



Information technology a selective job for modern women in India a fuzzy logic solution

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ABSTRACT : Information technology is now gaining acceleration to form electronic government. The computer Based Systems (CBIS) and Management information Systems (MIS) are the attributes of the Information Technology (IT). This all the old matter and continued to develop in the new spaces. The ITES system is developing as the call center industries for women force and young workers Australia, America, New Zealand, Ireland, Canada and Philippines have developed the call center where large number of women can work in the night time. Study reveals that women may work was in the night hours as compared by men. Night efficiency of women power is higher than the efficiency of man power. The Engineering graduate women are doing well in the industries. The management and administration of women are highly strong and organization obey them. Women are the dual and complementary functions of men and can be used for adaptive deadbeat control in Management. The dual systems are used as controllers in the nature and the society.

I. INTRODUCTION

The Fuzziness of a Business can be using the union and intersection of Man and Woman as fuzzy set and complementary Fuzzy set respectively. Women power can keep the great balance in the business sector. The call centers, BEC, MIS, CRIS, DSS, OA, AI, ES etc are system where women engineers can systems where women engineers can do well to earn the profit. IT Centers,

Information centres, call centres, ITES system can be opened in rural area to help women power to work at profit conditions.

A. Information Technology enabled services

It is realized that entire world is looking at the Indian Women for Information technology job. In future large opportunities will be created for young women in the field. If one's voice is energetic and sweet then he/she will be fitted to the world of calling agents After the college graduation the young women and men will enter into the field of information technology. The information technology enabled services, (ITES), will give a place to women workers. In recent years in the Indian sector the ITES is developed at a full swing. The ITES has many components which women workers may handle easily one can fuzzify this set of ITES as a Fuzzy system.

The Fuzzy logic is used here the system elements are highly random without reference, context, origin, the coordination, co-operation, synchronism and mutual coupling of

elements are not known properly. A system of IT work schedule is shown in Table -1 represents 14 elements forming a Fuzzy set simulated from a Fuzzy method of narration of opportunities for women workers The Fuzzy cardinality would be

$$\text{At the failure rate } \lambda = \frac{\log e \mu a^{-\lambda}}{0.4343} = 0.1202309$$

$$\text{and } \|\bar{A}\| = \int_1^n \mu a^{-\lambda} d\lambda = 0.8867142$$

MTBF = 8.3173271 years. The Fuzzy grades of truth would be $\mu A^{-\mu} = e^{-\mu} = 0.8867$

These services can be delivered at any telecom network and internet, ITES sector has a great matter of creating jobs opportunities for women and the soft society. The Indian ITES service industries has given jobs to seventy thousands of people in the society. There is a scheduling that in 2008 about 1.1 million job opportunities will be generated. This industry has a rate growth of 0.66 and seen with a great hope for the jobs of women engineers learned through information technology,

The system of fourteen element is fuzzified to study the grade of truth of the narrative model given in table-1. The centre of Area (COA) method and mean of moment (MOM) method

TABLE-1

Fuzzy elements	$\bar{u}A(I)$	I	IR	Sec	T	A
ITES : Information technology enabled services	0.892	0.1142	0.10194	0.898	8.97	0.866
Custom service	0.886	0.1438	0.12746	0.872	6.954	0.846
Data digitization	0.866	0.1438	0.1246	0.8754	6.954	0.823
Tele marketing	0.916	0.08773	0.08036	0.9196	11.398	0.899
Help desk support	0.936	0.06613	0.06206	0.938	15.121	0.916
Medical transcription	0.908	0.0965	0.08763	0.9123	10.362	0.896
Bank office accounting	0.779	0.2497	0.1945	0.8054	4.0048	0.758
Pay roll management	0.819	0.1996	0.1634	0.8366	5.10	0.806
Call centers	0.892	0.1142	0.10194	0.898	8.756	0.866
Legal database maintenance	0.918	0.0855	0.0785	0.9214	11.696	0.897
Insurance claims	0.898	0.10758	0.0966	0.90338	9.354	0.876
Credit card processing	0.878	0.1301	0.1142	0.885	7.686	0.866
Higher design	0.917	0.0866	0.0794	0.9205	11.54	0.896
Engineering design	0.909	0.0954	0.0867	0.9132	10.482	0.896

