Information system for purchasing and inventory control using the Software Application Package

1.   Strength

. The role of information system in the purchasing function is to help realise the goal of centralising the purchasing activity of both Megasteel and Amsteel. A common type of application package is to be used in both plants. Therefore, the retrieval of information from both plant will be much easier. The central purchasing department will then have asses to the system in both plants, this would mean strengthening the muscle of central purchasing department. Data integrity will not be an issue as information can be directly accessible.

The role of central purchasing department as an external monitor can be enhanced with the help of information system. Monitoring is achieved when the information of purchase, i.e. price, quantity, supplier can be analysed by the central purchase department.

The control over the source of supply is achieved when the central purchasing department becomes the approval authority on the vendor and ensures that only approved vendor is input into the system. This control of source is very important when there is contract of supply with the particular supplier.

Inventory control is more efficient when the concept of consignment stock or pay-as-consumed is introduced in Megasteel. Under this concept, the supplier still legally owns the material received and Megasteel do not need to pay if the material is not used. Using the information system networking facility, the supplier can be linked up to

check the inventory stock level. This helps to facilitate the material replenishment and on-time billing and payment to the supplier.

The end result will be a much lower inventory cost and labour cost in inventory planning in Megasteel.

2 . . <u>Weaknesses</u>

Using the application package may cause several disadvantage to Megasteel. The software packages are not designed to the exact requirement of the purchasing and inventory control department. Conversion and modification needs to be carry out on the software package. The amount of cost incurred in this modification can be tremendous thus defeating the purpose of cost saving.

The current information system support team from Amsteel has a good experience in customisation of the existing BPCS system. If Megasteel were to adopt the same system in Amsteel, the modification cost can be minimised. However, if Megasteel chose to adopt the same application, some of the central purchase objectives may not be able to realise.

The current package used in Amsteel is rather basic for any of the purchasing and inventory control department. It lacks the features in performance measure and statistic tabulation. An external package will be required to perform this task hence incurring more cost and time.
It's highly recommended that the new application package that is to be purchase by Megasteel shall incorporate the charting and statistics features and allows flexibility in further upgrading.

Skill of the internal information system staff must be properly trained to enable own maintenance and system enhancement.

3. Threats

The used of application package brings benefit in saving time and cost but it also take away the opportunity of the internal staff to practise their skill in developing a new system. Without this exposure, the internal staff will always be a stranger to the other system development methodology.

Megasteel may be over relying on the system supplier if the internal staff is not competent to maintain the system. More unanticipated problem will be faced if the relationship with the supplier turns bad due to unforeseen circumstances. Or the worst case when the supplier gone out of business leaving the end-user in despair.

The possible danger of selecting a package which is cheap in price may turn out to be higher in interface cost, because central purchasing department will need to be able to link-up to both systems in Amsteel and Megasteel.

The central purchasing department which cover both Amsteel and Megasteel's operation will mean that the existing data in Amsteel will need to be converted and the history data will be difficult to be retrieved.

As for the Amsteel's case, much effort and time would be required to replace the existing software to a new software.

When new software is introduced there will be efforts required to change the management practise and reengineering may be required.

4. Opportunity

The top priority of Megasteel is to start operation as soon as possible. Purchasing and inventory control as supporting functions in the value

chain must be put into proper operation as soon as possible. The smooth supply of material will be the top priority for Megasteel. Therefore, the application package shall be the suitable solution for Megasteel. The earlier Megasteel goes into production the sooner it generates revenue for the shareholder.

It is impossible for Megasteel to wait for another twelve months for the development of information system because AFTA will come into force and Megasteel's product must come on stream to be protected under this scheme. This is the opportunity not to be missed.

Suggested Implementation Plan

Steering Committee

It is recommended that a steering committee is to be set up for this project. The role of the Project steering committee is to provide overall guidance to the working committee as well as to resolve management issues arising from the project. The recommended steering committee members shall consist of the following :-

Chairman	The General Manager of Megasteel Sdn Bhd
Secretary	The Chief Accountant of Megasteel Sdn Bhd
Member	The Purchasing Manager The Inventory Control Manager The Information System Manager

The involvement of top management is very important to this project. Without the support of top management, there will likely be problems in slow decision making thus consuming longer time than required.

Working Committee

.Working committee is required to provide the necessary knowledge regarding the existing operation, the bottlenecks, requirements and the future plans of the purchasing and inventory control division. The Working Committee member shall consist of the followings :-

Project Manager	IS development Manager Purchasing Manager
Member	Technical staffs of IS dept. staffs of purchasing department staffs of material control department

Software Application Package Appraisal

The following approach is recommended for the appraisal preparation, it is to be carried out one after another.

1 Application requirement
   . The existing main processes and areas of improvement (based on the Amsteel's experience) were documented and used for the evaluation of the product suitability of the various proposed systems.

2 Request for proposal / quotation
   To ensure proper comparison on proposal / quotations, standard guidelines encompassing the system requirements and application parameters were developed and issued to the vendors to request for their proposal / quotations.

