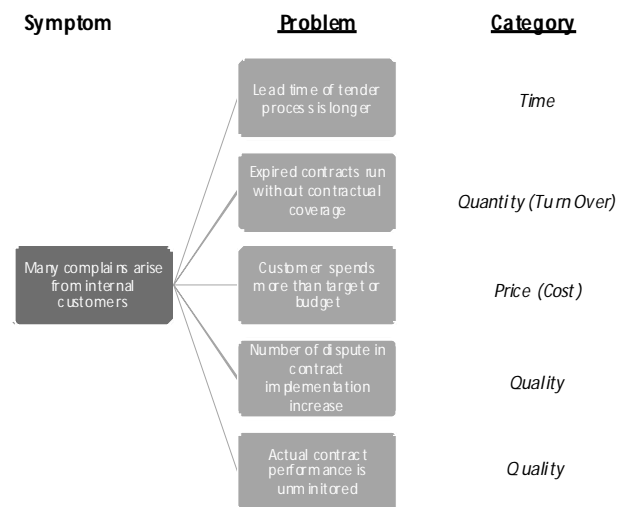


Figure 3. Symptom and Problem

There are problems indicate contract management to be developed and improved in proper manner: (1) Lead time of tender process is longer than target. (2) Expired contracts run without contractual coverage. (3) Customer spends more than target or budget. (4) Number of dispute in contract implementation increase. (5) Actual contract performance is unmonitored.

BBJ has established a system called Contract and Contractor Management System. This system is divided into: (1) Contract Management System. (2) Contractor Management System (Overarching Contractor Controls).

Contractor Management System contains management of contractor from registration, type of work approval, audit program, and improvement plan while Contract Management System contains selection of contract form and Contract Management Process. While other stages are managed by custodian, Supply

Department mainly manages and involves in stage Tender and Award and stage Closeout and Review.

Tender and Award process mainly consists of: (1) Tender Establishment. (2) Tendering. (3) Evaluation. (4) Negotiation and Award (5) Contract Preparation

Scope of this paper is limited to Contract Management for Service Contract.

METHOD

Analysis of Business Situation

The business issue that we face is BBJ at this unfavorable industry condition requires value added derived from any kind possible source such as improvement to contract management by eliminating its problems.

Therefore it requires an approach to explore the business situation with conceptual framework as illustrated in Figure 4.

This final project uses method of case study with data collection by interview and focus group discussion with especially practitioners in supply chain area within BBJ.

Conceptual Framework

Conceptual framework is established with purpose as guideline of this paper to research business issue related to the theme and generate the solution of the problem. Conceptual framework is formed from understanding business issue, mapping the problem, analyzing problem to get the root cause, development and assessment of alternatives, deciding solutions, and finished with implementation of the program.

Problem Mapping

Kepner-Tregoe approach maps the problem by understanding position of situation to select the suitable tool.

Situational analysis prioritizes handling the problem considering its impact, urgency, and trend. By detecting priority, it helps management to select which problem to be solved first.

The approach divides into 3 types of analysis that is problem analysis, decision analysis, and potential

