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Industrial Sickness in Dum Dum: A Case Study of Jessop and Company

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Abstract: This paper aims to find the specific causes behind sickness of Jessop and Company, Dum Dum and their remedial measures. Data's were collected through primary surveys by preparing questionnaires and secondary data's were collected from Annual reports and newspapers. Apart from this, interviews were conducted with the members of Head Office of Jessop and Company and officials of Dum Dum Municipality. The data's were analyzed through descriptive statistics and exhibited in charts and graphs showing percentages and other numerical results. The results shows that lack of proper management, unskilled labourers, weak promotional activities, regular theft of materials and misuse of financial resources are the specific causes behind the industrial sickness of Jessop and Company, Dum Dum. It is presumed that if such a state of affair is not checked and timely action is not taken the increasing incidence of industrial sickness will further ruin the situation and hamper the growth of industrial sector.

Keywords: industry, demand, out turn, sickness, management.

I. INTRODUCTION

In the economic development of a country, roles of industries are very important (Sanderson, 1992). They helps in increasing the production and gives better job opportunity (Rugman et al., 1985). Greater number of industries will give greater employment opportunity that will lead to increase in the standard of living of the residents of that country (Brooke, 1996). According to SICA, 1985 a unit was defined as industrially sick, which at the end of any financial year has accumulated losses that are equal to or more than its entire net worth and has also suffered cash losses in such financial year and the financial year immediately preceding such financial year. Industrial sickness is low in developed countries compared to the less developed. India has suffered from this during the last decade.

The basic objectives of this research is to analyse the present performance of Jessop and Company, to explore the reasons behind the sickness of the company and its impact on employees, to understand the employees view about the present condition of the company and to prove the validity of Altman's z-score model in determining the industrial sickness of Jessop and Company

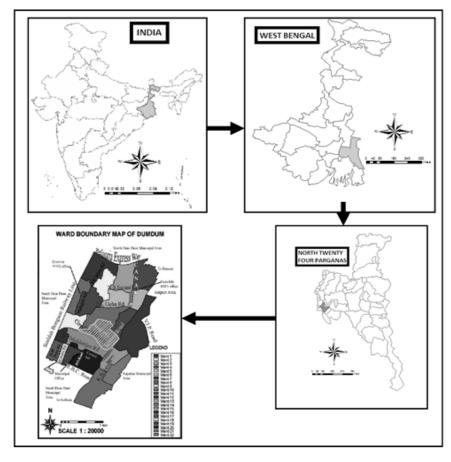
II. REVIEW OF LITERATURE

Goyal et al., (2012) in his paper gives an idea regarding the causes and quantum of industrial sickness, where he stated that industrial sickness is a continuous process and during a favourable run when the surroundings of the industry become unfavourable an industry may go sick. Misra (2012) in his work stated that lack of demand, lack of raw material, power shortage, marketing problems, labour problems, equipment problems, shortage of working capital and management problems are the main causes of industrial sickness in India. Junejo et al., (2007) in a study on Larkana estate area of India showed that most of the units fell sick because of lack of good management, short fall of working capital, inadequate feasibility reports, marketing problems, poor credit facilities, load shedding problem and tax problem. Rao et al., (2012) found that the major causes of sickness in small scale industries are bad production policies, lack of finance, wrong demand and forecasting, lack of product planning, wrong market research methods and bad sales promotions,

inappropriate product mix, ineffective corporate management, inappropriate personnel management, marketing constraints, personnel problem, production constraints, and finance limitations. Rajeeva et al., (2012) found that among registered units of SSI in India 13.98%, and among un-registered units of SSI 6.89% of the total units are sick. Chakraborty et al., (2012) observed that market demand, poor management, lack of funds, inadequate working capital, old technology etc are the major causes of sickness in micro and small sector of Tripura. Rastogi et al., (2013) suggested that engagement of employees, aggressive promotion of old products in new market, investments in new markets, focus on core business, changes in product mix and pricing, lean management and also on image building are the main revival strategies to avoid sickness in small scale industries.