3 Executive Overview Presentation
   The vendors will be invited to present a high level overview of themselves and their software to the project team for the preliminary evaluation, the area of focus shall be as follows :-

   Profile of Vendor
   1. Background
   2. Track Record
   3. Staff Strength
   4. System Support
   5. Major Customer Reference Sites

   Profile of Product
   1. Research & Development
   2. High Level Overview
   3. Future Growth Path

4　　Appraisal on the proposal

The various proposal from the vendor shall be evaluated based on the following criteria :

	Criteria	Weight
1.	Product Suitability	5
2.	Implementation	3
3.	Support	3
4.	Reference site	3
5.	Cost	4
6.	Vendor Profile	2

The weight of each criteria is obtained through a collection of opinion of all the end-users and the technical staffs. The end-users are requested to give a weight range from 1 to 5 on each of the criteria. The weight given on each criteria by the end-users could vary from one to another as it shown the importance to the particular end-user. The average weight of each criteria is then obtained and the Megasteel end-users have a preference as shown in the above table.

Vendors

There are quite a number of vendors available in the market, however, not all suitable for Megasteel environment. The following software packages could be useful to Megasteel :-

No.	Software	Hardware Required
1.	SAP R/3	IBM AS/400e Server
2.	BPCS Version 6.0 BPCS Version 4.05 CD & customisation	IBM AS/400e Server IBM AS/400e System
3.	BAAN IV	IBM RS/6000

Megasteel has an option to adopt to the old Amsteel system that is under BPCS. However, it is recommended that the existing system in Amsteel to be remedied to Y2K compliance. Nevertheless, the recommended solution is for Megasteel is to have an improved and well-developed software, therefore spending more money on the old system without any improvement shall be last choice for Megasteel.

Hardware Set-up Architecture

It was pre-determined that Megasteel shall have an individual machine and should not share a same machine with Amsteel. The rational is that the volume of transaction in Megasteel will be very high and Amsteel is also having a high volume of transaction therefore a distributed design will be the preference. Both system is to be linked up via a local area network with the help of a lease line from the telecommunication company.

Megasteel shall have its own support MIS Support Team for the daily maintenance of the system.

.Evaluate the Product Suitability

Software

A preliminary evaluation had found that SAP is closer to the requirement and available with workaround processes. Thus SAP is recommended.
Much more modification will be required in BAAN and SSA applications. The modification cost could be higher.

Source Code

The source code for SAP, BPCS V4.05 CD, BPCS V6.0 and BAAN application must be evaluated. The source code and tools, which are not standard and available, will be a problem for future maintenance and enhancement.

Functional and technical training

How much of training is required and cost incurred must be planned accordingly.

Time Frame

The involvement of user will be one of the factor in the length of time taken. A proper work schedule is a must to avoid unnecessary delay. Penalty will be imposed on the supplier if found to be the supplier's fault.

System Support from Vendor

External support, from the vendor, must be evaluated based on its staff's strength, skill, reliability and commitment.
Internal support, mainly the technical staff should be checked on its capability and workload.

Package User References

The user of the software package can be contacted to check on the reliability of the vendor and the potential problem of the software package.

Vendor Profile

Evaluation on vendor profile is important because the support and maintenance in the future will be affected if the vendor gone out of business.

Evaluation of cost

The evaluation should be done on the following items :-

    1.   Software package

    2.   Implementation cost (basically the consultant man-hour charge)

    3.   Maintenance cost for software

    4.   Maintenance cost for hardware

The working committee shall not forget that the total budget for the project is One million Ringgit.

Presentation of Result

The result of evaluation can be tabulated in the following manner for decision making:

Description	Weight	SAP SAP R/3	SSA BPCS V4.05	SSA BPCS V6.0	BAAN BAAN IV
1. Product Suitability	5				
2. Implementation	3				
3. Support	3				
4. Reference site	3				
5. Cost	4				
6. Vendor Profile	2				
Total					
Score : 1 - low					
4 - high					

The highest total score will be the one that is likely to be implemented and recommended for purchase.

Conclusion

The current economy down turn had been the main determining factor in this information system plan. The main constraint are financial budget, technical competency of the IS staffs and the small number of workforce. Therefore a balance in the budget and the information system requirement must be obtained. Out sourcing could be a better choice for the development of information system for the Central Purchasing and inventory because the policy of central purchase would not have to be compromised.

This plan of information system may need to be reviewed after a span of three years when Megasteel is stabilised and healthy in terms of financial strength. It is also recommended that the performance evaluation on the information system to be carried out as a follow up to this plan. The measurement of this information system could be controversial but the main point is that end - user and the technical staff must always keep up with the latest IT development.

There will be another new steel plant project under Amsteel Mills Sdn Bhd, which is currently stranded due to economy slow down but expected to be revived after the recovery of economy. Central purchase policy shall also applied on this new plant therefore the development of information system should learn from this Megasteel project. More time and effort shall be allotted as compared to this Megasteel project.