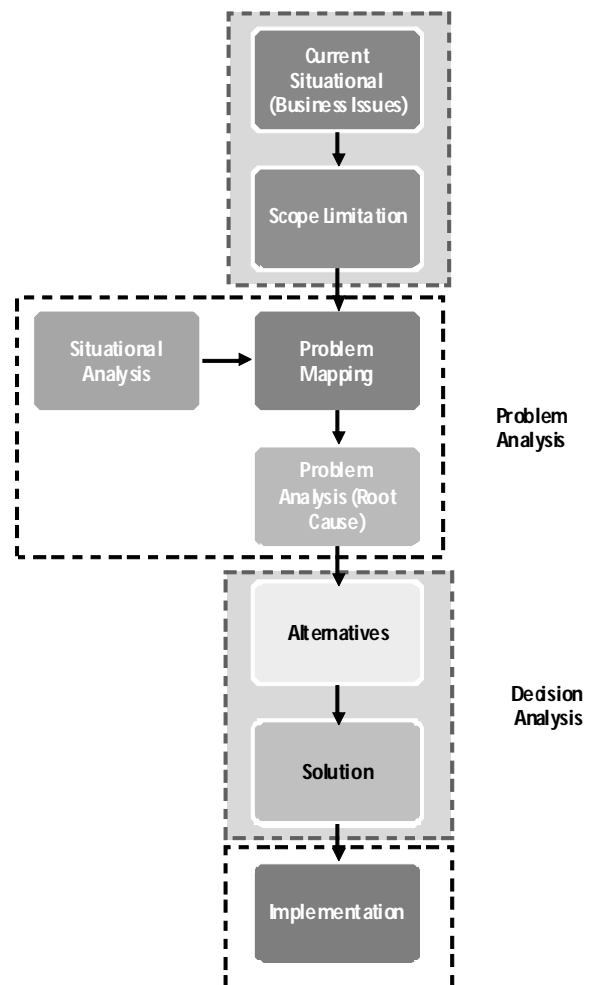


Figure 4. Conceptual Framework

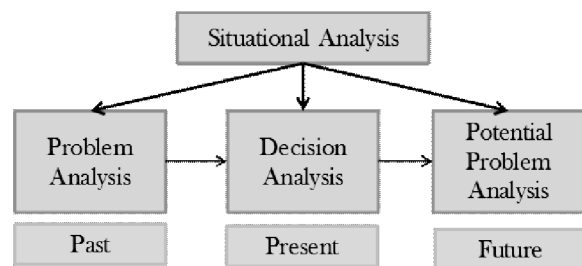


Figure 5. KT Approach

problem analysis. Problem analysis is used to understand what deviations are and how it occurs, decision analysis is how to correct the deviation, and potential problem analysis is how to prevent future problem. However in this paper, potential problem analysis is not discussed.

Table 1. Situational Analysis

No	Problem	Category (refer to 5-Right Principles)	Impact (Criticality)	Timing (Urgency)	Trend	Priority
1	Lead time of tender process is longer than target	Time	High	High	Low	High
2	Expired contracts run without contractual coverage	Quantity	High	High	High	High
3	Customer spends more than target or budget	Price	Medium	Low	High	Medium
4	Number of dispute in contract implementation increase	Quality	High	Medium	High	Medium
5	Actual contract performance is unmonitored	Quality	High	Medium	Medium	High

Root Causes

To understand the root causes, why-why analysis is used and described as in Figure 6 below. The first level of why-why analysis refers to purchasing principles i.e. 5 rights: right time, right quantity, right quality, right price, and right place (for this case, right place is not available).

Lead time is indicator to measure whether the right time is in place or not. Supply Department defines target for lead time of 5 working day for order and 3 months for Contract. As actual lead time is under the target and does not meet the internal customers, complains arise. Root causes of this part are: (1) Lack of resources. (2) Knowledge and skill of staff (3) Staff motivation. (4) Low value shall be approved by Senior Management (5) SOP is complicated or required more socializations.

Turnover is indicator to measure the right-quantity principle which is calculated by quantity of request (in) and quantity of contract or award produced (out) during period. 90% is department target both for order and contract. There are expired contracts run without contractual coverage.

Root causes of this part are: (1) Lack of resources. (2) Knowledge and skill of staff. (3) Staff motivation. (4) No appropriate monitoring system.

Saving is indicator to measure the right-price principle. In other side, efficient usage is related indicator in term of cost for the company which is defined: $\text{Cost} = \text{Price} \times \text{Usage}$. Root causes of this part are: (1) Not optimum cost reduction method. (2) No appropriate cost control and reminder system. (3) Inaccurate owner estimation.

Right quality is also one of the purchasing principles. Chartered Institute of Purchasing and Supply in Understanding Purchasing Principles defines

