

GLOBAL JOURNAL

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Software & Data Engineering

Letter Recognition System

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Highlights

Case of Telecom Sector

Interactive Computer Game

Discovering Thoughts, Inventing Future

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Identify and Handling of Risk Analysis by Parallelism

By Vikash Kumar Sharma & Ms. Savita Shivani

Suresh Gyan Vihar University, India

Abstract - Software industry have its own values in the economic growth of a country. The scenario of this field in the India is also not a small part of the whole. As per the trends India shares almost 20 % of the world's software economy. The tactics and development processes for the software industries always require a certain amount of improvements and certainty to achieve the target. There can be multiple factors which can affect the development process. In this research paper I am showing a much critical problem of risk handling there resolution. There are various models and methods which we can follow for calculate statically but that is not enough. If we really want to optimize the results as well as the success certainty we should improvise our traditional procedures. In the later part of this paper a short improvisation of my side over the traditional one is shown. This method improves our predictability about risks as well as the rectification of that problem.

Keywords : risk estimation, ladder climbing, risk resolution, risk constraints.

GJCST-C Classification : B.2.1



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Identify and Handling of Risk Analysis by Parallelism

Vikash Kumar Sharma^α & Ms. Savita Shivani^σ

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Keywords : risk estimation, ladder climbing, risk resolution, risk constraints.

I. INTRODUCTION

It's not the incident of recent time when the software industry taking a better place in the global community.

Its already had been started in the early 80's with the introduction of internet. Today we are totally surrounded by the software solutions either directly or indirectly, It's become part of our daily life. A small device like our cell phone doesn't work without a proper implementation of mobile software. We require an automated software for a washing machine. Every part of a country's body work on a software platform given by MNC's. There are several challenges for the software software companies either they work for small projects or a large. There are many constraints associated with the development of software within these boundary. The companies have to achieve their target. If they fail to manage and predict these constraints they cannot survive in the crowd. So it is essential for the modern and comparatively a large software domain that it have to manage the different estimation as well as their development plans and methods. The dynamic risk identification and handling plays a big role in the whole story of success and failure. If we become more certain about our project risks related to different phases of working model we can survive take the advantages easily. In this whole paper I have tried at a great extent that I could co-relate my concept with the real life things so that this model and

concept become easily understood and implementable. Take a quick picture which says the success story of continuously increasing software industry in India.

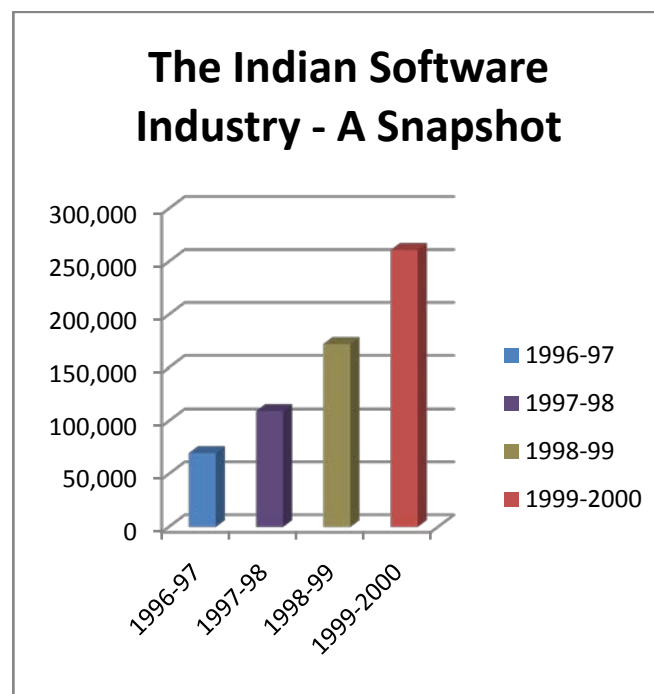


Figure 1 : Scenario of Indian software industry[1]

We can see that it is nearly doubled every year. So it is more challenging for the software industries to maintain continues improvements and ratio success to failure.

II. RISK AND THEIR CLASSIFICATION

In simple words we can define the "risk as a hurdle which can chock our process or can be harmful for the target which we want to achieve".

Risk estimation is more important factor in overall process of management. "Risk estimation can be identified as processes which help the project analysts to predict the occurrence of different type of risks at various levels of the project development".

After the identification of different type or risks according to their probability of occurrence a risk management procedure should be followed which help to maintain and rectify the risks, so that we can continue our process.

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There are mainly 3 type of risks identified during my research.

a) *Static Risks*

i. *Based on formal review of planning document*

These types of risks are basically identified during the early phase during planning with formal reviews of planning documents.

ii. *Based on the previous trends*

The previous trends based on projects completed also helpful to identify the frequently occurred risks.

b) *Dynamic Risks*

i. *Sudden Death*

Most dangerous in nature which completely destruct the project. Probability of these type of risks are minimum.

ii. *Short Circuit*

Which comes suddenly but can be diverted so that not make an effect on the overall process.

c) *Humanly Generated*

i. Improper decision making.

ii. Lack of proper planning.

iii. Lack of resource utilization.

iv. Less maturity of common sans.

III. **RELATION AMONG DIFFERENT CONSTRAINTS TO RISK**

Before discussing the actual problem we have to understand the various constraints which are introduced during the whole process. There are a relationship among them one can effect the others.

a) *Success and Time*

Success is inversely proporsnal to the proposed time limit for an activity. When time limit exceed the success ratio decrease.

$$\text{Success} \propto 1 / \text{Time}$$

As much as the time limit increase different other factors will be effected like-budget, high risk, more working hours per week. So time management is more crucial.

b) *Success and Resource Utilization*

Utilization of resources is also important. Our first and most aim should be the utilization of resources available. We should use them in a manner such that it follow the equation.

$$\text{Min resources \& Max utilization}$$

It saves our time, cost, working hours and increase our success rate.

$$\text{Success} \propto \text{Resource Utilization}$$

c) *Success and Predictability of Risks*

As much as our estimation become problem specific risk analysts are able to resolve them in a short time interval which defiantly increase the benefit and reduce the risks related to different activities.

$$\text{Success} \propto \text{Risk Estimation}$$

d) *Success and Quality*

Quality should be maintained during the whole process because our aim is not only to complete the task with a benefit but have to prepare a final outcome which is according to our expectations and remove the unwanted and harmful factors from the risk estimation process.

IV. **PROBLEM IDENTIFICATION**

As per the various proposed models earlier there are certain step by step processes with some specific guidelines. A risk analyst check the risks the risks and their level and going to solve them after resolving a particular problem, maintain a record which stores the observations during different activities enlist the risks and solutions etc. But the work is not completed yet. We can improve this process of risk identification then analysis then rectification. Our aim should not only be solve the problems but improvement in timing also with a certainty and surety of non failure.

a) *Traditional modals based on procedural approach*

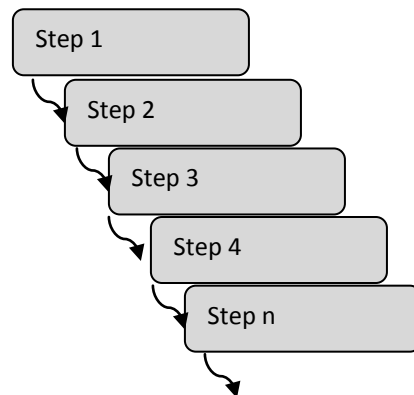


Figure 2 : Procedural Modal

b) Proposed Modal

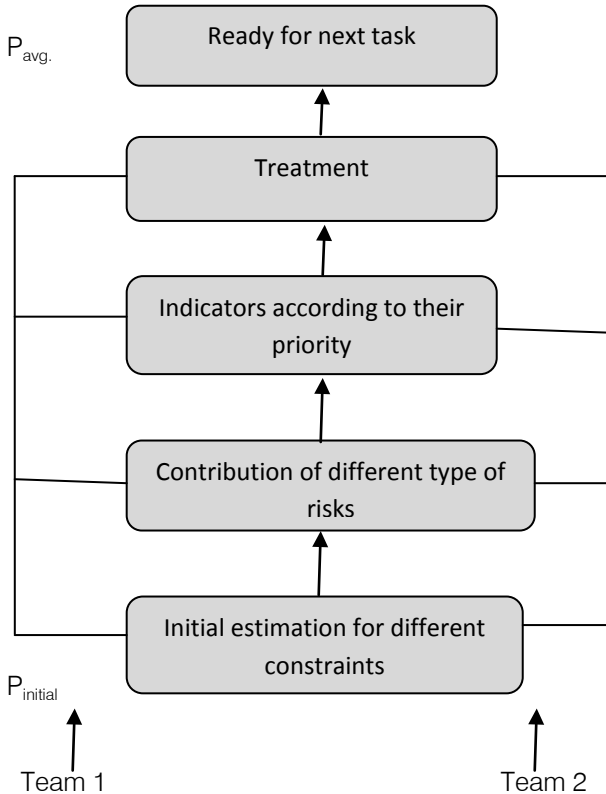


Figure 3 : Risk Analysis and Treatment

The given modal above have some improvements over the traditional one. This modal is very useful for parallel implementation as well. Before going in the detailed implementation first have look at the task of every step.