II. PRELIMINARIES

TABLE-2

Fuzzy elements	$\bar{u}A(\lambda)$	λ	λR	Sec	T	A
According to nascom survey information	0.866	0.1438	0.1246	0.8754	6.9141	0.826
1999-2000 Investment Rs. 2400 crores	0.916	0.08733	0.08036	0.9196	11.3986	0.892
2000-2001 investment Rs. 41000 crores	0.892	0.11428	0.10194	0.89806	8.79043	0.866
2001-2007 investment 17 billion dollars	0.892	0.07042	0.0656	0.93436	14.2005	0.908
Up to 2005 investment 611 billion dollars	0.896	0.10981	0.0984	0.9016	0.1066	0.886
Capacity of India 0.38 in the world capacity of 1.00	0.88	0.1176	0.1046	0.8954	8.5034	0.866

The Fuzzy grade of truth of table - 2

= 0.8985 at the failure rate

= 0.1070272

MTBF = 9.3434 years

The work may work upto 10 year of period.

speaking English well and have a knowledge of communication sk.i" is making a place in these industries and technologies. The educated man power and women power are getting vital importance in these calling ceftres. There is a supportive policy frame wori< of the Indian Government to these growing 'English speaking society and IT trained workers. The women society is growing at the faster rate as a women power.

III. INDIAN MARKET IS IMPORTANT

In this time and such a time Australia, New Zealand, Ireland, Canada and Philipines 2.Jike countries are provloing services of cali centres. The English speaking Indian force of VWomen is proving to be the important for these industries This society is not costly. The educated women society

Indian engineers are very hard working. intelligent, devotee and inherently researcherS. The Women Engineers of Electrical Engineering and Electronic Engineers are extremely'intelligent. There is a need to encourage Women Power to work for Information Technology. One can Fuzzify the above narrative model to find out the possibility, probability and plansibility of the Women Power suitable for

information technology. Instrumentation, electronics and telecommunication technology.

One can measure the failure rate of the statement using own inference, decision and logic using adaptive control functions of the institution and antecedent experience on the work Since the failure rate is Fuzzy set one can Fuzzify it and then defuzzify the space to the non-fuzzy space.

Table - 3 represents Fuzzy membership functions tJA(A) failure rate A, RisK AR, Sec Security, MTBF, T and availability A The Fuzzy cardinality of the 22 random points which are baseless, without any reference, context and origin The MOM and COA methods may solve such problems The Fuzzy

cardinality would be $|\bar{A}| = \int_1^n \mu A^{-(\lambda)} d\lambda = 19.485$
 and $A^{-(\lambda)av} = 0.8856818 = e^{-9}$