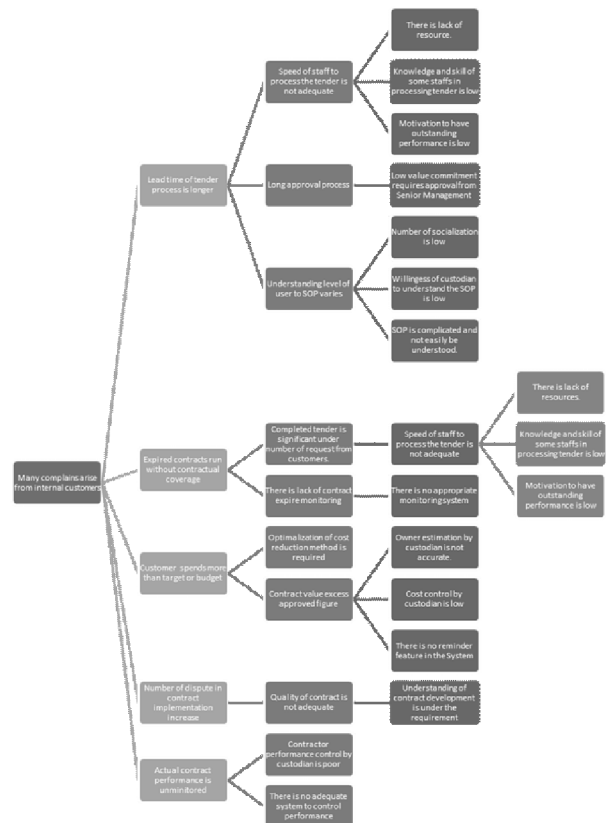


Figure 6. Why-Why Analysis

quality as: (1) conformance to specification viz. describes quality as getting a product or service that does was specified, or (2) fitness for purpose viz. describes quality in terms of whether the product or service does what is required, and is perhaps of more use internally to the purchasing organization.

Root causes of this part are: (1) Knowledge and skill of staff. (2) No appropriate performance control and control system.

The root causes can be summarized as follow. (1) Lack of resources. (2) Knowledge and skill of staff. (3) Staff motivation. (4) No appropriate control and system (monitoring, control, reminder). (5) Not optimum cost reduction method. (6) Inaccurate owner estimation. (7) Less appropriate SOP.

RESULTS AND DISCUSSION

Alternative of Business Solutions

Alternative of solution is required to decide the solution of the business. To develop alternative of solution, framework is described as in Figure 7 above.

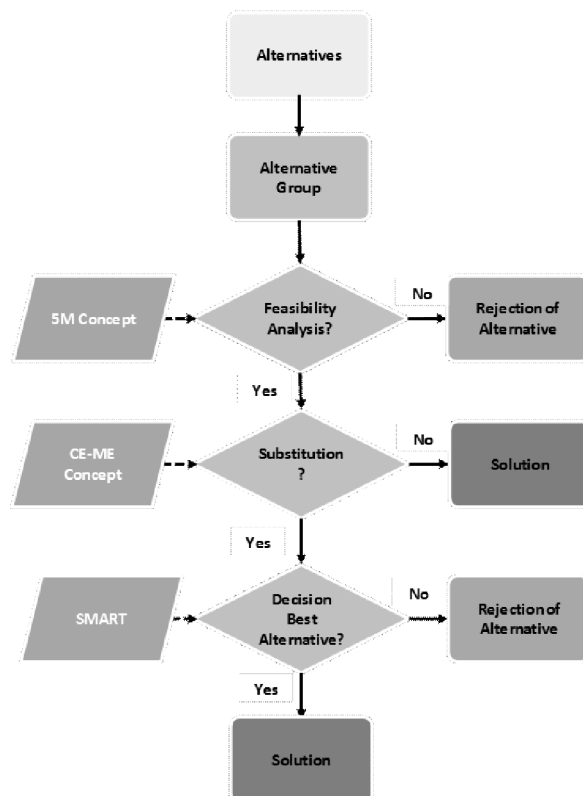


Figure 7. Framework for Alternative Solution Development

Alternatives are grouped and analyzed its feasibility. Decision is analyzed to form solutions.

Source of Alternative Solution

Alternative of solutions will be developed by correlating the root causes with source of alternatives which are: (1) Contract management strategy, (2) MARS model, (3) Other.

Using several source of alternative will provide advantage that: (1) Alternative is sought from concepts i.e. strategy model and MARS model (2) Source may complement to other one so that make comprehensive alternatives

Contract Management Strategy

Refers to Chartered Institute of Purchasing and Supply in Understanding Purchasing Principles, contract management is process ensure contract performed to standard fully meets objectives and expectations agreed, from identification of

requirement to completion of contract. Benefits of contract management may include: improved control in execution of the contract, improved performance by the contractor, better value for money through improved control of costs and quality, better anticipation of risks, and better management of legal and commercial issues.

