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PERFORMANCE MODELLING OF INFORMATION TECHNOLOGY EDUCATIONAL INSTITUTE FOR DEVELOPMENT IT PROFESSIONAL

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Abstract: The demand for high skilled Information Technology (IT)professional is tremendous and growing by the day. Companies the world over are looking for Complete professional who are proficient not only IT but also work place skill In this highly competitive world, all-round training is the main differentiator and translates into rewarding career opportunities. That the training industry is a lot of instruction like Aptech, NIIT and university also impact IT course. Some private and Government university, autonomous institution like Centre for Development Advance Computing (C-DAC), Department of Electronics Accreditation Computer Course (DOEACC) and Computer Society of India (CSI) play major roles imparting training in I.T. Area. C-DAC imparting course in Software Development, VLSI, Embedded System and Distributed Computing and CSI conducted exam for Certification on Software Testing etc. Major issue i.e. course curriculums whether the standard for feat IT industry or as a usual traditional process. Some institution design course with keep in view to the current software industry needed. This paper is the comparative study in current markets.

Key Word: Distributed Computing: Internet Protocol (IP): Embedded System: Very Large Scale Integration (VLSI): Data Envelopment Analysis

Introduction:

Generally Aptech design course for computer Hardware and Networking Engineers and also Aptech Certified Computer professional Engineering (ACCEP) programs and NIIT also design GNIIT programs. These courses are professional course keep in mind current IT industry standard but some difficulties in their which day to day face by students. IT sector jobs are like office automation work, Finance Accounts, DTP and printing Technology, Multimedia and Animation Engineering, Data Processing, BPO sectors and Software Development sectors, Software Testing and Quality Control, Web Designing Maintenance etc. Universities and some autonomous college are imparting Bachelor of Engineering and BSc in computer science and IT. In the computer application area institutions are imparting P.G.Diploma in Computer Application and Master in Computer Application. In Hardware and Network area Aptech NPower, Cisco, Novel and some private and Govt organisation imparting various courses.

Literature Review

Several Studies have been undertaken for analysis of efficiency in education sectors and IT organization using Data Envelopment Analysis (DEA) methodology. Each study differs its scope, meaning of decision making. Johnes and Jhones (1993) measuring the research performance of UK economics department [3]. Mcmillan and Datta(1998) analysis the relative efficiencies of Canadian Universities [4]. Ramanathan (2001) has compared the performance of selected schools in the Netherland [5]. Naik and Ragothaman (2004) predict MBA student success using neural network [6]. Several authors have observed efficiency score of management schools. Ojha(2005) rankings the management education India[7]. Shreekumar and Patel (2007) competitive analysis the Business Schools [8]. Wang (1994) Comparatives study of education system of China [12]. Dayal (2002) analysis development management educations in India [9]. Kannan (2005) study on poor education using extended bidirection associative memories [10]. Authors are analysis performance evaluation of technical education using knowledge Management methods. Wadhwa Kumar and Saxena (2005) purpose performance integration of Data Envelopment Analysis (DEA) and Knowledge Management (KM) methods [11]. Bhardwaj (2004) indicate effective and efficient use of (IT) and key factor differentiating successful firm from their successful counter parts [13]. Devraj and Rajiv(2003) analysis relation between investment in information technology(IT) and its effect on organizational performance continues to interest academics and practitioners. A case study on individual technology's in organizations performances [14].

Problems Factor

Uses computer rapidly increase from business sectors like retail shop, traders, stockist, small and medium sector, hotels, public sectors, large corporate business house and Government departments also. For computer operation and data processing jobs they are need Post Graduate diploma or GNIIT students but maximum 5 No's to 6 No's candidate out of 100 No's fit for this

job. For DBA (Database Administrator) jobs, Web Design jobs and Software Development jobs the student have not expertise knowledge. For above purpose a case study conducted by Software Company taking Post Graduate diploma and Bachelor Computer Application students 80% to 90% have not perfect skilled in office package and Excel package. Gradually increase automation of accounts management department and banking Database Administration and Database Designer professional required. So to meet this requirement BCA, MCA student have not specialized knowledge handles this problem. Their course curriculums have not designed for above purpose. Overview of above problems IT jobs divided two part (hardware and software). In computer hardware jobs are related on computer network and computer maintenance work. For keep mind above purpose Aptech launch NPower for hardware and networking career to engineering degree and diploma students. In networking course institution design cable connection techniques, switch maintenance, DNS setup, IP setup, Webhosting and Router techniques. It software sectors the course will be design base on need of software industry, BPO sectors, Web Developments units, Multimedia and Graphics unit. C-DAC institutes imparting specialised in distributed computing and multimedia and VLSI designing. It is not required for general computer professional. For comparative study the syllabus three categories (i.e. University course, ACCEP course of Aptech Institute and GNIIT of NIIT Institute). Table-1 show topics cover by three institutes.

