UNIVERSITI PUTRA MALAYSIA

A CASE STUDY ON BHP STEEL (MALAYSIA) SDN. BHD.

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A CASE STUDY ON
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By

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EXECUTIVE SUMMARY

BHP Steel (Malaysia) Sdn Bhd (BSM) was a joint venture company between BHP Steel (JLA) Pty Ltd (BHP) and PNB Equity Resource Corporation Sdn Bhd (PERC). The joint venture agreement with PERC, a wholly owned subsidiary company of Permodalan Nasional Berhad (PNB) was signed on 13th June 1995, with an authorized capital of RM200 million. The issued paid up capital is RM100 million. BSM was 60% owned by BHP and 40% owned by PERC. Though new in this industry, BSM has managed to put themselves as one of the key players in construction industry. This is due to BSM is one of the subsidiaries for BHP Steel Pty (JLA) Australia.

Orders intake for past few years has been quite good but lately it seem the orders has been on the reducing trend. Complaints from customers have increased and customers have voice out their unhappiness openly. Result from Customers' Satisfaction survey confirmed that they are not happy with current process and the way they have been treated by BSM's employee. They have commented though technology and quality are important factors in the product, delivery and good service plays equal importance on ensuring BSM retain its customers. They have identified possibilities that cause the delays:

1. Too many steps involved in doing simple task. Some processes maybe obsolete and redundant and can do without.
2. Every department is task-oriented, and they only know what happened in their respective department.

3. Too many manual documents for generating sales contract, shop floor paper, delivery note and invoice. Tendency to miss-out or wrong information keyed-in in the documents and timely checking and reconciliation.
4. No in-depth knowledge in SAP and its function. Incompetent of the employee to perform certain task resulted to wrong order entered in the system, missed order, wrong scheduling, wrong order and product produced, wrong delivery and late in billing.

Due to this, the management has decided to review the process and map the process to find out the loop-hole. Thus, reengineering process is one of the options that can help to review the systems.

Reengineering mean abandoning long-established procedures and looking a fresh as the work required creating a company's product and services and delivering the value to the customer. It also means tossing aside old system and starting over. It involves going back to the beginning and inventing a better way of doing work. The formal definition of reengineering is "the fundamental rethinking and radical redesign of business processes to bring dramatic changes and improvements in performance".

In implementing the reengineering process, it involves the leader, the process owner, the reengineering team and czar. And each party must know their function to ensure the smooth running of the reengineering. The failure of the reengineering is very much dependent on a few factors such as people, process and tools. It is important to ensure that people or employees understand why or the objective of reengineering. As the successful of the reengineering process depend on the willingness of the employees accepting changes. Commitment from top management is equally important and they

clear vision of the direction of how the new process should work. This include committed to the implementation of the processes. The management has to cultivate the corporate culture for the people to participate in the reengineering and in line with the new mission and objective of the company.

From the reengineering process, the management has managed to identify redundant and obsolete tasks that can do without. Process and activities has reduced tremendously and have become more customer-focus. However, reengineering need more than mapping the process. It involves good information technology, constant follow-up and more importantly the readiness and willingness of the employees to change and accept new changes.

TABLE OF CONTENTS

PART 1: CASE TEXT

CASE TEXT

BHP STEEL (MALAYSIA) SDN. BHD: Process Reengineering

INTRODUCTION

Barry was stunned when he looked at the result from the customers' satisfaction survey conducted by Marketing Department. He could not believe on some comments made by customers on services provided by BHP Steel (Malaysia) Sdn Bhd (BSM). According to major customers, services has become from "so and so" to almost worse. Competitors were perceived to be given good or prompt services to their customers. Some of BSM's customers has tried to use product from competitors and were happy with the services rendered to them. A question raised by most customers that they have paid high price for the product and expected to have high quality services from the company. But, what they expected were not materialised.