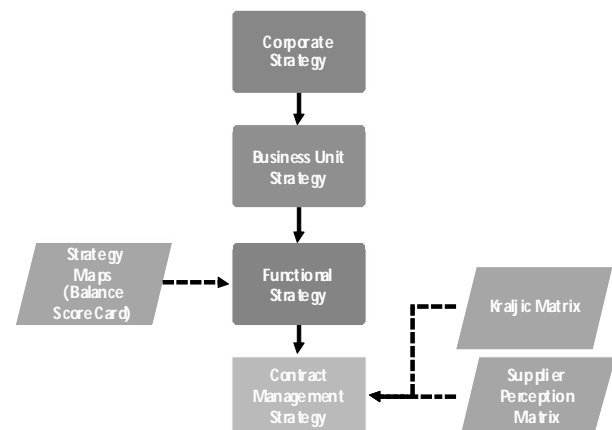


Figure 8. Framework - Contract Management Strategy

Framework for development of contract management strategy is shown in Figure 8.

Role of supply is often defined as to purchase goods and service required of the right quality, the right quantity, delivery to the right place, at the right time, for the right price, known as five rights of purchasing and supply. In relation to, objective of contract management is cost, quality, quantity, time, and place.

Kraljic's Supply Matrix divides strategies into four quadrants based on two dimensions. The two dimension are as follow. (1) Profit impact or value i.e. volume purchased or percentage of total purchased cost or impact on product quality or business growth. (2) Supply risk i.e. availability or number of suppliers or competitive demand or make-or-buy (do-in-house-or-outsourced) opportunities or substitution opportunities. The Supply risk can be assessed by Porter's Five Forces.

MARS Model of Individual Behavior

The program is based on MARS model in order to increase quality of individual working behavior.

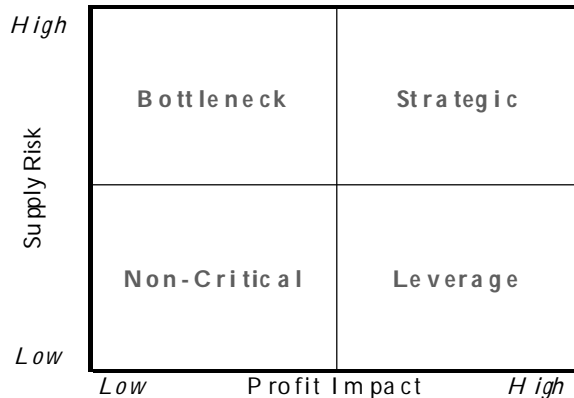


Figure 9. Kraljic Matrix

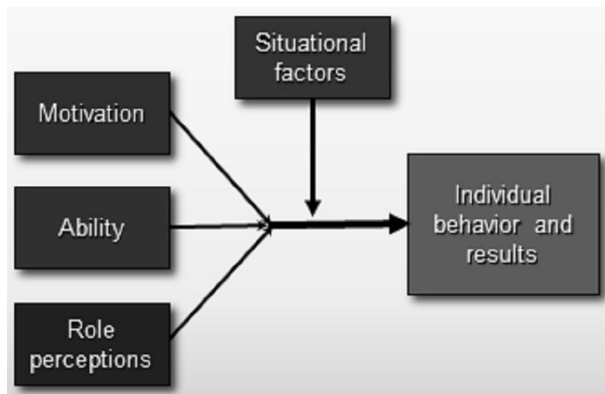


Figure 10. MARS Model of Individual Behavior

MARS model refers to:

Motivation

Motivation is internal forces that affect a person's voluntary choice of behavior.

Ability

Ability covers capability (natural aptitudes and learned capabilities required to successfully complete a task), competencies (personal characteristics that lead to superior performance), and job matching (selecting, developing, redesigning).

Role Perceptions

Beliefs about what behavior is required to achieve the desired results: understanding what tasks to perform, understanding relative importance of tasks, understanding preferred behaviors to accomplish tasks.

Situational

Situational means environmental conditions beyond the individual's short-term control that constrain or facilitate behavior such as time, people, budget, and work facilities.

Alternatives of solution

Alternatives from the above sources are compiled and grouped.

Root Cause: Lack of resources

Alternative of solutions: (1) Efficient Management. This group is compiled from following alternatives: i) establish long-term partnerships with contractors in order to firm the provision of service. ii) simplify and automate the procurement process such as: (a) direct appointment to provide fast processing provided that policy and procedure has been in place (b) blanket ordering (empowering end users to make call-off orders against negotiated agreements) or framework agreement (1) Increasing staffs' ability: i) Training. ii) Coaching and Delegation. iii) Rotation and Back Up. iv) Knowledge Sharing and Center. v) Succession (3) Recruitment of additional man power (4) Replacement of low performance staff with new competent staff.