III. STUDY AREA

Dum Dum is a part of District North 24 Parganas and is considered as one of the most important industrial area. It is a part of the area covered by Kolkata Metropolitan Development Authority and is one of the main entry points to the city of Kolkata with a number of transportation facilities into that city. Dum Dum has developed into a modern commercial centre. It hosts Ordnance Factory Dum Dum (OFDC) of the Ordnance Factories Board, which manufactures armaments and other equipments for the Indian Armed Forces. Jessop & Co., the Railway wagon and road roller Manufacturer, the Gun & Shell factory, HMV (renamed as SARE GAMA) the famous record, cassette and CD manufacturers are situated here. Based on these big houses various small scale industries have grown up here which influences the economic status of the town. Other industries include Eastern paper mills, Rubber works pvt. Ltd., Wesman engineering co. pvt. Ltd., M/S Stedman pvt. Ltd. etc. But for the last few years Dum Dum faces stagnancy in economic activities due to the pathetic state of affairs of large, medium and small scale industries. Most of the industries have become sick and considerable numbers have closed down. Furthermore, no attempt has been made to invite new industrial ventures from entrepreneur. Decision regarding reutilization of land and infrastructure of closed and sick industries along with launching of large scale publicity to attract large business houses to Dum Dum for starting new industries is urgently needed.



Source: Authors' own elaboration

Fig. 1. Location map of the study area

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The total area of Dum Dum is allotted for large, medium and small units. In Central Dum Dum the total numbers of industries are 20 and the industries which are now in operation are 4 which include Ordnance Factory, HMV (Sa Re Ga Ma) etc. Jessop and Company, located under ward no.14 of Dum Dum municipality is suffering from industrial sickness for the last 3 years. Present area of central Dum Dum is 9.7385 sq km as per Dum Dum Municipality. The area has a total population of 114786 as per 2011 census among which 58566 are male and 56220 are Female.

Jessop and Company Limited spread over an area of 63 acres. It is one of the oldest engineering company of India which was established in 1788. It is a privately owned engineering company and is a part of the Ruia group of companies conglomerate, which also owns prominent Rubber and Tyre companies like Dunlop India and Falcon Tyres.

Year	History of the company
1788	Breen and Company founded in Calcutta
1820	Henry and George, sons of William Jessop, acquire Breen and Company on behalf of Butterfly
	Company. The two companies merge to become Jessop and Company
1973	Indian Government takes over Jessop and Company
1986	With the formation of Bharat Bhari Udyog Nigam Ltd, Jessop becomes a subsidiary of the holding
	company
2003	Ruia acquires Jessop and Company

TABLE I. HISTORY OF JESSOP AND COMPANY

IV. METHODOLOGY

The study was descriptive as well as exploratory in nature. It emphasized on describing the present status of the sick industry i.e. Jessop and company and finding the causes for its sickness. The present field work contains detailed database and information which includes secondary data as well as primary data through primary surveys by preparing questionnaires. The data's were analyzed through descriptive statistics and exhibited in charts and graphs showing percentages and other numerical results.

Validating Altman's Z-Score model in determining industrial sickness of Jessop and Company:

In the study this Altman's Z-Score model is used to predict that if Jessop and company is suffering from industrial sickness or not. Altman has given an empirical equation called the Z-Score and later published modification called the Z1-Score, which can be applied to privately hold manufacturing companies and Z2-Score for non manufacturing companies. The value of Z-Score indicates the health of a company. Larger the values, better will be the health.

The equation uses the following financial information i.e. Working capital, Total assets, Retained earnings, Earnings before tax and interest or EBIT, Market value of equity(for publicly-traded companies), Book value of net worth(for privately-end companies), Total liabilities, Sales

These quantities are combined in the following ratios: *X*1 =Working capital/Total assets (measures liquidity), *X*2=Retained assets/Total assets, *X*3=Earnings before tax and interest/Total assets (measures how effectively the company uses its assets to get return), *X*4=Market value of equity/Total liabilities (measures the market's view of company's health), *X*4*A*=Book value/Total liabilities, *X*5=Sales/Total assets (indicated asset turnover)