- 1) Initial estimation for different constraints - On the basis of previous reports and present circumstances we estimate a value for the every constraint. Which works as a base value for the whole process it can be different for the different activity levels.
- 2) Contribution of different type of risks - After the first step we can easily classify the risks according to their frequency, nature and by their resolution capability.
- 3) Indicators - Their can be different type of risks in a phase activity so after classification we can give them an indicator by which they are recognised and resolved.
- 4) Treatment - When the various type of risks are arranged in way that they can easily identified such that which can be resolved first? More the priority get more preference.

c) Risk Classification

I have given the names of risks related to real life examples like our physical problems so that we can easily classify them. According to my observations there mainly 3 type of risks found during the each phase we can classify them according to their priority.

d) We can put them in three different type of bins

1. Hypertension Risks – Most frequent and most dangerous.
2. Cancer on a head Risks – Less frequent but most dangerous.
3. Sneezing Risks – Most frequent but less dangerous.



Red got resolved first then Orange and at last stage bin with sky blue colour should be resolved.

After implementing the given modal at the last stage we calculate the average value for the risks occurred during the phase and compared with the initial value.

$P_{avg} = P_{initial}$	No loss with no gain
$P_{avg} < P_{initial}$	No loss and gain
$P_{avg} > P_{initial}$	Loss with no gain

The first 1st and 3rd condition is not our concern we are implementing this model for 2nd condition in which we improving our performance with a gain. This analysis and treatment model applied in the each phase of the project like a ladder fashion which we can see in the following figure.

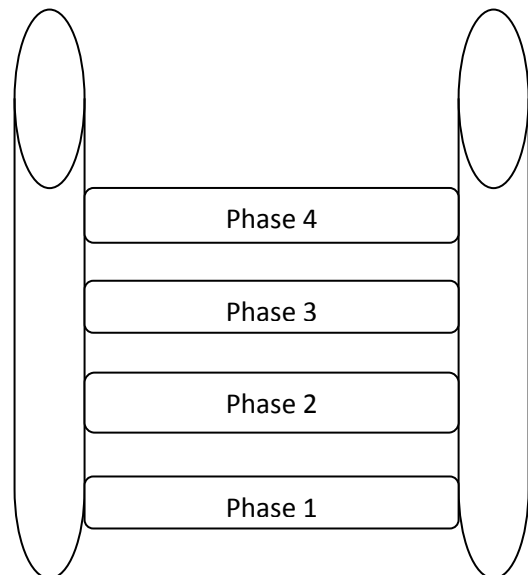


Figure 4 : Ladder climbing with safety

Given 3 conditions are checked during the every stare of ladder, if condition 1st and 2nd found during the estimation we move 1 step forward without any problem. But if we found the 3rd condition then we have to pay our attention for further processing. This

concept is inspired with the real life example when we climb on a ladder we ensure the strength of ladder with every step moved in forward direction. In the same way we check our estimated values with the initial values if the estimated average value is become high then movement without sort out it can be harmful for the remaining phases and we fall down without achieving our target.

V. PARALLEL IMPLEMENTATION AND BENEFITS

The proposed modal is implementable for the parallel processing more than “n” number of projects. With implement it in parallel approach we defiantly increase our performance and manpower.

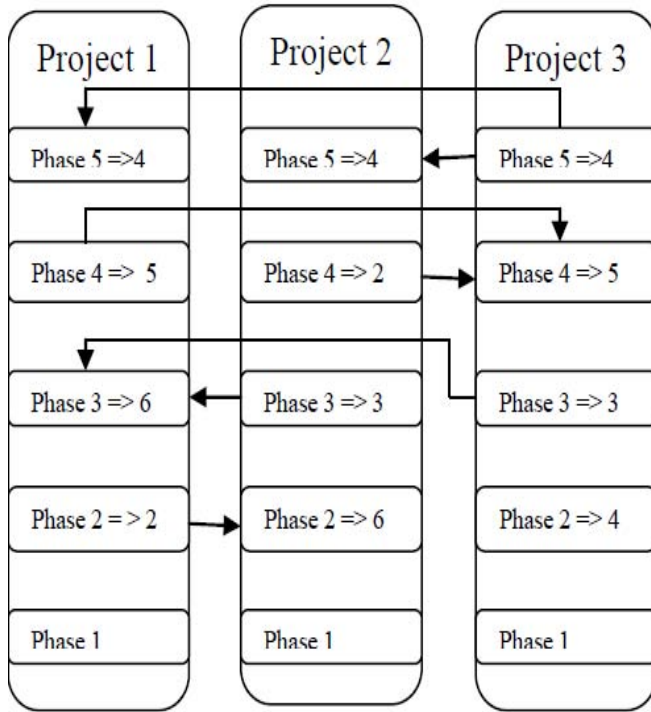


Figure 3 : Parallel Implementation

Necessary condition for every phase : The no of people for every phase must be N/2.

Reason : It is necessary for a project that it should be completed otherwise there could be a situation where nobody left for a project and free people shifted to other projects.

Suppose there are initially 4 person for each project their starting time is same.

1. After phase 1 two members shifted to 2nd project by getting a red token because they have done their work on 1st project.
2. After phase 2nd 3 members of project no 2 got green tokens and 1 member from project no. 3 got a green these members now shifted to project 1 and got a red token.

3. This process of allotting and submitting of tokens remains continue until the project not ends.
4. They have a special token according to their working condition there can be 3 conditions –
 - Red Token: For the people those are working for a phase and not free at that time.
 - Yellow Token: For the people those are near to complete his job.
 - Green Token: Ready to take a task and completely free.

Advantages

- i. We can improve overall process.
- ii. Proper personnel management.
- iii. Less time consuming.
- iv. Risk handling now easy and fast.
- v. More a team member gets red tokens more he able to show his performance.
- vi. Performance of every team member now easily measured.
- vii. Improved predictability about the different risks.

VI. UNIQUE IDENTIFICATION PROJECT OF INDIA

It is the world's largest IT project which is proposed and under implementation by INDIAN government. The future of this project is on a blank path because it is not an easy task to maintain and implement model for 300 crore people. In simple terms, it is about allocating a UID number to each Citizen in India. It can be extended to allocate the UID to each legal migrant at the time of entry into the Country till the person resides in India [2]. In the UID project there are also various serious issues, the first and foremost issue is management of such a huge project. A big amount of economy is invested in this project, so risk management is also very crucial in this concern. The model given this paper can solve this problem at a great extent.

VII. CONCLUSION

The concept given in this paper could be a revolutionary for risks management as well as for the risk estimation. With the help of this concept improvisation at the organization level can be made. Handling of different risks now become easy with help of classified bins. Parallel processing also improves the speed of getting a solution. The ladder climbing also ensures our success with a profit.

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Investigating the Technology Diffusion Problems in a Multi Culture Environment: A Case of Telecom Sector

By Sabahat Mahmood & Irfan Anjum Manarvi

International Islamic University, Pakistan

Abstract - Technology diffusion is an important aspect that is considered as economically important, while offering particularly large benefits to the organizations (Erik. A & Ken.G 2002). This study will explore the barriers to the diffusion of a new technology in a Telecom Sector organization. Ease of use, Job-fit, facilitating condition, training, Top management support, and project communication were found frequently used factors to investigate the usage behavior of employees of a telecom, manufacturing, engineering and government service sector industries. This study also investigates the impact of culture while diffusing a new technology in an organization.

System generated real time data is administered for evaluating the employee performance after implementing the new SpeechLog software in the QAU department as well as a questionnaire based survey was administered personally on 140 employees, In response to the survey, 120 valid responses were received. The response rate was 85%. Among the respondents, 70% were male while 30% were female.

Keywords : *technology diffusion, telecom industry, technology acceptance, culture.*

GJCST-C Classification : *K.6.1*



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The findings indicate that the emerged model over all explains 71% variation in intention to use while ease of use job-fit training and top management support were significant factor while explaining the intention to use SpeechLog software. Mostly respondents agreed that they like the idea of using SpeechLog software and they want to adopt it. Employees say that it has improved their work performance by completing their task efficiently. This research will help the Telecom organization's Management to understand the problems faced by employees while diffusing a new technology.

Keywords : *technology diffusion, telecom industry, technology acceptance, culture.*

1. INTRODUCTION

On the global basis, diffusion of technology is occurring at vastly different rates between the developed and less developed countries. In developing countries, there has been a great increase in diffusion of technology from different cultures. It is evident that governments and private sector today regard technology diffusion as an important route to increased competitiveness, especially diffusion of new

technology into telecom sector with advantages of flexibility, dynamism and responsiveness. Technology diffusion involves the dissemination of technical information and know-how and the subsequent adoption of new technology and techniques by users (Tassey 1992). It can also be defined as diffusion between different persons, firms and /or countries (Keller 2006).

Technology can diffuse in multiple ways with significant variations, depending on the particular technology, across time, over space, and between different industries and enterprise types. Moreover, the effective use of diffused technologies by firms frequently requires organizational, workforce, and follow-on technical changes. It is evident from literature that there are a number of potential factors that could influence the usage of an information system. In many developing countries organizations faces problem and even failure in transferring technology into practice (Atiyyah 1989; Cuningham & Sarayrah 1994). One common reason for its failure is the unwillingness or reluctance to change of users to accept a new technology. Developing countries come across cultural and social barriers when diffusing technology into practice.