TABLE-3

Fuzzy elements	$\mu \bar{A}(\lambda)$	λ	λR	Sec	T	A
Woman power is very delicate and sophisticated to handle software and IT devices	0.779	0.2497	0.1945	0.08054	4.0048	0.748
Women can work very hard in the neight time as compared to man	0.916	0.08773	0.8036	0.9196	11.3986	0.897
Woman are inherently strong administrator and borne amanger	0.962	0.0387	0.03726	0.96273	25.84	0.918
Women are trained to work in a small office equipped like a kitchen of It	0.886	0.121036	0.10723	0.89276	8.262	0.866
People and customer obey women weii to work as compared to other managers	0.796	0.2281	0.1816	0.8184	4.384	0.766
The opinion and the views of the society are changing due to technology growth	0.866	0.1438	0.1246	0.8754	6.9541	0.833
Women are more intellight in the society	0.786	0.2408	0.1892	0.81073	4.1528	0.766
Lack of oppportunity and exposures the women were used as medium of exchange	0.962	0.0387	0.03726	0.96273	25.84	0.918
Woman are still a medium of exchange like the money in the society (root out)	0.816	0.2033	0.1659	0.834	4.91	0.796
Women are accepted easily as a medium of exchange (natural)	0.896	0.10981	0.0984	0.9016	9.1066	0.889
Women are the dual and complementary function or the men in the society, as adaptive and dead beat controllers in management	0.969	0.0315	0.03052	0.9694	31.746	0.943
All the negative activation of men may be controlled by women power being a dual system.	0.918	0.0855	0.0785	0.9214	11.696	0.892
Women are the best controllers, managers and administrators in the management	0.898	0.10758	0.09661	0.9033	0.205	0.860
All the top managers of women society were successful in their objectives	0.966	0.0346	0.0334	0.966	28.90	0.923
Women must not be viewed as sexual commodity but as a great manager, devoter and colleague friend	0.896	0.1098	0.0984	0.9016	9.107	0.868
	0.886	0.121036	0.1072	0.892	8.262	0.836
	0.812	0.2082	0.1691	0.8308	4.803	0.792
	0.866	0.1438	0.1246	0.8754	6.954	0.816
	0.889	0.11428	0.10194	0.898	8.75	0.689
Women are the natural dual and complementary function of a man. This is a natural instinct to interfere work functions of the society of men.	0.889	0.1176	0.1046	0.8954	0.903	0.866
	0.892	0.1142	0.10194	0.898	8.756	0.879
	0.936	0.0663	0.06206	0.938	15.105	0.916

And $\lambda = 0.12139559$

(10)

MTBF = 8.2375056

The women power can work for 8 years and first failure will occur after 7 years

The well trained engineers can handle and run the devised well when they are given a training and taken an examination to pass the training at the require calling centre.

Women are capable to learn any devices of IT in a short time, if they know theory well. Their functions are simple.

IV. INDIAN WOMEN ARE CAPABLE TO SUPPLY THESE CHALLENGING DEMANDS

There are a large number of engineering gradual gins nowadays and they are well also Engineers are trained for mathematical treatment of Engineer systems and their design Performance. working and dynamic training are not imparted due to lack of time this can be done in the field in a small period If Incentive are given.

One should delete a tendency to need helpers. This policy of providing technical helpers make the engineers week and lazy. English rulers made a management of Boss System this should not be encouraged for engineers. Engineers should work by hands. Those who work must be brought on the top of the organization. Those who does not work should not be given a respect and credit Work is worship must be followed.

TABLE-4

Fuzzy elements	$\mu_{\bar{A}}(\lambda)$	(I)	I R	Sec	T	A
The fast growing service sector has a path, full of challenges, and Dynamics.	0.896	0.1098	0.0984	0.9016	9.1074	0.866
One can solve the concepts and challenges of Business without these no success may be obtained to earn money and get a profit.	0.886	0.121036	0.10723	0.89276	8.262	0.0868
India has a drawback that the engineers cannot be appointed on the job directly, without a training.	0.916	0.08773	0.08036	0.9196	11.398	0.898
Engineering systems are infinitely high and B.E. graduates cannot be trained in this direction in a short duration of training for a specific job.	0.908	0.0965	0.08763	0.91236	10.362	0.889
To achieve the goal of the graduate trainee one more industry is opened. This is called ITES (Information Technology Enabled Services). This is a training industry.	0.966	0.0346	0.0334	0.9665	28.000	0.908
Consequently large number of training institutions are started but no quality product is realized by the experts of NASCOM	0.906	0.0987	0.0896	0.91036	10.1317	0.896
One cannot maintain these ITES industries due to poor quality products and it is full of challenges to run it for a long time.	0.889	0.1176	0.1046	0.8954	8.5034	0.867
The quality of teachers in Engineering institution is not a appreciable. The required academic environment is not created by teachers due to failures of management organization and administration.	0.966	0.0346	0.03341	0.966	28.90	0.943
According to NASCOM the demand of 6 lacs professional upto to 2006 will not be supplied	0.866	0.1438	0.1246	0.9754	6.9541	0.823
The new value added IT enabled services, European technology and South Asia progress have rapid demand of well trained engineers.	0.923	0.08012	0.0745	0.926	12.4812	0.906
In the scheme of certification and grading system one requires quality assurance confirmation.	0.867	0.1427	0.1237	0.8762	7.0077	0.818
The language and communication skill with training are required for workers that may get a success in private sectors.	0.876	0.1323	0.11597	0.884	7.558	0.846

$$|\bar{A}| = \int_1^{12} \mu \bar{A} d\lambda = 19.485 \quad \dots(11)$$

and $\|\bar{A}\| = \frac{1}{n} \int_1^n \mu A^{-\lambda} d\lambda = 0.9054166$ and $\lambda = 0.099357$... (12)