 Objective of the study

Generally MCA course are follow up subjective types. This course is running by private institutes under affiliation of University and AICTE. Faculty of Computer Application Departments are not acquiring knowledge new software current industry requirement and practical training skill are less. So University have planning to design course with industries partnership and also setup Research Division for developed teaching materials and teaching methodology and course materials. As for example C-DAC centre imparting M-Tech and Msc level course in VLSI and Embedded system.

University Course	Aptech	NIIT
One Year Course PGDCA Syllabus		
Computer Fundamentals C++ programming, Office Automation Program Logic & Techniques Business Data Processing DBMS Concept using Oracle Web Technology	Computer Fundamentals, Ms words, Ms Access , Power Point, Internet concept, Web Designing in HTML and DHTML, Java Script, Database management Concept in SQL server 2002 Analysis techniques using excel	Computer Fundamentals, Ms words, Ms Access , Power Point, Internet concept, Web Designing in HTML and DHTML, Java Script, C and C++, Data Structure using C Relational Database management Concept in SQL server 2005
Three Year Course MCA Syllabus	ACCEP	GNIIT
MCA Syllabus including Computer Fundamental Operating System Computer Organisation Structure of System Analysis and Design Programming in C Language Data Structure using C Computer Based Numerical and Optimization Technique Object Oriented Programming with C++ Web Technology Computer Communication and Networking Analysis Design of Algorithm Microprocessor and Assembly Language programming ect	Office XP and Internet Concept, Software technology basic, Web Development, MS Access Front Page 2000, Developing Programming Logic with C, RDBMS and Data Management, Working with SQL Server Database Object, Programming C#, Visual Basic 6-0 Net, XML by example, Learn Java by example, A Guide to Advance java , Distributing Computing in java, Advanced Programming in C#, Windows Form with C#, Advanced Technology in Windows Forms using C#, Beginning ASP.NET Database handling in ASP.NET, Web Programming with Servelet and JSP Developing Enterprises Applications using EJB Architecting web application JSF & Struts An insight into Object Analysis and Design Software Engineering Principles, SQA and Testing, Linux Basic	GNIIT in software Engineering. The course cover IT & Computer Fundamental, Implementing Design Relational Database SQL server 2005, Object oriented programming using C#, GUI application development using .NET Framework, work, Data Structure and Algorithms, Database application dev in visual studio using ADO.NET & XML, GUI application development using java, Object Oriented Analysis and Design, Code optimization & Performance using Intel V tune. Web Application & Development using ASP.NET & Visual Studio Microsoft Network Foundation customer handling, Development mobile application using java Implementing web services and distributed application using VSTS. Design a Bl solution oracle 91 with PL SQL programming, Software quality Assurance and Testing, J2EE application development with java studio enterprise, International Etiquettes capstone project, Distribution Application using Java beans, Designing and Debugging & tuning Window and web application visual studio. Web application using visual studio 2005, Mobile application developing using .NET Frame work. Designing infrastructure introduction Oracle form develop

GNIIT Information System
Information Technology & Computer Fundamentals , Implementing and Design Relational Database, Object Oriented programming C#, GUI application development using NET frame work, Effective communication skill, P.C.productivity Tools, ISAS, Information system and common business using MS-Excel. Introduction to Financial Accounting Fundamental to MS Access, Interpersonal skill and communication project, Introduction to Enterprise Framework Information Analysis. Developing web enable information system multi-dimensional data modelling information processing using an OLAP server. Introduction to software engineering programming using java script Information Security Concept and customer care handling, modelling and designing a data warehousing Enterprises Data source and Migration strategies, Project Management and software quality assurance.

Table:1 Topics cover by GNIIT , Aptech ACEEP and MCA and PGDCA Course[15][16][17]

Methodology:

Taking 20 students as sample to three major training programmes (GNIIT course, Aptech ACEEP and University MCA course and calculate their performances skill shows in Table-2. analysis figure of after course completion candidate fit for job shows in Table-3 The χ^2 test first calculates a χ^2 statistic using the formula:

$$\chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} \frac{\left(A_{ij} - E_{ij}\right)^2}{E_{ij}}$$

A_{ij} = actual frequency in the i-th row, j-th column [1] [2]

E_{ij} = expected frequency in the i-th row, j-th column. r = number or rows. A low value of χ^2 is an indicator of independence. As can be seen from the formula, χ^2 is always positive 1 or 0, and 0 only if $A_{ij} = E_{ij}$ for every i,j. We take GNIIT , MCA degree, PGDCA degree and Aptech ACCEP course, Aptech one year course 5 no's variable such as v1,v2,v3,v4,v5 and calculate their coefficient shown in table-4.

