Generalized Data base Model for Improve the Human Heart Productivity

Dr. Mahendra Shivaji Dhande

Asst. Professor, Mechanical Engineering Department,
Priyadarshini Institute of Engineering & Technology, Nagpur, Maharashtra, India.

Abstract: It has been observed in Appolo hospital Mumbai the lot of people are facing heart problems. This is injustice with human being. Throughout world human deserted to live the life & in medical science field very poor development. Therefore author taking research work to finding out the solution. People must be enjoyed life more than 100 years but medical science not helps here. Still scope is remain in medical. Here author applying mathematical model to cover the output from heart. Increses the life span of human body. In Nagpur Meyo hospital erect in [1905], Medical College cum hospital open in [1947], M. S., India. Throughout world numbers of hospitals are open such as in India, Mahdya pradesh Pithampur, Devas, Indor, Selam in Kerala, North America, Africa, Netherland, Sauth Koria, Australiya, China & Kanada are very pathetic condition. Number of research paper read out and decide to do the work over this topic.

Introduction: Today the urbanization very tremendously increasing on. In This hospital care more require. For the development purpose need of productivity improvement to increase the facilities rate in hospital. Therefore to developed system to improve the facility rate by applying some advanced technique like, Doctors team assaining extension / design method, Plant layout improvement, maintenance system, chart display system, time management technique, quality control process, ergonomics system applying here. The costing of plant in car-ores of rupees. For manual machine used in ancient days, but now fully automated hospital used.

Keywords: Heart, Productivity, Mathematical Model, Human life span enhance.

Name of Industry: Appolo Hospital, Mumbai, (Maharashtra), India.

Object: Human life span increase & save from heart fail.

Literature Survey: Personally survey in 2000, april month & discuss with owner why the hospital system weak. The hospital productivity improvement purpose used some new technique through mathematical model discuss in [24]. With taking this reference author work over same title. After long discussion it had been observed that there is the plant layout problems, maintenance schedule & quality control problem. Before that survey in 2000 same problems face in Devas, Indor hospital, India & other countries. As given in [1], [2] & [3] the practically background of solvent plant. In [22] discuss the regarding productivity & plant layout development. Therefore taking this research project for solution finding out. Some of part of hospital development case discuss in SWOT Analysis [25].

Objectives: [1] Improvement hospital system.

[2] Plant Layout improvement.

[3] Maintenance schedule prepare.

[4] Chart display system.

[5] Time management Technique.

[6] Apply Method study.

[7] Ergonomic Principal

[8] Appoint experience holder Doctors for Heart surgery

Independent parameter : Respective parameter such as, area of hospital, working environment, experience holder doctors, volve activity, changing new heart, positiveness, availability of surgical instruments, hospital demand, Customer satisfaction, Manpower variation.

Dependent variable: Heart life span increasing.

Mathematical Model:

Heart life span = Capacity of Doctors + Manpower utilizing & other factors

Formulation: For finding the output of Hospital [23] $Y = K [A^a \times B^b \times C^c \times D^d \times E^e \times F^f \times G^g \times H^h \times I^i \times J^j]$

Y= (Humain life span increase)

K= Propornationality Constant

A, B, C, D, E, F, G, H, I, J = Are the variables of raw Materials.

a= Indices for respective materials

The output weight age shown in as following table,

S.N.	N	A	B	C	D	E	F	G	H	I	J
1	P_1	.26	.32	.10	.20	.25	.15	.35	.25	.25	.20
2	P_2	.24	.17	.60	.20	.20	.45	.35	.30	.30	.15
3	P_3	.25	.26	.16	.40	.20	.25	.15	.25	.20	.40
4	P_4	.25	.25	.24	.20	.35	.35	.15	.20	.25	.25

N = Name of Hospital

P_1 = Seven Star hospital, Nagpur , M. S., India,

P_2 = Appolo Hospital, Chennai, Tamil nadu.

P_3 = Appolo Hospital, Mumbai, Maharashtra.

P_4 = GLobal Hospital, South Dacuta, South America, USA.

Wt. A + Wt. B + Wt. C + Wt. D + Wt. E + Wt. F + Wt. G + Wt. H+Wt. I+Wt. J = are respective raw material waightage w. r. t. plant owener assinged the qualitative quantitity.