The MOM method may yield a Fuzzy grade to truth

$$\mu \bar{A}^{-(\lambda)} = \frac{\sum \mu_i (\lambda_i) (\lambda_i)}{\sum (\lambda_i)} = 0.889672 \quad \dots(13)$$

and $\mu \bar{A}^{-(\lambda_1)} = \frac{\sum \mu_i (\lambda_i) (\lambda_i)}{\sum (\lambda_i)} \quad \dots(14)$

will yield different results and the errors may be indicated

V. CALL CENTRES INDUSTRIES FOR WOMEN

When all the sectors of services failed including information technology that call centres were alive and working at greater growth, rate. This was only due to the Women power working in tile call centre industries in this date the call centres are the centre of attraction of young women and young men. This is because. of new employment opportunities available in other industries through the medium of call centres, as well as high salary is also obtained. The women get contacts with the well known companies in the global spaces.

The English speaking with communication skill women 'power is getting a place in American Companies and Industries, BEC (Business English Certification) has played an important role for women power to get job opportunities in the World call centres. The outsourced call centre destination established by

American Society is formed by Indian Women of English speaking, writing and communicating business techniques. The training in this direction may be made in Indian women Power sources. For a matching with intemational standards it is essential to train the women power separately. The international certification, CRM tool and specialized health desk training are busy to train the work force of women and young engineers. By this hope one can get premium call cenire market upto 0 growth of 2 to 3 times the running one

One should give a attention on the professionals quality and help to the Eng!:leer5 women and man. The skilled professionals give a lead to such workers in the world market

India alone cannot do any thing independently as she is mutually coupled' with the world trades, technology, market and education. The skilled (hardware and software) engineers can also get a place in such an international market.

The above narration model is fuzzified into 25 elements as the statements whether false or true and their Fuzzy grade of truth are found using their failure rates. The fuzzy grade of truth would be and humming distance =22.405. the cardinality of failure rate MTBF = 9.1248965 years.

VI. INFORMATION TECHNOLOGY FOR WOMEN

Information Technology is in the development state but many organizations are reluctant to adapt it due to pending problems of reliability and advantageability. This study brings out certain salient features of the information technology, its reliability and adaptability in the society of women power The MIS, CBIS, OA, AI, ES, DSS are facing some faiiures in India. The electronic government is also facing a serious failure in India The Govt. must be smart one.

TABLE-5

	Fuzzy	$\mu \bar{A} (\lambda)$	λ	λR	Sec	T	A
S	Simple	0.886	0.121	0.1072	0.892	8.264	0.898
M	Model	0.796	0.228	0.1816	0.8184	4.386	0.886
A	Accountable	0.912	0.0921	0.084	0.916	10.857	0.926
R	Responsible	0.926	0.0768	0.0712	0.926	13.0205	0.776
T	Transparent	0.826	0.19115	0.1579	0.842	5.2315	0.668

Table-5

The reliablity of the "SMART" system is 0.862 at failure rate. 0.1118 and MTBF 7.1336 years. The smart Got. Is formed

by the women power because the parameters match with the women organizaiton.