He decided to have an ad-hoc meeting with Sales and Marketing Department and Logistic Department to find out what went wrong. Has service become bad as indicated in the survey, or current system and practices were no longer suitable for current situation. What about the Manufacturing and Finance Department, are they been given good support to the other departments i.e. Sales and Marketing and Logistics? Are they being customer-focused or task-focused? What about the performance indicator, is the departments have one vision or separate? So many questions were in his mind. Competitors such as Yung Kong and Ornasteel have become so aggressive in promoting their products and upgrading the services to customer. What has BSM done to match the competitors?

Data gathered from the meeting and survey, indicated that competitors able to deliver products in shorter lead-time. In construction industry where most of the orders were project-based, delivery is very important as the completeness of projects depend on the delivery of the products. If supplier failed to deliver the products on time, it would affect the project and supplier will be slapped with late delivery charges which can reach to RM1,000.00 per day. On certain occasion, BSM failed to deliver the products as requested. Reason being, delivery for BSM was measured according to week whilst customer by days. As long as products were delivered in that week regardless any day, it was considered as "delivery-on-time". But, for customer, their delivery was measured by day and if delayed it is considered as delay. For example products has to reach project site on Monday, but BSM delivered the product on Tuesday, same week. To customer's eye, BSM has failed in delivery but not for BSM. On top of that, there were a few jobs or function redundant and can do without. But, Sales and Marketing and Logistics personnel still performed the task. Some of the personnel did not know why they have to do some of the works.

"Should we still follow current processes and procedure knowing that some of the function add no value to us?" asked Barry. "Will the services improve if we do our work differently and smartly?" added Barry again. The Sales and marketing and Logistics team promised to discuss the issue and suggested maybe process mapping will helped them to see the issues clearly. From that, hopefully they managed to find the solutions.

"Let me know if you all managed to find good solution to improve the situation> My door is always open should you need my input or ideas. But, it better be good" commented Barry to end the meeting. Jobs and tasks were divided to both departments to look into their process. Identified the processes and what can be improved. The same tasks will be given to Manufacturing and Finance Department. Once ready, all the processes will be tabled and decided next steps.

COMPANY BACKGROUND

Broken Hill Proprietary (BHP)

The Broken Hill Proprietary Company Limited (BHP) was one of Australia's largest public listed companies. It was a major international resources company and operates three business groups - Minerals, Petroleum and Steel. Headquartered in Melbourne, Australia, BHP has offices, operations, exploration and development sites in approximately 50 countries and has strength of more than 50,000 employees worldwide. In all its operations, BHP contributed to the growth and created a high performance organisation with an increasing emphasis on quality and service, improving margins, volumes and productivity, while maintaining its focus on safety and environmental responsibility. BHP being the world's leading steel maker in coated steel technologies, has a wide range of metallic coated and painted steel manufactured in 12 metallic coating lines and 13 paint lines world-wide.

The company continued to diversify its product range and markets, whilst maintaining its position as a low cost, high quality producer. One the ways to diversify the markets, BHP has decided to open up branches in Asia and set-up a few mills in Thailand, Indonesia and Malaysia. The setting up of locally owned production lines while maintaining strong relations with Australia has two advantages - customers were guaranteed locally manufactured and locally delivered high quality BHP products and the opportunity for management and product and process technology transfer is tremendous. The decision to set-up mills in Asia also to ensure that the ownership of the trade marks ZINCALUME® steel and Clean COLORBOND® steel reside within BHP. The purpose was to ensure that the quality of the product was controlled. Thus, only BHP manufactured these products.

BHP Steel (Malaysia) Sdn Bhd

BHP Steel (Malaysia) Sdn Bhd (BSM) was a joint venture company between BHP Steel (JLA) Pty Ltd (BHP) and PNB Equity Resource Corporation Sdn Bhd (PERC). The joint venture agreement with PERC, a wholly owned subsidiary company of Permodalan Nasional Berhad (PNB) was signed on 13th June 1995, with an authorised capital of RM200 million. The issued paid up capital is RM100 million. BSM was 60% owned by BHP and 40% owned by PERC.