The Z-Score is then the linear combination of these ratios:

$$Z = 1.2 X1 + 1.4 X2 + 3.3 X3 + 0.6 X4 + 1.0 X5$$

Z1 = 0.717 X1 + 0.847 X2 + 3.107 X3 + 0.42 X4A + 0.998 X5

$$Z2 = 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4A$$

In the present study, Altman's model is tested for its validity in determining sickness of Jessop and company. Data has been collected from the annual financial report of Jessop and company. As Jessop is a privately owned manufacturing company, to determine the degree of sickness z-score was found out by the formula:

$$Z1 = 0.717 X1 + 0.847 X2 + 3.107 X3 + 0.42 X4A + 0.998 X5$$

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V. RESULT AND ANALYSIS

TABLE II. PRODUCTION OF JESSOP AND COMPANY

Products	2008-09	2009-10	2010-11	2011-12	2012-13
wagons	442	253	144	92	66
Coaches	36	19	15	11	4
cranes	46	77	191	118	98
Gates, structural and fabrication	181	129	-	-	-
Cranes spares	82	130	173	105	48
Errection and services	310	71	62	142	112
Road rollers	74	84	55	40	21
Integrated testing and power for mines	-	37	83	64	62
Mining tools, components and spares	19	4	12	8	4
EPC	232	825	2209	920	527
Bogies frame	61	41	14	10	4

Source: Annual Report of Jessop and Company (2009-2013)

In the year 2008-09 it shows that the production of wagon of the company was the highest i.e. 442 (BRNA is 163, BVZI is 10, BOBSN is 179, BLC is 90). There are 36 coaches produced (16 EMU AC and 20 Bogies for BVZI wagon). The number of cranes were 46,structural gates were 181,crane spares were 82,errection and services were 311,road rollers were 74,integrated testing of power for mines was not produced in 2008-09. Mining tools, components and spares were 19 and EPC were 232. In 2009-10 the production of wagons were comparatively less than that in the year 2009-10 i.e.253. The numbers of coaches produced were also less i.e. 19. But the production of cranes has increased i.e. 77, which was 46 in 2008-09. The production of structural gates had decreased i.e.129,but crane spares have increased i.e. 131 so as road rollers, integrated testing of power for mines and EPC. But the production of errection and services, mining tools, components and spares has comparatively decreased. In 2010-11 the production of wagons are 144 which are far less than that of the production of 2008-2009 and 2009-2010. In this year the number of coaches produced are 15 which are also less. But the production of cranes have increased i.e. 191 as well as crane spares i.e.173, integrated testing of power i.e.83 mining tools, components and spares i.e. 12 and EPC i.e. 1209. In 2011-12 the production of wagons are 92 which are far less than that of the production of the previous years. In this year the number of coaches produced were 11 which are also less and so as the production of cranes, gates, structural and fabrication, cranes spares, errection and services, road rollers, integrated testing and power support for mines, mining tools components and spares, EPC etc which were 118,105,48,40,64,8 and 8 and 921 respectively.

Green field project proposal:

In order to fulfil the growing demand of Wagons by the Indian Railways a project was proposed and that was expected to have a Greenfield Wagon Manufacturing Facility located at Durgapur about 180 Km away from Kolkata. This unit intend to install 'State of Art' manufacturing facility to achieve cost effectiveness through scale of production with highest level of product quality. The Company had also aggressively taken some initiatives to revive the foundry unit at Durgapur as a steel based foundry to produce bogies, couplers and other castings with the hope that this will add huge value to the Company.

According to the green field project proposal Jessop has a capacity of production of 500 wagons per month, 1500 bogies per month, 1500 couplers per month.

New coach manufacturing facility of Jessop was at Raibareli, U.P.

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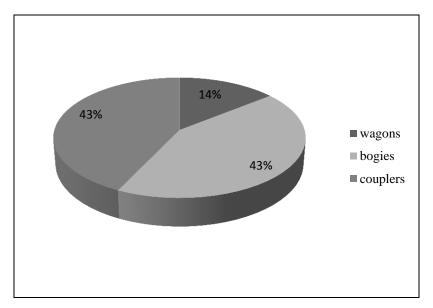


Fig 2.Green field project proposal (capacity of Jessop per month)

It shows that Jessop and company has capacity of production of 500 wagons, 1500 bogies and 1500 couplers per month. But this project doesnot last long.