The intent of this study is to report these problems in the progression of examining the role of culture during the technology diffusion in Telecom sector organization of Pakistan. The population of this study was XYZ employees of QAU department who were using new technology for call evaluation of call center department.

The objective of technology diffusion in any organization is to provide large benefits over time which in turn proves to be economically important. Further it involves internal reorganization of both production and management processes as well as upgrading of skills which leads to increase in economic value (Erik A & Ken.G 2002).

Previous research addressed different problems in technology diffusion in a multi culture environment as well as different models has been proposed by scholars from different disciplines and studied technology diffusion and acceptance of user towards information system from different perspectives (Ajzen, 1991; Davis, 1989; Venkatesh, Morris, Davis & Davis, 2003; Clarke, 1999; Thompson, Higgins, & Howell, 1994). Individuals

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task completion play's a key role in organizational performance, the users should be provided successful training to encourage the SpeechLog application usage as its training and learning are very important in successful implementation. The positive usage behavior of this software will leads to job completion on time, which improves the employee's performance. The objective of this study is to explore various problems that might be faced by the management and employees during technology diffusion.

II. THEORETICAL FRAMEWORK

An investigation into the past research revealed that a considerable amount of literature is there regarding technology diffusion problems while diffusing a new technology in an organization. A set of variables have been explored to study the intention to use of employees. It will provide the information as to which variable is more influential in the usage of SpeechLog application by the employees of telecom sector Pakistan. The name of the telecom organization is kept confidential in the study and don't mentioned here due to the organizational policies. This research is expected to contribute to the understanding for management the challenges in in build technology diffusion towards use of SpeechLog application; it will calculate the overall software performance through real time system generated data. The second part of the research is also important in providing information about the employee's intention to use SpeechLog application and the problem faced by the employees while using a new technology. Based on the following research a framework is emerged as shown in Figure 1. In this research model, Ease of use, Job-Fit, Facilitating condition, training, top management support, project communication and culture are the independent variables which have their effect on the intention to use SpeechLog software (dependent variable). In order to achieve the research objective, following research hypothesis are proposed.

- H1- Perceived ease of use has a positive correlation with intention to use SpeechLog software of employees.
- H2- Perceived Job-fit has a positive correlation with intention to use SpeechLog software.
- H3- Facilitating condition has positive impact on employee intention to use a SpeechLog software.
- H4- Training has positive impact on intention to use SpeechLog software.
- H5- A relationship exists between top management support and employee intention to use SpeechLog software.
- H6- Project communication has positive impact on employee intention to use SpeechLog software.
- H7- Culture has positive impact on intention to use SpeechLog software.

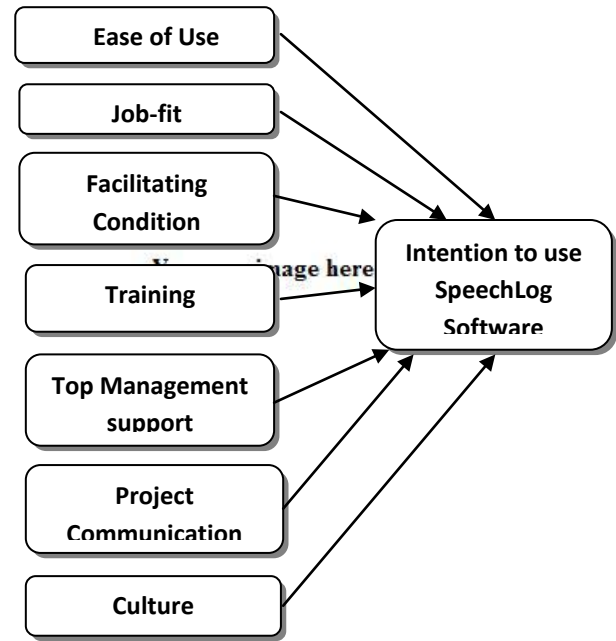


Figure 1 : The proposed research model

III. METHODS

The real time system generated data was collected for the 100 days for calculating the SpeechLog software performance. The call targets assigned by management and evaluated through SpeechLog software has been analyzed as well as Number of queries made through different departments and answered through SpeechLog software of QAU department has been analyzed so as to calculate the overall performance increase of the QAU department.

a) Respondents

Questionnaire was distributed among 140 employees working in QAU department of telecom organization located in Islamabad Pakistan. In response, 120 questionnaires were returned. Data of 120 completely filled questionnaire were entered in statistical Package for Social Sciences (SPSS) for analysis. The response rate was 85%. The response shows that the sample represented CCE's, Supervisor, Assistant Managers and manager. A pilot test was conducted to verify various dimensions of the questionnaire such as ease of completing the questionnaire, language used, and appropriateness of questions with relevance to usage behavior. Fifteen SpeechLog users working in QAU department of XYZ Company were asked to fill in the questionnaire. Feedback was obtained, in result of the pilot study minor changes in statements of the final survey tool were incorporated.

b) Measure

The questionnaire used in this research was adapted from the studies conducted on intention to use

a new technology or software (Davis (1989), Venkatesh et al (2003) and Thompson et al (1991)) and computer software evaluation form.

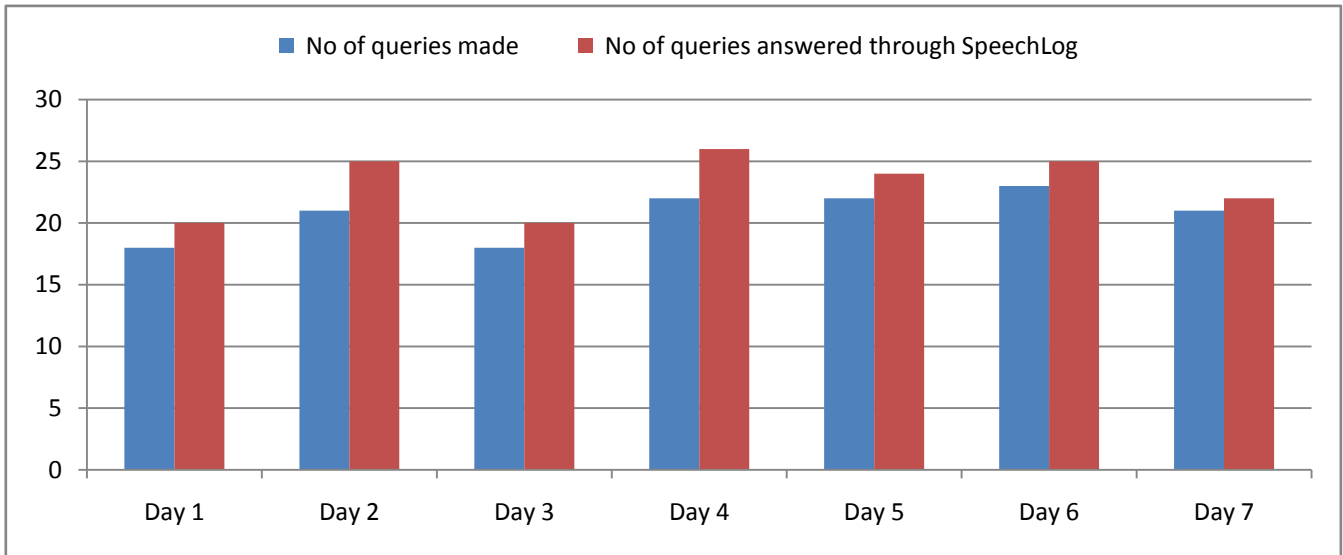


Figure 2 : SpeechLog Application Performance of 1st Week

IV. RESULTS AND DATA ANALYSIS

a) System Generated Data & it's Analysis

To explain any phenomenon we seek to explain it by collecting data from the real world and then using data to draw conclusions. In this study we have taken the data of about 100 days of SpeechLog Application, it contained the details regarding queries made and the queries answered through SpeechLog as well as the assigned target done by the agents. The SpeechLog performance of first & second week for Number of queries made and answered is shown in figure 2 & 3. It

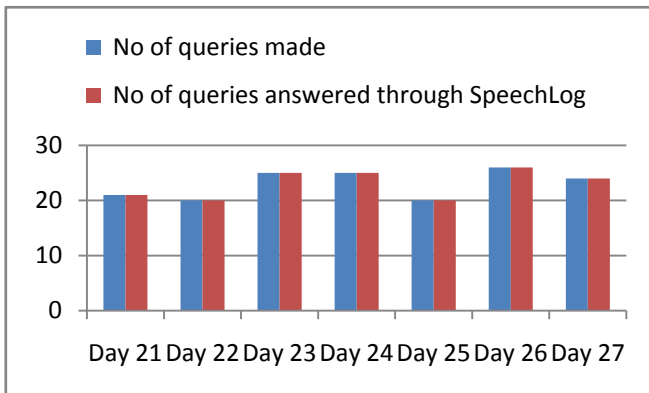


Figure 3 : SpeechLog Application Performance for 2nd Week (For Queries)

explain how SpeechLog Application will help the QAU department to answer the queries made as well as by answering some additional queries it will increase overall performance of the organization.

The assigned call evaluation target is also analyzed, data for the first Week is shown in figure 4, it

explain how SpeechLog Application will help the agents to complete their target on time as well as by providing help through completing the additional call target will in turn increase overall efficiency of the department.