BSM employed 175 people to facilitate in the management and operations of it coating plant situated in Kapar, Selangor. The plant commenced production of prepainted steel on 18 October 1996, less than two months after the first coil was slit on the slitting line on 26 August 1996. The metallic coating line commenced production of zinc/aluminium

alloy-coated steel on 24 March 1997. Both the paint line and metallic coating line have a total production capacity of 150,000 metric tonnes per annum of coated steel.

In Malaysia, BSM is the one and only local manufacturer of both ZINCALUME® (zinc/aluminium alloy-coated) steel and Clean COLORBOND® (prepainted) steel which are made available to customers in Malaysia, Singapore, Brunei, Sri Lanka and China. The vision of BSM was to be the leader and preferred supplier of quality flat coated steel products targeted to market segments in Malaysia, Brunei and Singapore. The objective was to achieve the sales volume of 70,000 tonnes of metal-coated products within the first 12 months of production. These include to grow the BHP's share of the coated product in Malaysia and Singapore market, increased steel usage of prepainted and metallic coated products, monitored the new entrant in these market segments and developed value proposition of target segment or key customers.

The attributes and application of the product such as Clear resin coating resists scuffing and handling marks, requires no lubrication before roll-forming, high degree of corrosion resistance and has an excellent combination of physical and cut edge protection, easy welding and excellent formability (bending, folding, stamping, punching and crimping) and suitable for post-painting as no pre-prime treatment is required has brought a new dimension to the Malaysian building and construction industry. Thus, the product has become one of the most preferred products for construction.

Looking at the support and the product, BSM should not face any problem in securing new orders or businesses. However, things did not work as what is supposed to be. New

order intakes seem to maintain and customers started to compare with the services provided by the competitors. Something was amidst. More complaint received every day and more faxes were written to the President complaining on the services and the ways they been treated by the company. Good technology and good support from the parent company did not help BSM to capture more business. Services did matter.

It took longer time for BSM to process the Purchase Order (P/O) and it also took longer time for BSM to process the invoices and complaints. Customers were put in a guessing situation of what happened to their order as no one informed them on their order status. Things worsen when there was a productions failure. The information was forwarded to them if only they called and requested to know what happened to the delivery.