Course	Programin Language Skill	Database Management Skill	Web Technology Sill	Office Automation skill	System Analysis and Designed skill	Software Engineering Skill
PGDCA	1	2	3	3	1	0
Aptech 1year Course	0	2	5	3	0	0
MCA	4	2		3	1	1
Aptech Aceep	7	2	6	3	1	1
GNIIT	6	3	6	3	1	1

Table: 2   Show no of students found skill in taking 20 no's as sample

Courses	Office Automation Works	DBA Works	DTP Works	Multimedia	Web Designing	Development Programmes	System Analysis	Software testing
PGDCA	1	0	0	0	0	0	0	0
Aptech ACEEP	1	1	0	0	1	1	0	0
GNIIT	1	1	0	0	1	1	1	0
MCA	1	0	0	0	0	1	1	0

1: Positive (fit for job) 0: Negative (not fit)

Table: 3   Show analysis figure of after course completion candidate fit for job

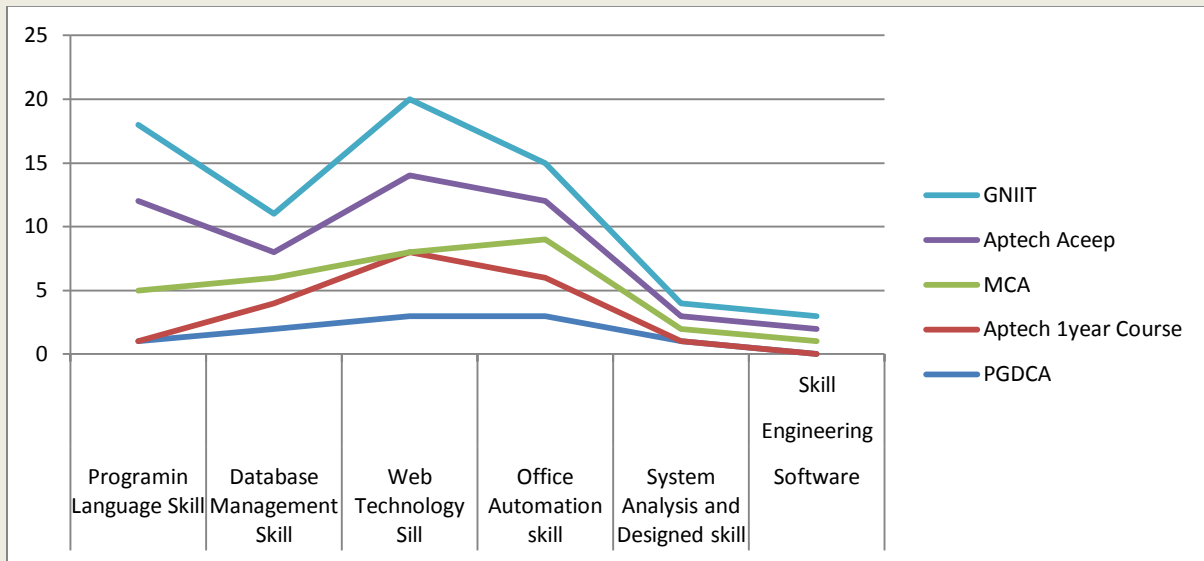| Correlation	Value
v1,v2	0.98
v1,v3	0,53
v1,v4	0.34
v1,v5	0.36
v2,v3	0.66
v2,v4	0.81
v2,v5	0.31
v3,v4	0.18
v3,v5	0
v4,v5	0.10