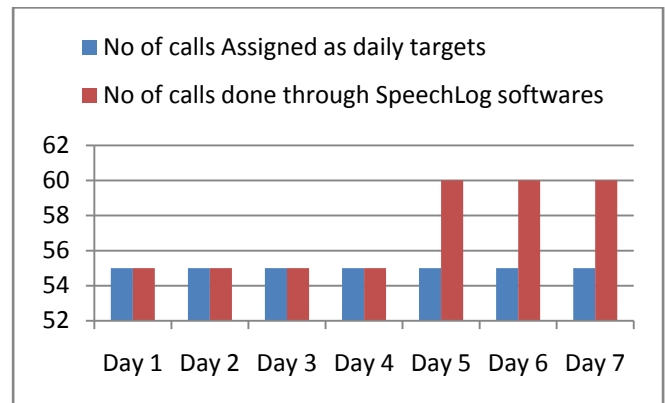


Figure 4 : SpeechLog Application Performance for 1st Week (For Call Target)

The Figure 5 shows the call evaluation target done through SpeechLog software for the second week.

b) Reliability Statistics

To confirm the reliability of the questionnaire, cronbach's Alpha reliability statistics analysis was conducted. In statistics the cronbach's Alpha value greater than .5 is considered to be reliable scale.

Table 1 shows the reliability statistics of the questionnaire. The value .947 shows that the scale used in the questionnaire is highly reliable.

Cronbach's Alpha	N of items
.947	29

Table 1 : Reliability Statistics

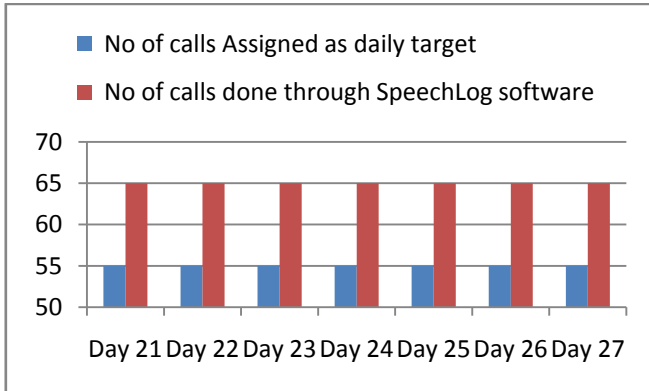


Figure 5 : SpeechLog Application performance for 2nd Week (For Call Target)

c) Descriptive Statistics

In order to explore the SpeechLog user responses with respect to gender. A frequency statistics was made.

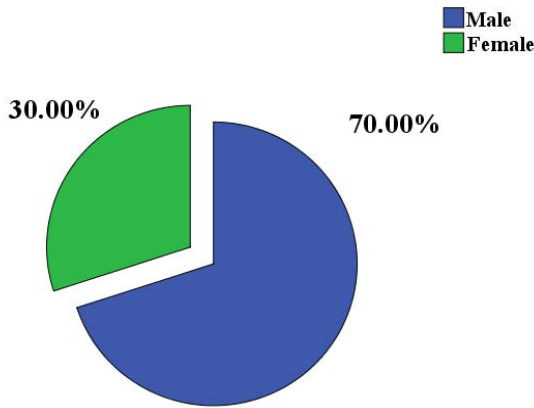


Figure 6 : Descriptive data of gender wise response

The figure 6 shows the frequency distribution of the respondents. Out of 120 responses, 70% were male and 30% were female.

Figure 7 shows variation in age of the respondents. Out of 120 respondents, majority lies in 31-40 age group (N=102), while seventeen are in 20-30 age group, and 1 in 41-50 age group.

Figure 8 shows the respondents distribution according to their working experience. Mostly respondents (N=52) have 5-6 years experience, 33 respondents have 3-4 years experience, 20 respondents have 7-8 years experience, 12 are in 9-10 years experience block while only 3 have 1-2 years experience.

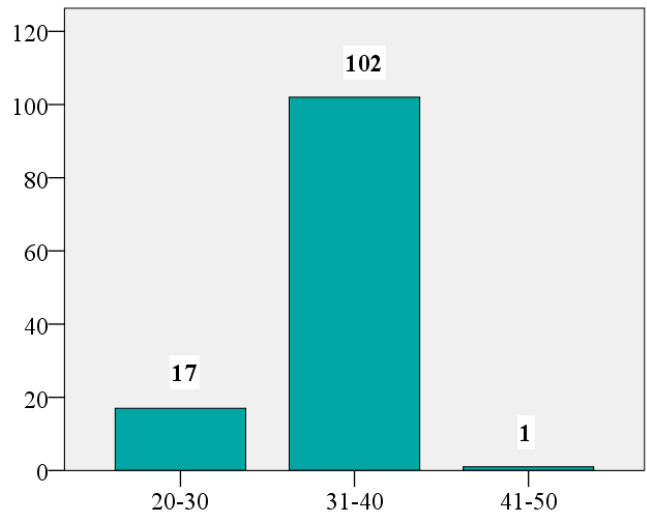


Figure 7 : Age wise distribution of SpeechLog users

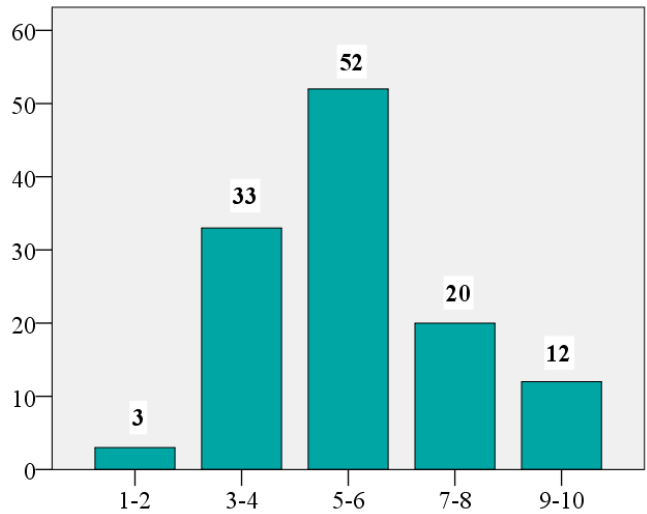


Figure 8 : Experience wise distribution of SpeechLog users

To find out the respondents experience in using SpeechLog Application. The frequency distribution with respect to their experience in SpeechLog software use is shown in figure 9.

Figure 9 represent the SpeechLog usage experience possessed by the employees. Mostly respondents (N=50) had more than 2 years of experience, 37 having 1-2 years of experience while only 33 have less than one year experience in use of SpeechLog software.

Figure 10 represent the respondent's distribution according to their education. Mostly respondents (N=73) had master degree qualification, 44 having bachelor degree qualification while only 3 have MS degree qualification.

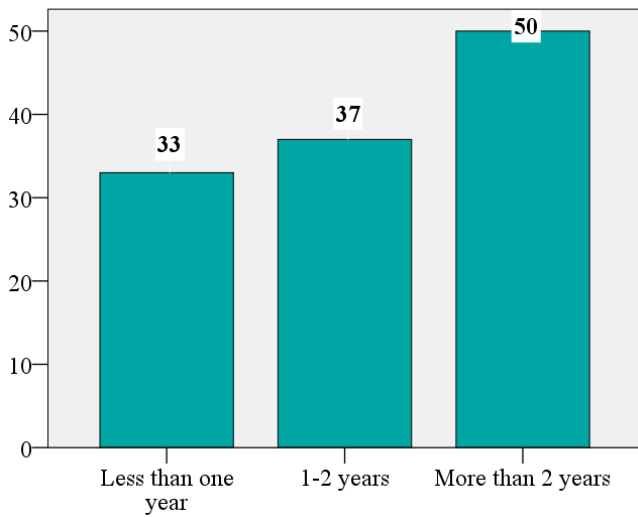


Figure 9 : SpeechLog usage Experience

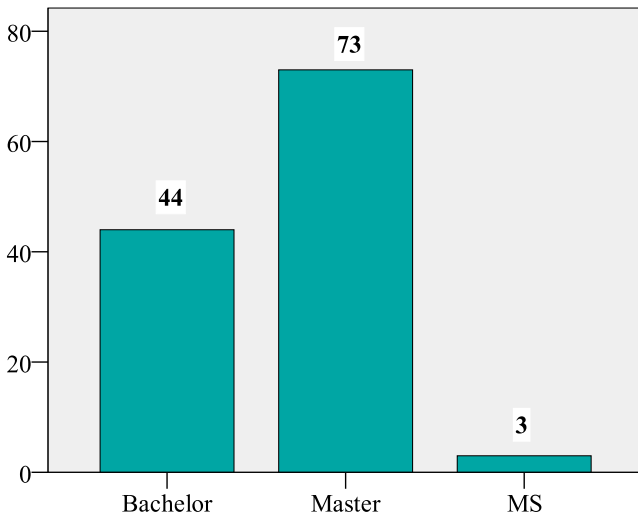


Figure 10 : Education wise distribution of SpeechLog users

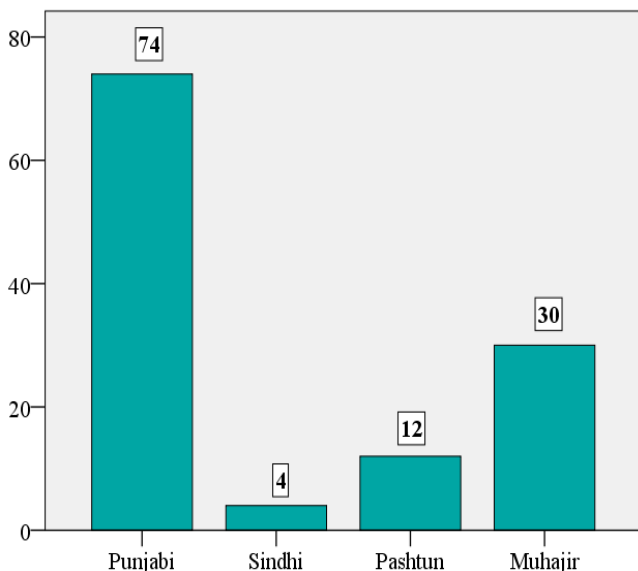


Figure 11 : Ethnic Origin wise distribution of SpeechLog users

To find out the respondents cultural profile. The frequency distribution with respect to their Ethnic origin and city is shown in Figure 11 & 12.