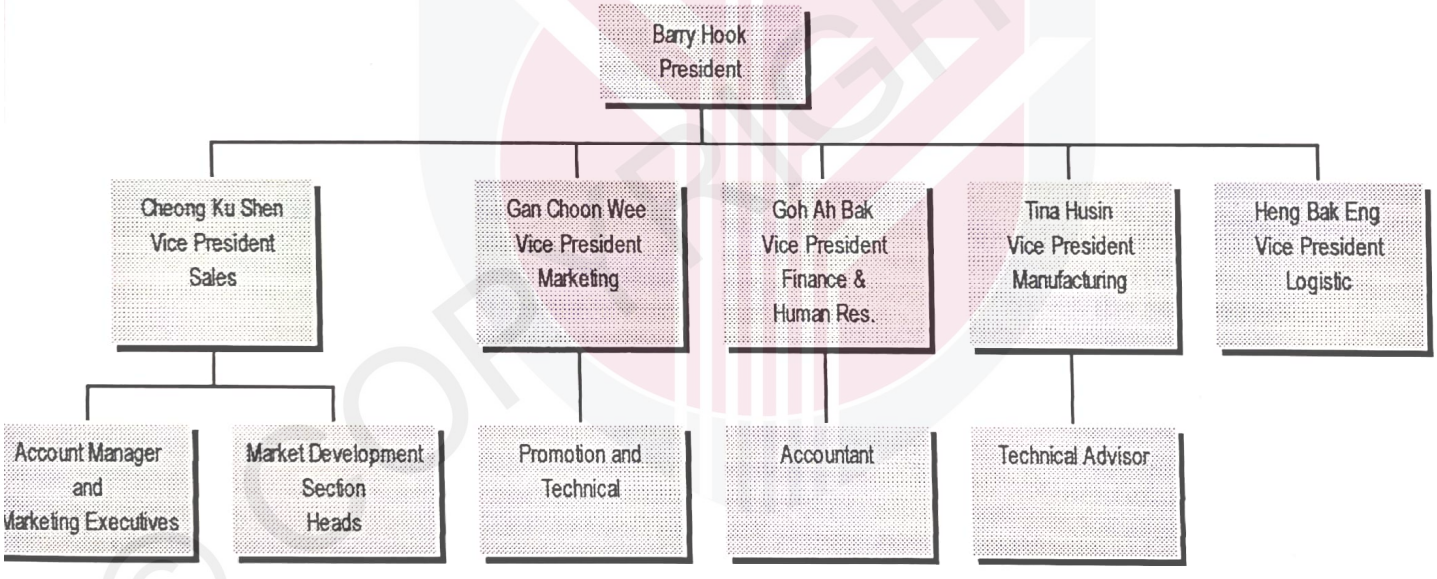
BSM used SAP system for the integrated process. It is a good system as its able to capture compete process from order entering to scheduling to production, despatch and invoicing. However, staff was not properly trained to use the system. It was more on-the-job training rather than formal training. New staffs were given the manual on how to operate the system or they were taught by the senior employee. Mistakes tend to recur as senior employee may impart wrong or shortcut way to perform the tasks. System can be abused or not properly used. More often than not, staffs tend to do task manually without using SAP system.

Overall financial performance of BSM was quite strong. From a negative cash flow company, the management has managed to turn the company into a healthy condition. The net profit margin has increased form 8.2% in 1999 to 15.6% in year 2000. Financial

leverage was at about 30% and return on assets (ROA) was at 7.4%. At the same time, shareholders has agreed to pump-in more money to finance some of new development in the company such as introduction of new product form T.V frames and air-condition frames. All the development would be launched in middle of year 2001.

Company Structure

BSM had an organization structure as shown in the following chart.



Barry Hook, an expatriate was the new President of BSM. Prior to that, he was the President of BHP Steel (New Zealand) Ltd. He had more than 20 year of experience in running the steel mill. Qualified and experienced Vice Presidents in running the company supported him. The former President has managed to turn the company from negative

cash flow to a million ringgit companies. And, the responsible felt on Barry shoulder to ensure the cash flow remained positive and profitable.

Sales and Marketing Department

The department was divided into a three sections i.e. Sales, Marketing and Promotion and Market Development. The Sales and Market Development was Mr Cheong Ku Shen while the Marketing and Gan Choon Wee headed Promotion. Both Mr Cheong and Mr Gan had more than 8 years experience in sales and marketing particularly in building material industry. The Sales sections were further divided into East Malaysia, Borneo, Singapore and exports market. Executive in Sales section concentrated mostly on roofing and walling segment and market development concentrated on manufacturing and non-traditional segment. Each section gave service only to its client. Such arrangement was established to provide better service. The sections had no overlapping of responsibilities, and each section would only know its own customers' needs, even though the process for each of the sections were identical. The process had sometimes upset some clients when their respective personnel were not around, and no one else was able to assist them. Marketing and promotion section concentrated on the promotion, customers' satisfaction survey and exhibition. They were in the office most of the time and the one attended customer's calls. However, the personnel were not familiar with the customer and unable to assist them whenever the sales executives were not around.

The market offers (include price and availability of product) were issued quarterly to the customers. Once it's confirmed, the Marketing Administer would update the pricing structure in SAP. SAP was a network used for the whole operation. Its linked all jobs started from order entry (Sales Contract) to production to invoice. If accepted, customer placed an order in line with the quarterly offer. They then would fax the Purchase Order to Marketing Department to be processed. However, sometimes the Purchase Order was not attended to, as the marketing personnel were not in the office. Beside sales, marketing personnel were also involved in complaint investigation and solution. In complaint investigation, marketing personnel were assisted by technical personnel in solving the issue. Current practice took about twenty-one days to solve one complaint whereas competitors took less than fourteen days to compensate customers. Customers would compare time taken by the competitor and BSM in terms of complaint and the settlement.