In case of root cause "lack of resources", there are 4 groups of alternatives: (1) Efficient management. (2) Increasing staffs' ability. (3) Recruitment of additional man power. (4) Replacement of low performance staff with new competent staff.

Root Cause: Knowledge and skill of staff.

Alternative of solutions are combined into 2 groups as follow: (1) Increasing staffs' ability. (2) Replacement of low performance staff with new competent staff.

Root Cause: Staff motivation. Alternative of solutions are formed into 1 group as follow: (1) Increasing staffs' motivation i) Reward and retention. ii) Individual communication session iii) Motivation workshop. iv) Special treatment. Root Cause: No appropriate control and system (monitoring, control, reminder)

There are 3 groups for alternative of solutions as follow: (1) Improvement of policy and procedure i) Incentives and penalties in contracts, ii) Update and review SOP. iii) Internal department audit (2)

Development of simple spreadsheet for database, monitoring, control, and reminder. (3) Modification of Enterprise Resources Planning Program including development of supply website

Root Cause: No optimum cost reduction method

Alternative of solutions is grouped into 2 as follow: (1) Increasing staffs' ability. (2) Implementation of optimum cost strategy i) competitions between contractors (1) provision by multi providers (2) sourcing other contractors to be invited in tender ii) timing and size of procurement of service (1) compile many service orders (on-spot order) become contract service or several similar contract service into 1-package contract. (2) procure on right timing (3) period of contract (either short terms or long term refers to quadrant of Kraljic matrix) iii) developing mutually beneficial strategic relationships with contractors.

Root Cause: Inaccurate owner estimation

Group "Increase staffs' ability" is addressed for Supply Department staff. To simplify, knowledge sharing for custodian is included in this group. Then alternative of solution is formed into 2 groups as follow. (1) Increasing staffs' ability. (2) Owner Estimation review. i) Owner estimation is reviewed by other related department such as Business Analysis or Supply. ii) Using standard rate or index if applicable.

Root Cause: Less appropriate SOP

Alternative of solutions is formed into 2 groups as follow. (1) Improvement of policy and procedure i) Update and review SOP (2) Holding regular socialization.

Assessment of Alternatives

Above potential groups of solution are assessed its feasibility using concept of 5M: Man, Method, Money, Machine, and Material. Particular to this research, following will be the definition of each M. (1) Man: includes man power including management to execute the solution. (2) Method: includes strategy, policy and procedure including law when applicable. (3) Money: relates to available budget. (4) Machine: consists of software and hardware which Supply Department has possessed. (5) Material: includes goods and consumables.

With similar approach, assessment of alternatives for rest of root causes is discussed, then summarized as follow.

Table 2. Summary of Alternative Assessment

Group of alternative	Feasibility analysis
Efficient management	Feasible
Increasing staffs' ability	Feasible
Recruitment of additional man power	Not Feasible
Replacement of low performance staff	Feasible
Increasing staffs' motivation	Feasible
Improvement of policy and procedure	Feasible
Development of simple spreadsheet	Feasible
Modification of ERP	Feasible, staged
Implementation of optimum cost strategy	Feasible
Owner Estimation review	Feasible
Holding regular socialization	Feasible

Decision analysis is process to develop and evaluate alternatives then decide feasible solution. Although commonly decision analysis is to make decision to only one best solution, it is understood that solution must be only one is not a mandatory requirement in decision analysis. There are many alternatives can be as solutions.

There is 2 cases of groups which are substituted each other. (1) Case 1: Increasing staffs' ability and Replacement of low performance staff with new competent staff (mutually exclusive). (2) Case 2: Development of simple spreadsheet and Modification of ERP (not mutually exclusive, but it will be useless implementing both group as one substitutes other.

Decision Making: SMART

To analyze alternatives of solution which cannot be complemented each other as described in previous Section; decision making is made with simple multi attributes rating technique (SMART).