Therefore: $P_1 + P_2 + P_3 + P_4 = 1$, $A_1+A_2+A_3+A_4$, $B_1+B_2+B_3+B_4$, $C_1+C_2+C_3+C_4$, $D_1+D_2+D_3+D_4$, $E_1+E_2+E_3+E_4$, $F_1+F_2+F_3+F_4$, $G_1+G_2+G_3+G_4$, $H_1+H_2+H_3+H_4$, $I_1+I_2+I_3+I_4$, $J_1+J_2+J_3+J_4$ With respect to P.

Terminology:

Heart operation: Heart open use good quality of surgical untelsiles

Simulation : Depending upon capacity of hospital. Sketches of heart shape.

Operation Theoter capacity

Bed: No. ranges.

Trolley : Patient shifting.

Flow chart Heart Operation:

–- Open the heart

-- Doctor team

–- Instrument

–- Check valves & blood tubes.

-- Currect the air & Blood flow.

–- Make the stiches

-- Keep patient in positive thoughts

-- Remove the stiches

-- Enjoy the patient.

Hospital Machine: i) X-ray Machine

ii) Stress Relive activity.

iii) Heart blockages checking machine

iv) Design of transportation trolley. How many no. of patient shifted

v) The design of ward

vi) Depending upon the availability of land, finance & manpower.

Vii) Design of quality people.

Expected outcome:

1] Save the human being life.

2] Utilization of space very exactly.

3] Less maintenance of machine.

4] In Hospital instruction display on notice board for safety from any accident.

5] Work measurement / time management very essential to improve productivityrate .

6] Display process chart, to easily any operator perform the assigned task.

Data collection: 1

S.N.	Data	Numerical values	Units
1	Hospital size	5-6	Acer of land
2	Set up valuation	1-2	Caror Rupees
3	Opration Theotor	15	Feet height.
4	Operation processes Type	Daily	Continuous
5	Hospital bed capacity	250O	Bed Quantity

Data collection :2

S.N.	Data	Numerical values	Units
1	Hospital size	7-8	Acer of land
2	Set up valuation	1-2.5	Caror Rupees
3	Opration Theotor	18	Feet height.
4	Operation processes Type	Daily	Continuous
5	Hospital bed capacity	260O	Bed Quantity

Data collection :3

S.N.	Data	Numerical values	Units
1	Hospital size	9-10	Acer of land
2	Set up valuation	3-4	Caror Rupees
3	Opration Theotor	20	Feet height.
4	Operation processes Type	Daily	Continuous
5	Hospital bed capacity	320O	Bed Quantity

Costing: Low cast for human heart surgery.

Output: Enhance the productivity of hospital.

Conclusion & Result: The four solvent extraction plant output is 1. Hence probability is unique.

Significance:

1] Owner 25% more profit.

2] In a limited time period maximum patient check.

3] Reduce death rate..

Bibliography:

[1] Arnold K, Turner N, Barling J, Kelloway, E & McKee M 2007. Transformational leadership andpsychological well-being: the mediating role of meaningful work. Journal of Occupational HealthPsychology; 12:193–203.

[2] Karlin W, Brondolo E & Schwartz J 2003. Workplace social support and ambulatory cardiovascular activity in New York City traffic agents. Psychosomatic Medicine; 65:167–176.

[3] Zohar D 2002. Modifying supervisory practices to improve subunit safety: a leadership-basedintervention model. Journal of Applied Psychology; 87:156–163.

[4] Wager N, Feldman G & Hussey T 2003. The effect on ambulatory blood pressure of working underfavourably and unfavourably perceived supervisors. Occupational and Environmental Medicine;60:468–474.

[5] Beswick J, Gore J & Palferman D. 2006. Bullying at work: a review of the literature. Harpur Hill,Buxton, UK: Health & Safety Laboratory.

[6] Krantz D, Contrada R, Hill D & Friedler E 1988. Environmental stress and biobehavioralantecedents of coronary heart disease. Journal of Consulting and Clinical Psychology; 3:333–341.

[7] Bosma H, Stansfeld S & Marmot M 1998. Job control, personal characteristics and heart disease.Journal of Occupational Health Psychology; 3:402–409.

[8] Schaubroeck J, Jones J & Zie J 2001. Individual differences in using control to cope with jobdemands: effects on susceptibility to infectious disease. Journal of Applied Psychology; 86:265–278.