Figure 11 shows the respondent distribution according to ethnic origin. Mostly respondents (N=74) had Punjabi origin, 30 respondents have Muhajir origin, while 12 have Pashtun origin and only 4 have Sindhi origin.

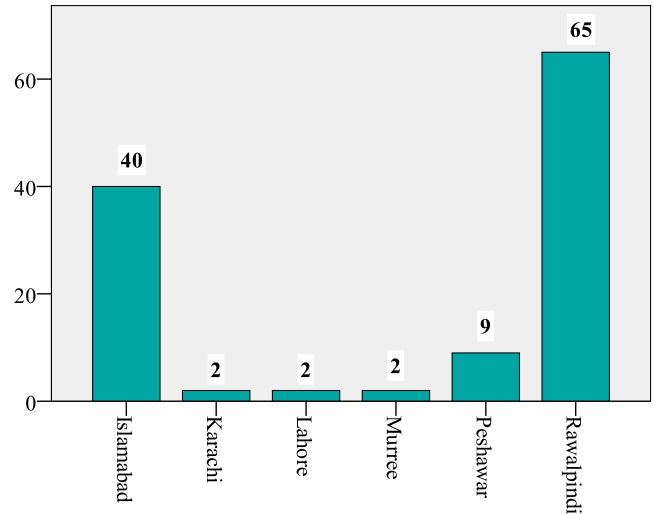


Figure 12 : City wise distribution of SpeechLog users

Figure 12 represent the respondent's distribution according to their city. Mostly respondents (N=65) belongs to Rawalpindi, 40 respondents belongs to Islamabad while 9 belong to Peshawar 2 each belongs to Murree, Lahore and Karachi.

d) Hypotheses result and analysis

In table 2 the R2 (.72) value shows that the independent variable explains the 71% variation in the intention to use SpeechLog software. Here we can say that our model best fits and it explain significant variation in the intention to use.

Table 3 shows the beta and significance value of each independent variable in regression model.

The significance value (p=.000) in table 3 shows that ease of use and Job-fit is significant in measuring the intention to use. The beta value, B=.322 of Ease of use show that ease of use contribute to .322 variation the intention to use.

Table 2 : Regression Analysis

Model	R	R Square	Adjusted R square	Std Error of the Estimate
1	.833	.712	.703	.38816

Table 3 : Detailed Regression Analysis

Dependent Variables	R2	Independent variables	Beta	T	Sig
Intention to Use	.82	Ease of use	.322	4.602	.000*
		Job-fit	.505	6.873	.000*
		Facilitating Condition	.063	.917	.360
		Training	.172	2.967	.003
		Top management support	.189	2.967	.003
		Project Communication	.036	.686	.494
		Culture	.007	.094	.925

Note. *Significant at .005 level

The value (B= .505) shows that the variable job-fit strongest predictor in measuring the behavior intention. Here we will accept H1 and H2.

Table 3 shows the regression analysis, the p value (p>.005) shows that facilitating condition is not a significant variable in measuring the intention to use. Hence we reject H3.

The p value (p=.003) in table 3 shows that training is a significant variable in measuring intention to use. Here we accept H4.

In table 3, Top management support is a significant variable in measuring intention to use. Here we accept H5.

The p value (p=.494) in table 3 shows that the project communication is not a significant variable in measuring intention to use. Here we reject H6.

In Table 3, the p value (p>.005) shows that culture is not a significant variable in measuring the behavior intention. Here we reject H7.

V. FINDINGS

The results of correlation analysis shows that Ease of use, Job-fit, Facilitating condition and training are strongly correlated with the intention to use SpeechLog software while top management support, project communication and culture have medium level correlation with intention to use SpeechLog software. The R square value (.72) shows.

That the overall independent variable explains 71% variation in the intention to use SpeechLog software.

Here we can say that the model best fits and it explain significant variation in the intention.

The p value of culture (p=.925) shows insignificant variable in measuring the intention to use.

The p value (p=.360) in the regression analysis of the facilitating condition shows that this is not a significant variable in measuring the intention to use.

While exploring all variables individually, the variable ease of use is significant in measuring the intention to use. The beta value, $\beta = .322$, show that ease of use is stronger predictor of intention to use. Job-fit is significant while explaining intention to *Use SpeechLog software*. The negative beta and t value indicate that this

variable is not positively associated with the intention to use.

The regression analysis shows that the Job-fit is a significant variable while project communication is not a significant variable. Top management support and training were also found the significant contributor toward measuring intention to use toward use of SpeechLog software.

The overall findings analyzed from the questionnaire 'comments part' regarding problem faced while using this SpeechLog software by the employees are resistance to change, proper resources are not available, processing speed is low due to the unavailability of proper resources, Frequent training programs are required, and employee's believe that SpeechLog software is a valuable purchase and company should adopt it. The findings indicate that the culture don't have any impact on intention to use of SpeechLog software.

The findings from the analysis of the system generated real time data indicate that the SpeechLog software efficiently complete the task on time.

VI. CONCLUSIONS

This study was centered on SpeechLog software intention to use and the problem faced while diffusing it. The aim of this study was to investigate factors affecting the employee intention towards use of SpeechLog software and its impact on the overall performance of the organization as well as to explore various problems that might be faced by the management and employees during technology diffusion among different cultures.

The first part of the study explores the literature related to technology diffusion problems faced while diffusing technology among different cultures. Use of different models and theories of intension to use of technology in different sectors especially in the telecom sector.

During the exploration of literature, many factors were identified for measuring the intention to use towards use of a new technology. Based on the findings a theoretical model is emerged. The population of this study was telecom organizations employees who were

using SpeechLog software in QAU department of the company. The sample size of 140 was selected, however, 120 out of 140 selected participants responded. A questionnaire based survey was administered personally on 140 employees who were using SpeechLog software. In response to the survey, 120 valid responses were received. The response rate was 85%. Among the respondents 70% were male while 30 % were female, the findings of this study indicate that majority of the respondents agreed that they like to use SpeechLog software. They want to become professional in SpeechLog software use and intend to use it in future. Most of the respondents think that it is a valuable purchase and company should adopt it. This research will help the management to understand the factors responsible for the intention to use SpeechLog software as well as to find out the problems faced by the employees while using new software.

VII. RECOMMENDATIONS

Based on the findings of this research, the following recommendations are given to increase intention to use SpeechLog software as well as overcoming the problem faced by the employees while using SpeechLog software.

- i. There is need to ensure the employees that by using SpeechLog software they will become a valuable assets to the organization by completing their tasks efficiently.
- ii. The employees should be provided with additional bonuses if they are performing well with the use of this new technology.
- iii. Frequent meetings should be planned to find out the problems faced by the employees.
- iv. The technical support should be provided to employees.
- v. The senior management should also frequently use the SpeechLog software to evaluate its effectiveness.
- vi. Frequent training programs should be planned to improve the understanding of the software features.
- vii. Top management should be supporting and should communicate well in time about the implementation of the new software.
- viii. The senior management should encourage SpeechLog usage.
- ix. Organization should provide necessary resources to use SpeechLog software.

VIII. FUTURE RESEARCH DIRECTION

Current research explains the 72% variation in the intention of use of the employees. The 29% portion is unmeasured. There is a need of future research which explores the further variables to measure the leftover portion which was not measured in this research. This

research could be helpful for other Telecom sector organization to study the problems faced while diffusing a new technology, it should be carried out in other telecom sector organizations as well as it could also be applied to other departments of the same company.

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Increasing Speech Ability of the Autistic Children by an Interactive Computer Game

By Md. Monjurul Islam, Md. Abdullah Bin Amin & Priyam Biswas

Chittagong University of Engineering and Technology, Bangladesh

Abstract - Autism is one of the most common development disorders in the world, which affects about one in every 150 kids. It is a lifelong disability with no known cure at this time. It affects the way a person communicates and relates to people around him. They face problem to communicate with other people. Speech disorder is one of the most common complexities of autistic children. Most of the children are unable to speak like normal children. They speak repeated, meaningless word, which is very harmful for their communication skills. Now a day's computer plays an important role for teaching. So we proposed a method which increases the speech ability of autistic children by an interactive computer game. Our game helps autistic children to improve his verbal communication ability. As children likes to play computer games, so our game will be the perfect way to teach new words to autistic children or increase their fluency of known words. We provide a module with that helps children to also learn mathematics. Their progress can be evaluated through our game module.