Logistics Department

Similar to the Sales and Marketing, Logistics department was divided into four sections i.e. Customer Services, Production Control, Purchasing and Material Planning. Mr Heng Bak Eng headed the department. Prior to joining Logistic Department, Mr Heng was the Sales Manager of BSM. For the Customer Services, the division were the same as Sales section. The concept was to work as a 'buddy' for Sales personnel and they are the main contact should Sales personnel were not around. The main function of the Customer Service would be order management i.e. entered the order into a system, scheduled for production and arranged for delivery. Other function was to answer to customer

complaint and a contact point if Sales personnel were not around. The Customer Service was responsible for the management of stock and it is their responsibility to allocate the stock to customers.

The same feeling arose when their respective personnel were not around to attend to their queries. The clients would normally complaint to the manager when these events happened. Though the system used was powerful enough to link all function, but during peak hours where all function i.e. Logistics, Finance and Manufacturing were working, the system might take hours to complete one simple task. That was why the Customer Services used manual record to record some information. The information is recorded in record book and had to retrieve manually the information needed by the client. The checking and information gathering could be sometimes very time-consuming. At BSM, deliveries of orders were measured according to weeks. However, for other steel companies, the deliveries were measured by days. Normal delivery for BSM would be three weeks but other companies were one week.

The Material Planning section function was to plan for the incoming raw material in order to avoid stock-out. They worked closely with Purchasing who then purchased the raw material accordingly. Material Planning also worked closely with Sales whom provide the forecast for the raw material requirement. The Production Control was the section that controlled all the production and prepared the Production Schedule that used by the manufacturing Department to produce the order. The schedule was based on the order keyed in by the Customer Service. Productions were group according to the colour and grade. Since Customer Services were allowed to make changes in the schedule, it

prevents production control to plan their work better. Last minutes changes were kept in a separate spreadsheet in Excel. It was Production controller job to ensure all the last minute changes were put in the schedule. If one order missed, it would affect the delivery to customer.

Manufacturing Department

Same as other departments, Manufacturing was divided into two major sections namely production and maintenance. Production section was further divided into three sections i.e. paint-line, slit line and metallic coating line. Metallic coating line produced the paint feed according to the size stated in the Sales Order, while paint line painted the paint feed to the colour required by the customer. Some customers might require narrow width, and the slitted would be done by slit line. There were cases where the coils might be overweight, and then the shearing would be done at the slit line as well. The production would be based on the schedule done by Production Control. Maintenance section was hundred per cent involved in plant, machine and equipment maintenance. The department was headed by Ms Tina Husin, who has more than 7 years experience in managing the production department.

Once the orders produced, SAP would generate the batch number for the orders. But due to some problem arose during production; SAP was not able to assign the number for the order. If this happened, the operator would assign manual number for the batch. Changes done by the Customer Services would also affected the production of orders. Production

might produce the order for A, but due changes made by the Customer Services, production has to print new label for the same batch.

Finance and Human Resource Department

Mr Goh Ah Bak was the head for this department and he has been with the company since it first started the operation. Like most companies, the account department would be looking into the financial well being of the company. One of it main functions was to issue the invoices, Credit Notes and Debit Notes, processed the early payment rebate and update the advance payment by the client. Normally, it took about two days for Finance Department to issue the invoices, Credit Notes and Debit Notes. But, lately it took more than seven days to invoice. The present average billing date was ten days after completion of the delivery.

The account department at times was insensitive to the client's requirement, and some clients had even said that the account personnel had been rude to the client, and they could care less of customer services, complained one of the customer. If the trends were to go on, it was bad for the company's image and would have affect financially.