Table: 4 Test Results

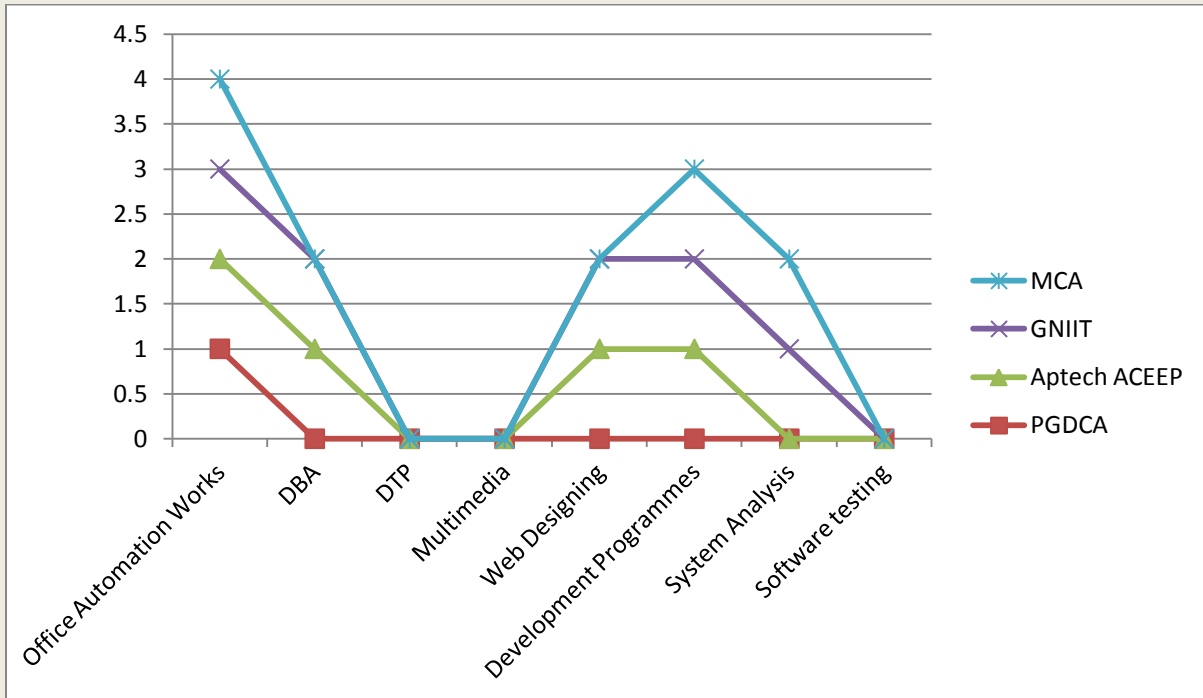*Figure: 1 Comparative Line graphs shows find student skill of area in 5 different courses*

Figure: 2 Comparative Line graphs shows find student fit for different job taking 5 different courses
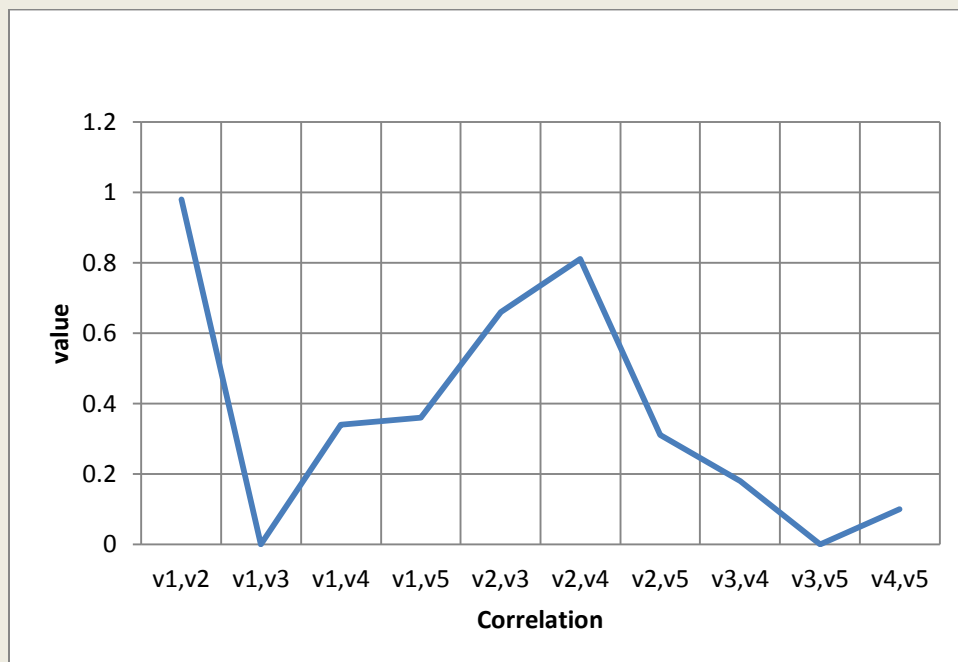

Figure-3- Correlation result

Conclusion

According to data analysis are found i.e. students skill in different area are show in Figure-1 Overall training will success build skill personnel in web technology and programming language and office automation. In Figure- 2 shown i.e. MCA student are fit for office automation and development programs job. GNIIT course   join with MCA cure in Fig.2. It is represents that GNIIT students equal fit for MCA student on DBA jobs. In P.G Diploma course lines in figure-2 shown straight multimedia, web designing, system analysis and designing. On DTP works all Figure shown down to zero level that course represent student are not fir for DTP course. According table 4 and Figure-3 the co-efficient between GNIIT and University MCA course and Aptech ACCEP course is high other are low. The demand for high skill IT professional is tremendous growing by day. Companies the world over looking's for complete professional who are proficient not only IT but also work-place skill. Demand for specialist in development Tools, database and networking, .NET and J2EE (populating middleware technologies). Current markets IT industry grows depend on the database technology, business intelligence, open source technology and mobile computing, web services. IT educational Institute should follow up multimodal it education delivery architectures. Based on facts that the system comfortable with different media for assimilation information in multimodal education. The Institute are Responsible for produced such type professional

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