TABLE III. FINANCIAL STATEMENTS OF JESSOP AND COMPANY

Years	Turnover	Depreciation	Earnings before	Profit after tax	Earnings per	Total assets
			depreciation		share	
2000-01	43.76	1.64	-21.76	-48.77	-9.96	36.29
2001-02	40.96	1.80	1.67	-47.60	-5.03	17.31
2002-03	37.72	1.80	-7.58	-50.10	-5.29	19.36
2003-04	46.36	1.78	0.49	-6.38	-0.59	17.31
2004-05	75.95	2.01	9.70	4.82	0.51	24.74
2005-06	77.46	2.10	15.11	9.98	0.72	61.82
2006-07	82.99	2.19	16.10	11.08	0.56	119.51
2007-08	132.07	3.03	25.88	18.66	0.80	170.00
2008-09	207.50	3.63	29.72	20.24	0.33	213.36
2009-10	237.35	4.26	36.68	22.30	0.36	287.23
2010-11	268.69	6.17	43.32	23.79	0.39	413.62
2011-12	148.62	3.12	21.62	19.12	0.22	215.62
2012-13	97.12	0.91	12.25	8.36	0.10	112.58

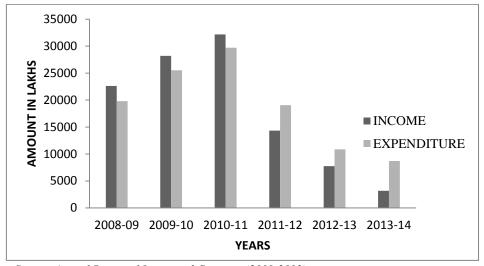
Source: Annual Report of Jessop and Company (2009-2013)

TABLE IV. MARKET SHARE OF JESSOP AND COMPANY

Share	2007-08	2008-09	2009-10	2010-11	2011-2	2012-13
Wagon	7	10	14	20	11	4
EMU	30	35	40	42	29	12
Heavy duty cranes & structural fabrication	5	7	8	10	6	1
Road construction equipment	38	45	45	47	37	22
Mining(refurbishment/spares) hydraulic cylinder & ITF	10	15	20	25	14	6

Source: Annual Report of Jessop and Company (2009-2013)

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Source: Annual Report of Jessop and Company (2009-2013)

Fig 3. Income and expenditure of Jessop and Company (2008-2014)

It illustrates that the income of Jessop and Company was more than that of its expenditure from 2008-2010. Thus the company enjoys profits in these years, but after that from 2010-2013 the income starts declining continuously and thus the company had a huge loss as the expenditure of the company is more than that of its income.

TABLE V. PARAMETERS FOR DETERMINING INDUSTRIAL SICKNESS OF JESSOP AND COMPANY

	2004	2005	2006	2007	2000	2000	2010	2011	2012	2012
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Working capital	54.63	54.63	19.87	19.87	61.46	61.50	61.50	61.51	52.11	38.81
Retained earnings	49.62	48.12	36.71	37.42	38.21	38.22	39.62	39.71	24.22	18.16
EBIT	28.12	27.21	21.63	25.88	29.70	29.72	36.68	43.32	32.37	18.72
Net worth	27.39	103.14	21.12	29.42	101.24	103.14	115.06	140.05	97.42	71.62
Sales	182.62	77.21	82.64	81.62	85.02	233.32	237.35	268.69	207.31	121.62
Total assets	95.47	85.47	144.53	164.78	241.26	268.39	356.70	413.62	321.21	291.62

Source: Annual Report of Jessop and Company (2009-2013)

To compute Altman's z-score model in determining industrial sickness of Jessop and Company 10 years data of financial information has been collected from the annual report (2008-2013) and z-score has been calculated.