Keywords : *autism, interactive game, speech ability.*

GJCST-C Classification : *K.8.0*



Strictly as per the compliance and regulations of:



Increasing Speech Ability of the Autistic Children by an Interactive Computer Game

Md. Monjurul Islam^α, Md. Abdullah Bin Amin^σ & Priyam Biswas^ρ

Abstract - Autism is one of the most common development disorders in the world, which affects about one in every 150 kids. It is a lifelong disability with no known cure at this time. It affects the way a person communicates and relates to people around him. They face problem to communicate with other people. Speech disorder is one of the most common complexities of autistic children. Most of the children are unable to speak like normal children. They speak repeated, meaningless word, which is very harmful for their communication skills. Now a day's computer plays an important role for teaching. So we proposed a method which increases the speech ability of autistic children by an interactive computer game. Our game helps autistic children to improve his verbal communication ability. As children likes to play computer games, so our game will be the perfect way to teach new words to autistic children or increase their fluency of known words. We provide a module with that helps children to also learn mathematics. Their progress can be evaluated through our game module.

Keywords : autism, interactive game, speech ability.

I. INTRODUCTION

Autism is one of the autism spectrum disorders, a group of conditions that vary in their severity and the age at which a child first may show symptoms [16]. Autism spectrum disorders fall under a broader category known as pervasive developmental disorders (PDDs) [17]. PDDs cause delays in many areas of childhood development, such as the development of skills to communicate and interact socially. Autism typically is diagnosed during a child's second year and is life long, although symptoms may lessen over time [10]. There is no cure for autism, but appropriate treatments can help a child develop life skills to function more independently. Approximately one third to one half of individuals on the autism spectrum has significant difficulty using speech and language as an effective means of communication. These difficulties in speech production and processing can result in interpersonal interactions being overwhelming, confusing, stressful and are often misinterpreted as a general disinterest to engage in social interactions. Doctors, therapists, and special teachers usually help kids with autism to overcome many difficulties. However, the traditional methods of teaching clear speech to the autistic

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children suffer from being monotonous, laborious and not successful in many cases. Hence, we developed an interactive computer game which will be helpful to increase the speech ability of autistic children. During our two months of intervention with the autistic children of BN Ashar Alo School & Rehabilitation Centre at Chittagong, we checked the effectiveness of this therapy and got some encouraging results.

II. BACKGROUND AND PRESENT STATE OF THE PROBLEM

Computer-based interventions are perhaps the most studied technology-based intervention for children with autism [6]. Computers have been used to teach a variety of skills, including how to recognize and predict emotions, enhance problem solving, improve vocabulary, advance generative spelling, enhance vocal imitation, increase play related statements, and improve reading and communication skills. Additionally, researchers are working to present commonly used, low-technology interventions via computer. for example, social stories, an educational strategy developed by carol gray, have been presented in a multimedia, computer based format, and activity schedules are being developed in microsoft powerpoint and used to teach children with special needs. Although the results of these studies vary in terms of their positive gains for children with autism, the overall results are quite favorable. For example, developed and evaluated a computer-animated tutor to improve vocabulary and grammar in children with autism [1]. In their investigation, eight children were given initial assessment tests and tutorials, and were then reassessed 30 days following mastery of the vocabulary items. Data showed that students were able to identify significantly more items during test and recall 85% of the newly learned items at least 30 days after the completion of training. Vocabulary acquisition and knowledge is an important component of language competency, constituting both proficiency in oral communication and reading comprehension. Recent studies illustrate that the breadth and depth of vocabulary affects not only reading success but also overall success in school. Accordingly, the need to develop and strengthen vocabulary is an essential element of intervention programs for many children with autism; therefore, prevention programs to narrow the

gap of at-risk populations should begin as soon as possible after diagnosis. Unfortunately, these motivational environments necessary to develop language skills must overcome many inherent obstacles. The behavioral difficulties that speech therapists and instructors encounter, such as lack of cooperation, aggression, and lack of motivation to communicate, create difficult situations that are not optimal for learning. Computer-based instruction is emerging as a prevalent method to train and develop vocabulary knowledge for both native and second-language learners and for individuals with special needs. An incentive to employing computer-controlled applications for training is the ease with which automated practice, feedback, and branching can be programmed. Another valuable component is the potential to present multiple sources of information, such as text, sound, and images, in parallel. Incorporating text and visual images of the vocabulary to be learned along with the actual definitions and sound of the vocabulary facilitates learning and improves

memory for the target vocabulary. For example, found an increase in recall of second-language vocabulary when training consisted of combined presentations of spoken words, images, written words, and text relative to only a subset of these. So we propose a new method to improve the ability of speech of autistic children with an interactive computer game. We think this method will be more effective than previous method.

a) *Proposed Methodology*

Autistic children face a great trouble in communication due to their poor verbal skills. To increase the ability of speech previous method is proposed. As the previous method have some limitation. So in our method we try to recover those limitations. In our method we add some extra function those are not present in previous method. Those function are used to recover the limitations of previous method. User's gets more benefit by use this method which is shown in Fig. 1. Steps of the method are given below:

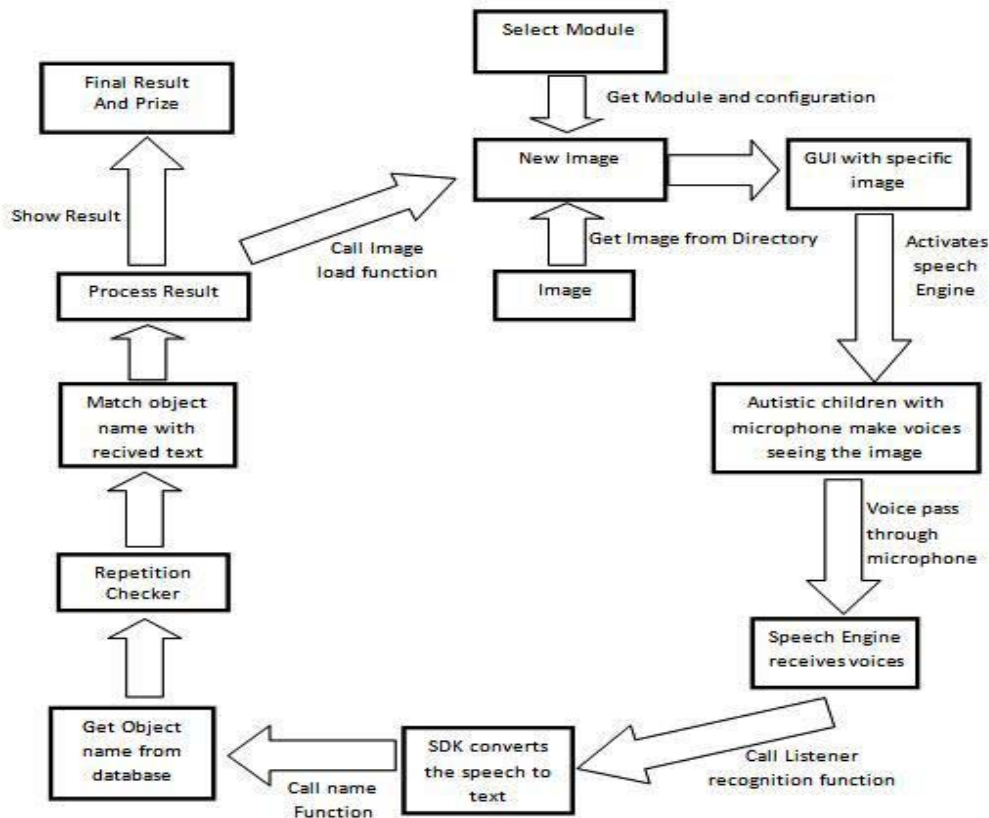


Figure 1 : DFD of Overall System

- b) Select module among seven modules.
- c) Configuration for selected module.
- d) Image location is fetch from database and grab from the image directory.
- e) Image showed in user interface. Then activates the speech engine.
- f) User makes voice after seeing the image.
- g) Speech engine receives voice and call listener recognition function.
- h) Speech SDK converts the speech to text.
- i) Name of object is fetch from database.
- j) Check repetition in the text.
- k) Object name is matched with text.
- l) Process result

- m) Call image load function
- n) New image selected form the directory.

And the process is going on. When the game is finished then a window came up and showed up and user gets results. The user gets prize if he wins.

III. PERFORMANCE EVALUATION

In Fig: 2 we show that our module works for different approaches to teach the autistic children. We consider here different fruits, animals identification, number (0-9) verification, alphabet (a-z, A-Z) identification etc.. We show that the number of steps decrease considerably than other traditional approach in Fig 3. Most of the cases it takes single step. When unknown objects found or pronunciation of word is very hard generally on such cases two, three or four attempt are required.