[9] Lundberg U, Dohns I, Melin B, Sandjo L, Palmerud G, Kadefors R, Ekstrom M & Parr D 1999.Psychophysiological stress responses, muscle tension, and neck and shoulder pain amongsupermarket cashiers. Journal of Occupational Health Psychology; 4:245–255.

[10] Fried Y & Ferris G 1987. The validity of the job characteristics model: a review and meta-analysis.Personnel Psychology; 40:287–322.

[11] Josephson M, Lagerstrom M, Hagberg M & Hjelmand E 1997. Musculoskeletal symptoms and job strain among nursing personnel: a study over a three year period. Occupational and EnvironmentalMedicine; 54:681–685.

[12] Johansson J 1994. Psychosocial work factors, physical work load and associated musculoskeletalsymptoms among homecare workers. Scandinavian Journal of Psychology; 36:113–129.

[13] Carayon P, Smith M & Haims M 1999. Work organization, job stress, and work-relatedmusculoskeletal disorders. Human Factors; 41:644–663.

[14] Juang, R. and Huang, R., "Kinetic studies on lacticacid extraction with amine using a microporousmembrane-based stirred cell. Journal of Mem-brane Science", 129 (2), 185-196 (1997).

[15] Kahya, E., Bayraktar, E. and Mehmetoglu, U., "Opti-mization of Process parameters for reactive lacticacid extraction". Turkish Journal of Chemistry, 25,223-230 (2001).

[16] Kertes, A. S. and King, C. J., "Extraction chemistry offermentation product carboxylic acids". Biotech-nology and Bioengineering, 28(2), 269-282 (1986).

[17] King, C. J., "Amine-based systems for carboxylic acidrecovery". Chemtech, 22(5), 285-291 (1992).

[18] Kumar, S., Wasewar, K. L. and Babu, B. V., "Intensi-fication of nicotinic acid separation using or-ganophosphorous solvating extractants by reac-tive extraction". Chemical Engineering and Tech-nology, 31(11), 1584-1590 (2008).

[19] Lee, H. J., Koo, Y. M. and Wang, N. H. L., "Separa-tion of lactic acid from acetic acid using a four-zone SMB. Biotechnology Progress", 20, 179-192(2004).

[20] M. S. Dhande, R. L. Himte, V. M. Nanoti, J. P. Modak, "The Practical Approach to Field Base Data Model of Industrial Layout to Improvement in Productivity", IJIRSET, VOL.6, Issue 9, Sept.2017, Page No. 17906-17909, ISSN(online):2319-8753ISSN (Print): 2347-6710, DOI:10.15680/IJIRSET.2017.0609009.

[21] M. S. Dhande, R. L. Himte, V. M. Nanoti, "The Survey Practice in Ash Brick Plant" 7 th ICRTESM-2017,International Conference, Sept 2017, Pune, M. S., India, ISBN;978-81-934288-2-5, Page No. 65-68.

[22] M. S. Dhande, R. L. Himte, V. M. Nanoti, J. P. Modak, "Survey with Design & Development of Mathematical Modelling for Ash Brick Production Hydrualic Machine", IJIRSET, VOL.7, Issue 9, Sept.2018, ISSN(online):2319-8753, ISSN (Print): 2347-6710, Page No.9604-9610, DOI:10.15680/IJIRSET.2018.0709.

[23] Vikhar A D, Modak J.P, " Formulation of Field Databased Model : A Case Study at PVC Pipe ManufacturingIndustries". International Journalof MechanicaI Engineering and Technology (IJMET), ISSN0976– 6340(Print), ISSN 0976 – 6359(Online) Volume 4, Issue 3, May - June (2013) © IAEME, IJMET., Page No.94-99.

[24] M.S.Dhande, S. S. Khandare,"Mathematical Modeling on effective heat energy radiated in steel plant", International Journal on Computer Application, ISSN-0975-8887, Page No.21-25.

[25] M.S.Dhande, S. S. Khandare, "Energy consumption in steel plant by SWOT Analysis",IJMRAE, Vol. 3, No.1, (January -2011),ISSN NO. 0975-7074, Page No.165-177.

[26] M.S.Dhande, "Removal of ladle & saving the effective heat energy radiated in steel industry" Elixir Mech. Engg. (2014), ISSN-2229-712X, Page No.22971-22973.