TABLE-6

Fuzzy elements	$\bar{m}A(I)$	I	$I R$	Sec	T	A
Women participation in the field of science and Technology.	0.336	1.0906	0.366	0.6335	0.917	0.253
Education training and access to market to rural women.	0.169	1.7778	0.30045	0.6995	0.5625	0.233
Solutions of probable new challenges to be faced by women.	0.269	1.313	0.3532	0.6468	0.7616	0.196
Women more competent for achieving economics self sufficiency	0.426	0.8533	0.3635	0.6365	1.172	0.326
Identify women attributes for use of technologies in all walks of life including rural areas.	0.136	1.995	0.2713	0.728	0.5012	0.198
Role of women in science and technology	0.256	1.362	0.3488	0.65118	0.7342	0.562
Designing equipments and tools for women ergonomics	0.326	1.1208	0.3653	0.2653	0.8922	0.662
Women managerial skill	0.429	0.8462	0.363	0.637	1.1817	0.816
Mental and physical skill of women	0.892	0.1142	0.102	0.898	8.756	0.866
Enterprise skill of women	0.792	0.2332	0.1846	0.8153	4.288	0.912
Value added education for women	0.779	0.2497	0.1945	0.805	4.00048	0.806
Literacy model for women	0.462	0.7722	0.3567	0.6432	1.35	0.662
Interior decoration and architecture	0.886	0.12103	0.1072	0.8928	8.26	0.846
Low cost housing and water management	0.723	0.3243	0.2345	0.7655	3.083	0.779
Role of women in power and decision making	0.669	0.40196	0.2689	0.73108	2.487	0.886
Women and health	0.827	0.1899	0.157	0.843	5.266	0.879
Appropriate technology for upliftment of rural women	0.162	1.82	0.2948	0.7051	0.554	0.56
Role of women in environmental awareness	0.186	1.682	0.03128	0.6871	0.599	0.792

VII. OBJECTIVES OF WOMEN PROGRESS

One can resolve progress in 19 components and it may be fuzzified with inferences and decisions. Most often the statistical survey may provide such information table- 6

represents 19 elements of the objective and regarded as the fuzzy grades of truth is obtained through failure rates occurred in the elements. Fig 1 represents the objective and constraint in a fuzzy space of failure rates objective and constraint.

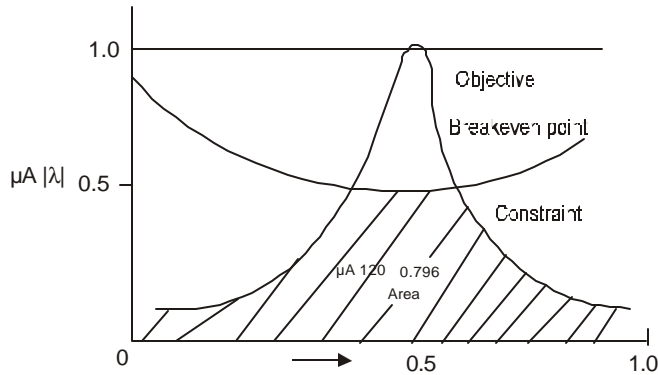


Fig. 1. Objective of Women progress and constraint of main recognition.

The fuzzy cardinality of 19 points would be $|\overline{A}| = 9.641$ and relative fuzzy cardinality

$$\frac{|\overline{A}|}{19} = 0.507421 = \mu_{\overline{A}}^{(\lambda)} \text{ and } = 0.6784$$

$$MTBF = 1.474 \text{ years}$$

Every 2 years there may be a meantime between 'failures to achieve the goal of 50.7421 % for women progress in the society for technical activities.

The Breakeven analysis may provide a solution

$$\mu_{\overline{A}}^{(\lambda)} = 0.796$$

$$\lambda = 6.2281531$$

$$MTBF = 4.383$$

There is an adjustment for two types of analysis of the objectives Women progress in india is going at rapid rate in the breakeven analysis The female power is changing their minds and decisions which are recognized by the society.

VIII. DISCUSSION

Progress of women society is a complex problem A solution IS found using the fuzzy logic and neural systems A field study is made that progress of women power is accelerat-

ing at rapid rate. The failure rates are the constraints In the progress All systems have a lifecycle law of diminishing return. With this view a study of emerging technology and women are brought to a study and investigation. The failure rates are high in the progress of women as being dual and complementary function of men power.

The Fuzziness in a business and emerging technologies can be reduced by employing women power planning and projects. The advantage of a dual and complementary system can be exploited by researchers and investigators.

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