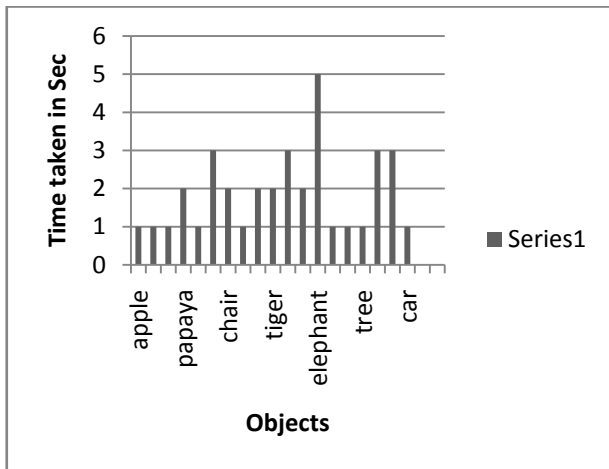


Figure 2 : English Level One Time taken vs. Object graph






Objects Name	Response Time				Number of Attempt
	1 Sec	2 Sec	5 Sec	10 Sec	
	√				1
		√			1
		√			1
			√		2
	√				1

Table 1 : Time taken by the autistic children at different levels of difficulty

There are some existing methods. So it is important to compare the result of this method with those. The Comparison is given bellow in Table2. Fig 4 depicts the final comparison of the previous method where almost for all the cases proposed method give us better result.

Feature	Previous Method	My New Method
Use Open source Technology	No	Yes
Platform Independent	No	Yes
Repetition Detection	No	Yes
User Friendly	Yes	Yes
Learn Math	No	Yes
Database support	No	Yes

Table 2 : Comparison between previous and new method

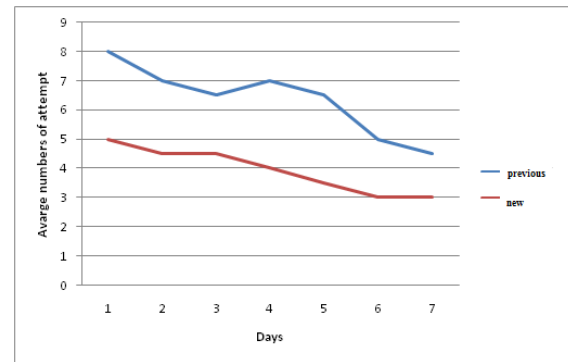


Figure 3 : Average numbers of attempt taken in previous method and new method

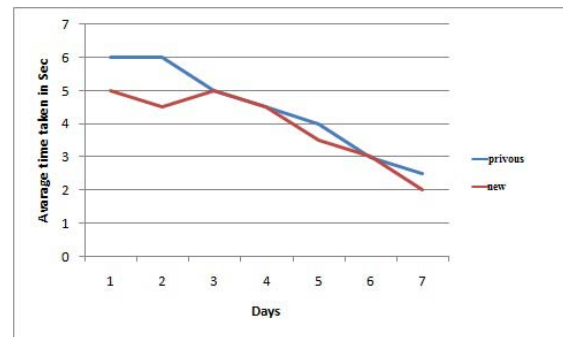


Figure 4 : Average time taken in previous method and new method

IV. CONCLUSION

Autistic children face a great trouble in communication due to their poor verbal skills. To increase the ability of speech previous method is proposed. So, in our method we try to add some extra function those are not present in previous method. Those functions are used to recover the limitations of previous method.

The future works of this game include using free & sophisticated graphics toolkit like OpenGL. We are also interested to include the introduction of Artificial

Intelligence so that it can dynamically update the grammar file and picture from the environment. It might extract emotional data from the facial expression of the children. In future, we have a plan to implement this game in Mobile Platform so that it will also become widespread among middle & lower class people.

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SVM Classification in Multiclass Letter Recognition System

By Aarti Kaushik, Gurdev Singh & Anupam Bhatia

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Abstract - In this paper, we have studied the concept of multiclass classification and support vector machine. After scrutinizing the problem of multiclass classification, we concluded the fact for how it is suited to describe the binary classification. Also illustrating various kernel functions associated with implementation for svm. By further proceeding, it would let you disclose the concept for fitness of support vector machine in multiclass letter recognition system.

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SVM Classification in Multiclass Letter Recognition System

Aarti Kaushik ^α, Gurdev Singh ^σ & Anupam Bhatia ^ρ

Abstract - In this paper, we have studied the concept of multiclass classification and support vector machine. After scrutinizing the problem of multiclass classification, we concluded the fact for how it is suited to describe the binary classification. Also illustrating various kernel functions associated with implementation for svm. By further proceeding, it would let you disclose the concept for fitness of support vector machine in multiclass letter recognition system.

I. INTRODUCTION

Each training point belongs to one of N different classes in multiclass classification. The classes are mutually exclusive. The goal is to construct a function which, given a new data point, will correctly predict the class to which the new point belongs. In this paper, we have to scrutinize the problem of multiclass classification and how can we extend the support vector machine to allow for multiclass classification is still a research issue. Support vector machine is inspired from statistical learning theory. The main feature of SVM is that accuracy is high owing to their ability to model complex nonlinear decision boundaries (margin maximization) but training can be slow. The main disadvantage of SVM is to choose a “good kernel function”.

There are various methods of multiclass SVM classification:

- 1-vs-all
- 1-vs-1
 - DB2
 - Error Correcting Output Coding
- K-class SVM

II. SUPPORT VECTOR MACHINE

A support vector machine is a design of classification of both linear and nonlinear data. It converts the original data into a higher dimension; from where it may SVM is based on supervised learning which SVM becomes popular because of its success in handwritten digit recognition, object recognition and speech recognition. 1.1% test error rate for SVM. This is the same as the error rates of a constructed neural

network. Support Vector Machine is primarily designed for binary classification. The various properties of SVM are duality, robust, kernel, margin, convexity and sparseness. SVM is an important example of kernel methods.

SVM describe two cases:

The case when data are linear separable.
The case when data are linear inseparable.

The case when data are linear separable

Let training vectors: \mathbf{z}_k , $k=1, \dots, i$,

Consider a simpler case having two classes:

Define a vectory

$$Y_i = \begin{cases} 1 & \text{if } \mathbf{z}_k \text{ in class 1} \\ -1 & \text{if } \mathbf{z}_k \text{ in class 2} \end{cases}$$

The idea of using a hyperplane to separate the data into two group sounds well when there are only two target categories. There are infinite numbers of decision boundary or separating hyperplane that separate the data. We have to choose the best one that has minimum classification error.

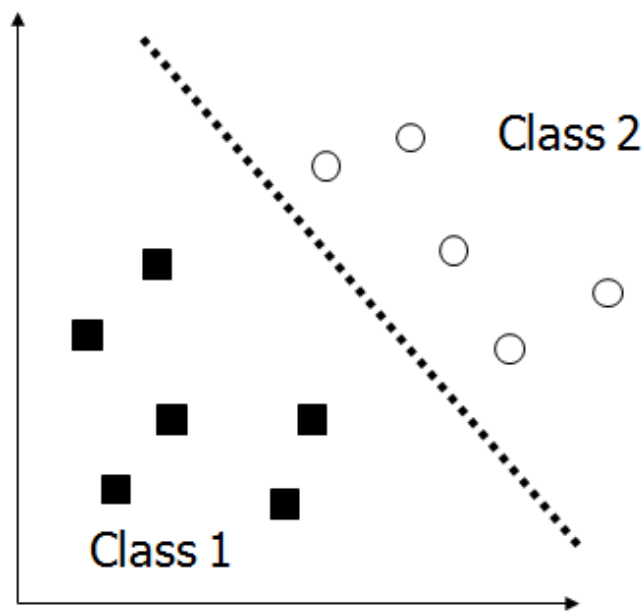


Figure 1 : Example of superior decision boundary separating two classes

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Author ^ρ : Assistant Professor, Kurushketra University Post Graduate Regional Centre, Jind.

The main purpose we need it is because if we use a decision boundary to classify, it may end up nearer to one set of datasets compared to others and we do not want this to happen and thus concept of **maximum margin classifier** or **hyper plane** as an

apparent solution. Support vectors are the data points that lie closest to the decision surface.
 Maximum margin hyperplane

- The decision boundary should be as far away from the data of classes as possible.