The Future

The outcomes from process mapping (refer to Table 1 and 3) were tabled in the next meeting. It has given the management a very clear picture of the whole processes. They have identified a few redundant processes and processes that can do without. Barry was

committed to improve the present system by redesigned current operating procedures to be more customer-focus, and implemented the new system.

He has decided to set-up a team to address the issue to come out with the solution. The team would consist of selected staff from all departments and headed by one of the Vice President. However, he was not sure whether current system would be able to retain customers or whether the process redesign will improve services provided to the customers. Barry felt that some of the processes could be obsolete and could be simplified. Some of the staff did not know the function of certain processes. They did the work as they were told to do so. He hoped that by getting the involvement from the staff would make it easier as they owned the process and understood the process better that other people. He understood that it would take time if he intended to reorganise the whole operation and it would be a massive exercise. Will the staff comfortable with the changes, or will the changes work well?

APPENDIX

TABLE 1: DETAIL PROCESS CHART OF BSM

no	STEPS / TASKS / ACTIVITIES	V	NV	TR	I	D	Time	WHO
1	**Marketing** Marketing prepared the Market Offer quarterly includes price and indicated availability of product to customers.			180			180	MA
2	Check the market offer for any mistakes or discrepancy.				60	30	90	MA
3	Sent out the Market Offer to customers.			120			120	ME/AM
4	Update pricing structure in SAP				120		120	MA
5	Customer fax the Purchase Order	1					0	CUST
6	Marketing received the fax			10			10	ME/ AM
7	Picked the Purchase Order and check on the items to ensure in line with the market offer.		5				5	ME/ AM
8	If not in line, checked with customer and negotiate on the delivery and items				30	30	60	ME/ AM
9	If yes, forward to customer service to process.			10			10	ME/ AM
	Total Steps **Total Time Taken**	**1**	**1** **5**	**4** **320**	**3** **210**	**2** **60**	**10** **595**	
10	**Logistics** Received Purchase Order from Marketing Executive		5	1			6	CSE/ AM
11	Check on the items and enter into customer order register (manually done)		30		30		60	CSE/ AM
12	Check if customer already in the system					5	5	CSE/ AM
13	Checked details supplied meet the data input require. Check material and capacity.				30		30	CSE/ AM
14	Check whether material master for the item already in					5	5	CSE/ AM
15	Acknowledged the Purchase Order indicating the correct delivery week and fax to customer.			5			5	CSE/ AM
16	Entered the order into the system.		1	30			30	CSE/ AM

17	Check and compare price between order and system. Inform MA if different.				20		20	CSE/ AM
18	Wait for MA to confirm and amend price in system.					20	20	CSE/ AM
19	ME/AM confirmed price and advice MA				30	30	60	ME/ AM
20	MA amend price in SAP. Advice CSE to complete transaction.			5		5	10	MA
21	Continued with order entering. Save, print and post the Sales Contract to customers			20			20	CSE/ AM
22	Customer received the Sales contract. Signed and returned copy to BSM			10080			10080	CUST
23	Allocating stock against delivery week and order			60			60	CSE/ AM
24	Meeting with PC/Sch. To provide any input or changes before master Schedule was prepared				45		45	CSE/ AM PC/ SCH.
25	Creates Master Schedule weekly driven by customer delivery week.			480			480	PC/ SCH.
26	Run Report on raw material required by the week – show balance and total to come in from supplier.				30		30	PC/ SCH.
	Total Steps **Total Time Taken**		**2** **35**	**8** **10685**	**6** **185**	**5** **65**	**21** **10970**	
26	**Manufacturing** Use report to bring in the raw material to factory			20			20	MP
27	Arrange with transport to bring in material. Print the transfer note/delivery note. Wait for the truck to come.			40			40	PUR.
28	Material arrived together with delivery note/transfer note.			180		180	180	PUR
29	MO receipt material in SAP, assigned location in warehouse. Note is authorized by MO.			60			60	MO
30	PC/SCH release and issue material for shop floor papers.			45			45	PC/ SCH
31	Distribute the shop floor paper to: 5 copies to metallic coated line (ZAL)			60			60	PC/ SCH