TABLE VI. Z- SCORE VALUES FOR DETERMINING INDUSTRIAL SICKNESS

VARIABLES	<i>Z</i> 1									
	(2004)	(2005)	(2006)	(2007)	(2008)	(2009)	(2010)	(2011)	(2012)	(2013)
X1 =working	0.46	0.64	0.14	0.12	0.28	0.23	0.17	0.15	0.16	0.13
capital/total assets										
X2 =retained	0.52	0.45	0.25	0.23	0.17	0.14	0.11	0.10	0.08	0.06
earnings/total										
assets										
X3 = EBIT/total	0.29	0.25	0.15	0.16	0.13	0.11	0.10	0.11	0.10	0.06
assets										
X4A =net	-0.29	-0.26	0.15	0.18	0.45	0.38	0.32	0.37	0.30	0.25
worth/total										
liabilities										
X5 = sales/total	1.91	0.91	0.57	0.50	0.87	0.63	0.67	0.70	0.65	0.42
assets										
Z-Score	3.46	2.42	1.41	1.35	1.82	1.41	1.33	1.33	1.27	0.85

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>2.99=good health

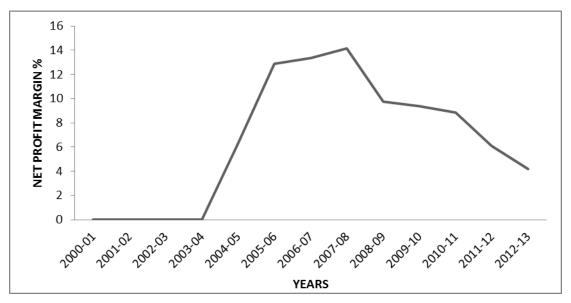
1.21-2.99=gray zone

<1.21=probable failure

Here it can be seen that in 2004 the company was in good condition i.e. 3.46 and from 2005-2012 the company was in gray zone and the values are 2.42, 1.41, 1.35, 1.82, 1.41, 1.33, 1.33 and 1.27. In 2013 the company was at probable failure i.e. 0.85 which was less than 1.21. Thus it can be said that slowly the company is arriving to its sickness session and from 2013 it was at its probable failure stage and thus indicating sickness.

Causes behind the sickness of Jessop and Company:

From the research carried out it was found that Jessop and Company had undergone all the stages of Industrial Sickness i.e. normal unit, tending towards sickness and incipient sickness. One of the most important internal reasons for the sickness of Jessop and Company was bad wages and salary administration, bad labour relations, theft of equipments, old machines and technologies used etc. In Jessop and Company the workers are not getting wages from September, 2013, though they are regularly attending the work. This proves that bad wages and salary administration were one of the most important causes for the sickness of the company. The company had not also deposited provident fund and gratuity dues for four years. Even those who have retired have not got any dues. Apart from that bad labour relationships is also another cause and all these things affects the production and the economic structure of the company.



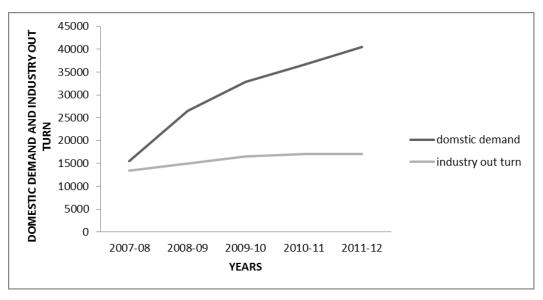
Source: Annual Report of Jessop and Company (2009-2013)