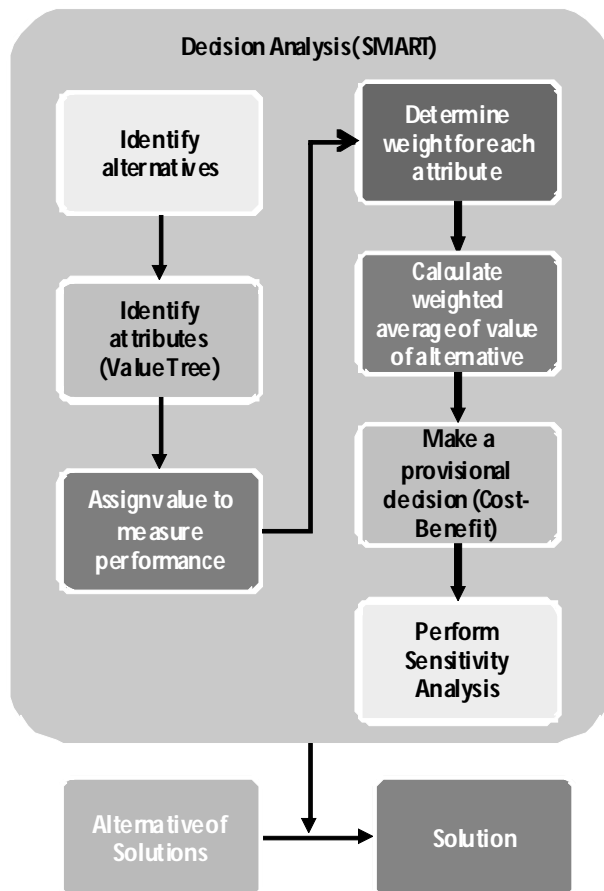


Figure 11. Decision Making with SMART method

Paul Goodwin and George Wright in Decision Analysis for Management Judgment state: "SMART has been widely applied because of its relative simplicity and transparency, which means that decision-makers from many different backgrounds can easily apply the method and understand its recommendations. Although SMART may not always capture all the detail and complexities of a decision, it can be an excellent method for illuminating the important aspects of the problem and how they relate to each other. Often this is sufficient for a decision to be made with confidence and insight." (2009:33–34). Goodwin and Wright, 2009).

Analysis for these 2 cases is described as follow.

Case 1

Problem: (1) Knowledge and skill of staff; (2) Lack of resource

Objective: Minimize complain by improving internal customer service level

Alternatives: (a) Increasing staffs' ability. (b) Replacement of low performance staff with new competent staff.

Value of overall benefits against cost is plotted as in Figure 12.

"Increase staff ability" is the most efficient alternative.

Note: Efficient frontier line does not exist but as form of point.

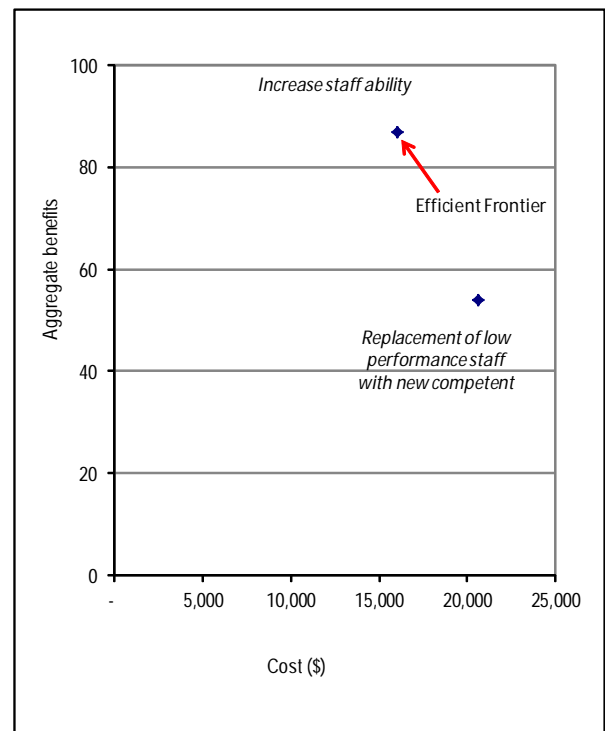


Figure 12. Cost and Benefit – Case 1

Case 2

Problem: No appropriate control and system (monitoring, control, reminder)

Objective: Minimize complain by improving internal customer service level

Alternatives: (a) Development of simple spreadsheet. (b) Modification of ERP Ellipse

Value of overall benefits against cost is plotted as in Figure 13.