	6 copies to paint line 2 copies to slit line							
32	Locate material using shop floor paper, unpack and position at the entry.			180			180	MO
33	Material charged into SAP with production order.			45			45	PC/ SCH
34	If material damaged or incorrect dimension, remarked material as "Hold" and inform technologist on the details.				45		45	MO
35	Produce the order as per shop floor paper. Weight the coil, receipt into SAP, assign status to coil i.e. prime or seconds, print label and complete production report. Put remark on the shop floor paper, if any.			1440			1440	MO
36	Scheduler compiled all the shop floor paper from all lines and takes action from comments made.			240			240	PC/ SCH
37	Close off production order in SAP.			45			45	PC/ SCH
38	Coils are removed to packing area.			120			120	MO
39	Manufacturing operator wait for the coil.					45	45	MO
40	Manufacturing operator pack coils according to information found on label of coils.			15			15	MO
41	Packing completed, transfer coils in system to dispatch location. Update report with coil no., weight, pack type and distribution i.e. domestic or export			50			50	MO
42	Manufacturing operator move coils to the warehouse for dispatch.			50			50	MO
43	CSE generate report on coils for dispatch. Report includes customer name, sales order no., payment term and destination.			45			45	CSE
44	Using the same report, review the undispatch product and take appropriate action to move.				15		15	CSE
45	Deliver the dispatchable coils after checking on the delivery week, payment terms and destination. Prepare Delivery note and picking list			15			15	CSE

	for delivery. 5 copies of Delivery note i.e. Customer, Driver, Security, Despatch and Transport							
46	Arrange for transportation. If export, CSE need to advice shipping agent on the vessel and book vessel.			45			45	CSE
47	Forward the Delivery notes to MO for them to locate the coil and mark accordingly.			45			45	MO
48	MO locate coil and arrange coils at dispatch bay. Put remark on Delivery note for missing coil or any unusual remark on the coils			195			195	MO
49	Load coils as per Delivery note on truck. Forward a copy of Delivery Note to driver, security and customer.			115			115	MO
	Total Steps **Total Time Taken**			**21** **3050**	**2** **60**	**2** **225**	**25** **3335**	
50	**Finance** CSE post good issue (PGI) the delivery based on security copy. PGI is a transaction to complete the delivery.			960			960	CSE
51	CSE inform Finance on the PGI.			45		45	45	CSE
52	Fin prepared invoice from SAP. Printed 2 copies i.e. customer and file.			30			30	FIN
53	Send invoice to customer by hand or post or courier.			30			30	FIN
54	For export customer, collect Bill of Lading (B/L) from shipping agent and courier the documents (B/L, invoice and delivery note) to customer.			2880			2880	FIN
	Total Steps **Total Time Taken**			**5** **3945**		**1** **45**	**6** **3990**	
	Total Steps for all department		**3**	**38**	**11**	**10**	**62**	
	Total Time Taken		**50**	**18000**	**455**	**395**	**18890**	

TABLE 2: Description of Symbols for Table 1

Symbols	DESCRIPTIONS
V	Value added activities to the customer
NV	Non-value added activities to the customers
TR	Transport: movement of people, material, document, transmission of information
I	Inspection: checking for quality or accuracy or sign-off
D	Delay
Time	Total duration of activities in minutes
WHO	Person responsible for the activities
ME/AM	Marketing Executive/Account Manager
CSE/AM	Customer Services Executive/Asst. Manager
MP	Material Planner
PC/Sch.	Production Controller/Scheduler
MO	Manufacturing Operator
FIN	Finance
PUR	Purchasing
CUST	Customer

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