Fig 4.Net profit margin of Jessop and Company

Here it can be seen that till 2003 the net profit margin of Jessop and company is very low and it is almost towards zero. But from 2004 the percentage of net profit margin is increasing slowly. It increases up to 2008 but after that it is falling at a high rate and in 2013 it is much low. From May 15th, 2014 the work of the company is completely stopped and a 10 page suspension letter was handed over to the workers, as, according to the owner the company had a huge loss and hence it needs time to restart. Not only this, old machineries which are used in the far past are used now and for this fastest production cannot be made and hence adequate supply of the demanded product remains insufficient. Most of the labourers are lacked in industrial based experience. Previously the workers are taken from top engineering colleges, but after retirement of most of the employees for the last few years non-skilled labourers are taken and due to which it hampers production of the company. Continuous malicious intervention of the outsiders in the functioning of the plant has resulted in the overall disruption of the management's plan to revamp operations of the company. It has also caused an alarming drain of the funds deployed by the management towards the growth of the company. It hampers the income of the company as thus, the profit also. Regular theft of equipments affects the productivity badly and causes loss of production. Lack of productivity eroded the economic structure of the company. In this age of globalisation use of old

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machineries led to the backwardness of the company in production and thus also in competition in the present market field and thus it fails to compete with the changing market scenario and thus leads to failure. Lack of supply is also another important cause for industrial sickness. The company has an order of 105 crores from the market, for which it has taken loans of 100 crores from the bank. But it does not utilize it sufficiently for production. Thus, as production is not adequate hence it cannot supply products demanded by the market and thus fails to earn adequate revenue. This leads to industrial backwardness and failure.



Source: Annual Report of Jessop and Company (2009-2012)

Fig 5. Demand and supply scenario of Jessop and Company

The demand and supply scenario of Jessop and Company has been plotted for the years 2008-2013, where, it can be seen that there exist a negative relation between demand and supply of the product. As the gap between demand and supply increases continuously with time and in 2012 the gap is maximum, and hence it can be said that the production of the company is not sufficient to fulfill the demand. It also affects the employees as well as the economic structure of the company badly. The employees were not getting salary from September, 2013 though they are attending work regularly. Employees were asked to submit resignation letter in bunches of 50. Accordingly, the management removed materials from its company and stopped work. For the last 6 months not a single locomotive or road roller has been produced till date. A 10-page notice of suspension of works was pasted on the company gates on 15th may, 2014.

Jessop and Company was again reopened on 9th August, 2014 and this brought joy to some 650 workers. The Government helped whole heartily in solving the problems and the management have decided that a committee would be formed with members of state, productivity council, union and the management. The committee would decide how much goods can be made with the existing workers and infrastructure, and man power is required with the existing machines. If the worker produces more goods then they will get incentives. The management has also cleared a month's salary backlog in the day of re-opening and announced that another month's dues would be paid next month. The remaining three-and-a-half months' backlog will be cleared in 24 monthly instalments (Live mint, E- paper; Aug 10, 2014).

Present condition of Jessop and Company:

At present the production of the company is nil, the work of the company had completely stopped and workers are not getting salaries. As most of the equipments and machineries are being theft, hence now the work cannot be carried out due to insufficiency of machineries for production. No further machineries have been bought in the company. The workers have not got any answers from when to start the work and their expectations were slowly drowning.

Measures to be adopted:

To make effective decision regarding Jessop and company there must be division in authority to treat this unit. Not only financial measures were needed to treat this unit, but other measures were also needed to rehabilitate it. The actions of rehabilitation should be started with no delay. Not only this, strict security system should be made in order to reduce theft

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of equipments and machineries, sophisticated machineries and innovative technologies should be introduced, experienced skilled labour should be introduced in the company for proper running of the plant and for adequate production, the wages of the workers should be given in proper time and there should be no wage difference and there should also be a good relationship between the entrepreneur and the labourers. Besides, the banks and the financial institutions should come forward to rescue the unit through their liberal loan policies. The institutions should keep a watch over the ways of the utilization of awarded loan facilities.

VI. CONCLUSION

For a developing country like India, industrialization can be the key element for overall social and economic progress. Industrial development of any country mainly depends on entrepreneurs who are afraid of industrial sickness as it involves loss of invested capital and career too. Not only this it also caused wastage of huge opportunity cost. Hence, different measures should be taken by the concerned authority to remove the causes of industrial sickness as much as possible. Along with this flow of necessary information's and also proper training of the entrepreneurs are needed to prevent sickness. It is presumed that if such measures are not taken the increasing incidence of industrial sickness would further worsen the situation and hamper the growth of industrial sector.

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