Benefit versus cost is traded and results decision maker should select "Development of simple spreadsheet"

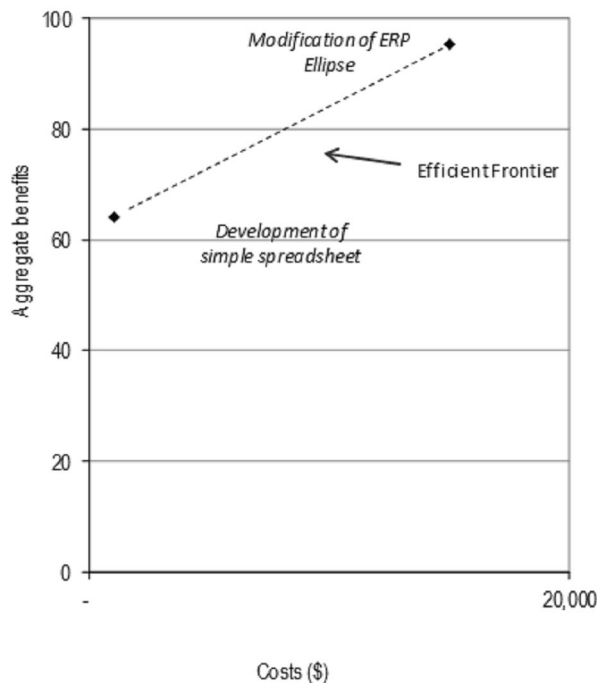


Figure 13. Cost and Benefit - Case 2

Business Solution

As discussed above, solutions are as follow. (1) Efficient management. (2) Increasing staffs' ability. (3) Increasing staffs' motivation. (4) Improvement of policy and procedure. (5) Development of simple spreadsheet. (6) Implementation of optimum cost strategy. (7) Owner Estimation review. (8) Holding regular socialization

CONCLUSION AND SUGGESTION

Conclusion

This paper results solution from problem as stipulated in Figure 3. Solutions will solve problem which occurs to improve contract management in Supply Department. Relationship between problem, root cause and its solution is shown in below matrix.

Value Added

These solutions will deliver value added to BBJ. Following are example of the value added. (1)

Table 3. Problem - Root Cause - Solution Matrix

Problem-Root Cause- Solution Matrix		Problem					
		Lead time of tender process is longer	Expired contracts run without contractual coverage	Customer spend more than target or budget	Number of dispute in contract implementation increase	Actual contract performance is unminibred	
Root Cause	Lack of resources	v Efficient management	v Efficient management				
		v Increasing staffs' ability	v Increasing staffs' ability				
	Knowledge and skill of staff	v Increasing staffs' ability	v Increasing staffs' ability	v Increasing staffs' ability	v Increasing staffs' ability	v Increasing staffs' ability	
	Staff motivation	v Increasing staffs' motivation	v Increasing staffs' motivation	v Increasing staffs' motivation			
	No appropriate control and system (monitoring, control, reminder)		v Improvement of policy and procedure	v Improvement of policy and procedure	v Improvement of policy and procedure	v Improvement of policy and procedure	
			v Development of simple spreadsheet for database, monitoring, control, and reminder	v Development of simple spreadsheet for database, monitoring, control, and reminder	v Development of simple spreadsheet for database, monitoring, control, and reminder	v Development of simple spreadsheet for database, monitoring, control, and reminder	
	No optimum cost reduction method			v Increasing staffs' ability			
				v Implementation of optimum cost strategy			
	Inaccurate owner estimation			v Increasing staffs' ability			
				v Owner Estimation review			
	Less appropriate SOP	v Improvement of policy and procedure					
		v Holding regular socialization					

Increasing staffs productivity will lead to higher saving or better contract quality. (2) Monitoring the expiry date of the contract and processing earlier with sufficient period of time, i.e. 3 months for a standard contract until 24 months for complicated major contract, will add value to BBJ in form of optimum price since the company has high bargaining power in form of there are some competitors compete or in form of sufficient time to negotiate with the lowest bidders in case of tender or negotiate with the existing contractor in case of extension to existing contract. (3) Delay of tender process may disrupt BBJ operation especially for critical tender which may lead to loss of production day. (4) With well monitored contract performance, BBJ will get benefits as intended i.e. well contractor performance and avoid the additional cost. (5) In the absence of a dispute, the losses i.e. from the time consumed to deal with a dispute, costs, personnel, operational disruptions, can be avoided. (6) Well contract value control minimize over budget.

Suggestion

As assessment of feasibility of solutions has been taken place, it is suggested that solutions are executed following by evaluation and control, and continuous improvement. Especially for contract management strategy, Pareto principle will be implemented. The

program shall be prioritized for 20% items which have 80% value i.e. Full Maintenance Contract (FMC) for heavy equipment, mining contract, earthwork contract, and blasting service.

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