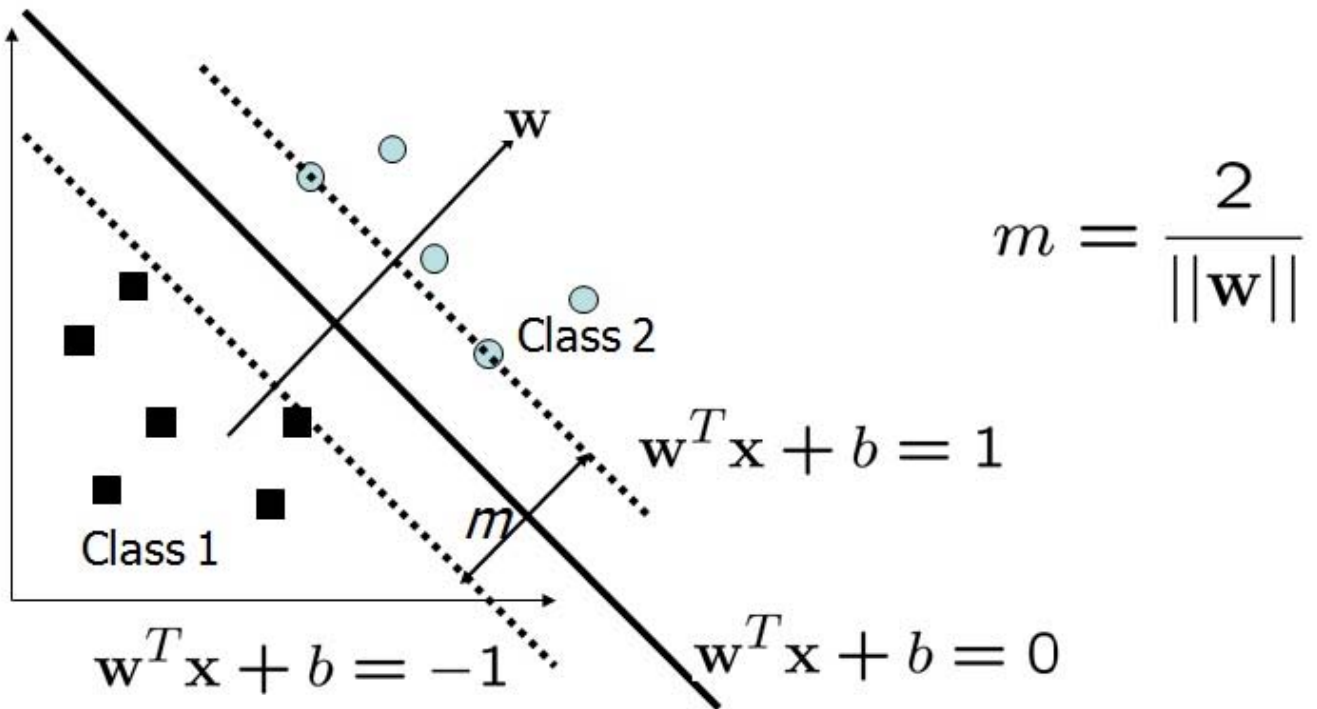


Figure 2 : Example of Maximum Margin Hyperplane

There are few steps for finding the decision boundary:

1. Let $\{x_1, \dots, x_n\}$ be our data set and let $y_i \in \{1,-1\}$ be the class label of x_i . The decision boundary should classify all points correctly P

$$w^T x_i + b \geq 1, \quad \forall i$$

2. The decision boundary may be obtained by solving the following constrained optimization problem

$$\begin{aligned} &\text{Minimize} && \frac{1}{2} \|w\|^2 \\ &\text{Subject to} && y_i(w^T x_i + b) \geq 1 \end{aligned}$$

The Lagrangian formulation of this optimization problem is

$$\begin{aligned} \mathbf{L} &= \frac{1}{2} \|w\|^2 - \\ &\sum \alpha_i y_i (w^T x_i + b - 1) \\ &\alpha_i \geq 0 \end{aligned}$$

Where y_i is the class label of support vector, a_i and b are numeric parameters that were obtained automatically by the SVM algorithm and optimization. Lagrangian formulation is very useful for finding the maximal margin hyperplane and support vectors when the given data are non linear separable. Because it contain the dot product of support vector x_i and test tuple w^T .

In second case data are not linearly.

In second case data are **separable** i.e. in such cases no such straight line can be found that would divide the classes. Linear SVM can be extended to generate Non Linear SVM'S for classification of linearly inseparable data. Such SVM are capable of finding nonlinear decision boundaries kernel functions.

In practical use of SVM, only the kernel function (and not $f(\cdot)$) is specified. Kernel function can be thought of as a similarity measure between the input objects. Not all similarity measure can be used as kernel function, however Mercer's condition states that any positive semi-definite kernel $K(x,y)$, i.e. can be expressed as a dot product in a high dimensional space.

$$\sum_j^i (x_i, x_j) c_i c_j \geq 0$$

a) Types of Kernel Functions

- Polynomial kernel with degree d is defined as

$$K(X_i, X_j) = (X_i \cdot X_j + 1)^d$$

- Radial basis function kernel is defined as

$$K(X_i, X_j) = e^{-\|x_i - x_j\|^2 / 2\sigma^2}$$

- Closely related to radial basis function neural networks.
- Sigmoid with parameter k and δ

$$K(X_i, X_j) = \tanh(kX_i \cdot X_j - \delta)$$

- It does not satisfy the Mercer condition on all k and q .

b) Steps for Classification

- Prepare the pattern matrix
- Select the kernel function to use
- Steps for classification
- Prepare the pattern matrix
- Select the kernel function to use
- Select the parameter of the kernel function and the value of C
- You can use the values suggested by the SVM software, or you can set apart a validation set to determine the values of the parameter
- Execute the training algorithm and obtain the a_i
- Unseen data can be classified using the a_i and the support vectors.

III. IMPLEMENTATION

In this section we present experimental result on several problems from the UCI repository of machine learning databases. We choose the Letter recognition dataset from the UCI Repository. The data set downloaded from UCI Repository was in .txt format and for Matlab; we transformed it in .xlsx format. Note that we scale all training data to be in $[1, 1]$. Then test data are adjusted to $[-1, 1]$ accordingly. There are 26 classes, 20 fonts and having 17 columns.

By Merging LIBSVM and Matlab, we have done Multi- class classification by using Support Vector Machine. LIBSVM maintain the following learning tasks.

- SVC
- SVR
- One class SVM

Generally, LIBSVM contains two steps: first, training a data set to obtain the model and second, using the model to predict information of a testing data set. LIBSVM supports various SVM formulations such as C-support vector classification, distribution estimation and ν support regression.

IV. RESULT AND DISCUSSION

Selection of kernels for particular Data Set is a complicated and tricky choice for Data Miner Analyst as because Support Vector Machine is a kernel-sensitive in nature. We estimate the generalized accuracy using different kernel parameters γ and cost parameters C . For dataset letter recognition where both training and testing tests are available, for each pair of (γ, C) the validation performance is measured by training 70% and testing the rest of the training set. Then we train the whole training set using the pair of that achieves the best validation rate and predict the test set.

The resulting accuracy is different kernel is shown below:

S. No.	Kernel Type	Accuracy
1.	Linear Kernel Function	84.511%
2.	Polynomial Kernel Function	52.222%
3.	Radial Basis Kernel Function	84.4000%
4.	Sigmoid Kernel Function	80.089%

Table 5.1 : Result of all Kernel Functions

Here, we can see that Support Vector Machine with the use of Linear kernel and radial basis kernel function provide the best classification accuracies. Thus, it is able to better represent the data classification.

V. CONCLUSION

It is observed in this paper that Support Vector Machine is kernel-type sensitive and Hence, Data Miner Analyst must ensure the choice of correct kernel parameter for particular data set. Support vector machines have shown their great promise in many multitudinous areas and in few cases they have surpassed other methods. There is also an increasing number of modifications of the SVM, one of the most important generalization being the use support vector methodology in regression, e.g. for a very good presentation. The important disadvantage of SVM is computational appeal because it include quadratic optimization problem. The SVMs has solved various realistic problems varying from economics to genetics.

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Title: The title page must carry an instructive title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) wherever the work was carried out. The full postal address in addition with the e-mail address of related author must be given. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining and indexing.

Abstract, used in Original Papers and Reviews:

Optimizing Abstract for Search Engines

Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art. A few tips for deciding as strategically as possible about keyword search:



- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

The Editorial Board and Global Journals Inc. (US) recommend that, citation of online-published papers and other material should be done via a DOI (digital object identifier). If an author cites anything, which does not have a DOI, they run the risk of the cited material not being noticeable.

The Editorial Board and Global Journals Inc. (US) recommend the use of a tool such as Reference Manager for reference management and formatting.

Tables, Figures and Figure Legends

Tables: Tables should be few in number, cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g. Table 4, a self-explanatory caption and be on a separate sheet. Vertical lines should not be used.

Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

Preparation of Electronic Figures for Publication

Even though low quality images are sufficient for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit (or e-mail) EPS (line art) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings) in relation to the imitation size. Please give the data for figures in black and white or submit a Color Work Agreement Form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

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6. AFTER ACCEPTANCE

Upon approval of a paper for publication, the manuscript will be forwarded to the dean, who is responsible for the publication of the Global Journals Inc. (US).

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(Free of charge) from the following website:

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TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

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5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

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11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.



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16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

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21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.



27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

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33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

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- Adhere to recommended page limits

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- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
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In every sections of your document

- Use standard writing style including articles ("a", "the," etc.)
- Keep on paying attention on the research topic of the paper
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- Align the primary line of each section
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- Use past tense to describe specific results
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Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.



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The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript-- must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

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- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

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- Center on shortening results - bound background information to a verdict or two, if completely necessary
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- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
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Approach:

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- If use of a definite type of tools.
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- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

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- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

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- Resources and methods are not a set of information.
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The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently. You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.



Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
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- Not at all, take in raw data or intermediate calculations in a research manuscript.
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- Never confuse figures with tables - there is a difference.

Approach

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- If you desire, you may place your figures and tables properly within the text of your results part.

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- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
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Topics	Grades		
	A-B	C-D	E-F
<i>Abstract</i>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
<i>Introduction</i>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<i>Methods and Procedures</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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