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ADHERENCE LEVEL OF EARL MODEL:
A STUDY WITH SPECIAL REFERENCE TO MEDIUM SCALE TEXTILE INDUSTRIES

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ABSTRACT

This paper deals with pragmatically sequence of operational technology in system and evaluates, assess all technologies and were in various stages of Technology Learning Curves as against today with special reference to medium scale textile industries. Exhaustive research effort has been evidenced for decades ago to understand stage wise technologies obedience towards system which followed a step by step mannered model. As part of study, the primary data was collected from the selected respondents of textile companies who are using human resource information systems with the help of a survey questionnaire, data analysis was performed using cumulative weighted average technique concludes moderate active levels existence in selected firm and they are able to attain only 2/3 of the benefits. Further the research, based on an evolutionary view of obedience levels of operation technologies suggests improvements in the HRIS in order to gain the competitive advantage and to maximize the benefits.

KEYWORDS: *Learning Curves, HRIS, IS, Technologies, Adherence, Return on Investment.*

Introduction

Stepping rapidly in speed of thought era technology obsessed in almost all spec, sector and in countrywide companies, mostly witness modernization paving outsourcing in all various phases and turns highly complex organizations driven on application and open software facilitation to cost reduction of mundane and routine HR activity turn off completely. In modern era Information Communication Technology as part of pivot HR discipline in all levels of organization and become a role of zenith in strategic decision making via contribution to efficiency and efficacy of productivity and proficiency.

At present movement of cosmos business irrespective of demographic and socio-politic-eco-legal globalization of trade facet intricate due to narrowed opportunities with marginal profits, human capital becomes the only sustainable resource of the competitive advantage for an organization. Overall companies which are competitive notching up their profitable and successive rate are capable to tap, manage, enrich and articulate excellence within organization able to outperform compare to competitors accomplish higher financial success and assemble greater ROI.

Since Globalization of trade there has been severe innovations and business process reengineering the activities within organization due to impact of external changing demands of international trade and political-socio-legal stratum. The way of the future have a common business model to define structure for HRMS component design and HRMS component markets. The market for

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HR component applications will drive the need for an industry standard and the business community will develop and maintain it. The commercial opportunities will drive the acceptance of standards rather than top-down imposition of a standard by a standards setting body. To stimulate innovation, we need to build commitment to learning and sharing in the organization. By innovation, we are talking not only about innovation in our products and services, but also in our organizational processes. The question becomes how do we share innovation and knowledge across a worldwide organization faster than the speed of light? This is where exploitation of the internet and used of the latest developments in knowledge management come into play.

Some HR functions that benefit from innovation and sharing include compensation program design, business process design and products/service development. In essence, the transnational HRIS is one that allows organizations to dance to two pipers at the same time, while learning from both. The key element for success is the organizations ability to be sensitive to business and technological trends-no matter where they come from and to innovate and learn, dispersing this innovation and knowledge quickly and effectively throughout the organization worldwide. Transnational innovation & learning processes are those that are locally leveraged and globally linked. Companies must learn how to learn, how to balance both local and global innovation processes because too heavy a dependence on central innovations creates the risk of becoming insensitive to the local situation; too heavy a reliance on local innovations creates the risk of needless differentiation.

The commercial success of simple object access (SOA) independent upon acceptance by the business community from a human resource application perspective, there needs to be a common business model to guide applications developers and the software market. The solution for a business model is the Human Resource Component Software application standard (HR-CSAS), which covers both the business and technical infrastructure and has been developed by the HR community. The Human Resource Component Software application standard forms the structure for component registries that are the “LEGO” blocks storage facility.

Developers will emerge at all levels of the supply chain, from the specific object programmer to the larger component assembler. Objects will become the building blocks for developers and will be sourced as reusable code in different component products, designed according to client specifications. Most large on-demand software providers will form communities for component application developers. They will provide the tools and application programming interface (API) details to enable the construction and integration of supplementary products.

A HR Management System is a methodical approach for Data collecting, retrieving, backing up, maintain, authenticate and validate data needed by a company about its elements, personnel activities, and firm unit characteristics. According to Hedrickson (2003), human resource management systems can be briefly defined as integrated systems used to gather, store and analyze information regarding an organization’s human resources. Tannenbaum (1990) has defined human resource management systems as “one which is used to acquire, store, manipulate, analyze, retrieve and distribute information about an organization’s human resources.” The study investigates and establishes the support levels and the benefits of the human resource management system (HRIS) in the medium-scale textile industries.

The mechanism and its bi-products are many in nature according to apparent and viability of firm scope and capability they are articulated, developed and functioned in pragmatic contingency of a work place. Among them most widely known components of Human Resource Information system are payroll, tax payments and compensational benefits like health coverage, retirement benefits and other perks and incentives which provide outcomes of value addition to functional area of firm.

In the literature, Database, Employee Tracking, Benefits Administration, Payroll Administration and Employee Interfaces are deemed to be major components of human resource information systems. Recent research studies substantiation after interviews of various levels of personnel throws light on speedy era of digital exploration and innovation in various customization of application via products or in any other mannerism of upcoming technology, existing and usage application as a speck of overall function of department or in full length resulting to different viable fruits to every strata of firm and individual work vice-versa reflecting team overall productivity is observed paving to benefit in the selected medium scale textile industries like activity of Work Place Planning, Employee Benefits Administration, Payroll Administration, Hiring, Induction and On-Boarding mainly it also put on capability in other function in present wave to Training and Development, Talent Management, Cost Planning and most genuinely in Performance Appraisal.

Stages of Growth Model

Stages of growth shows the organizational growth with respect to use of IT and the approach organizations take to the management and planning of information systems in terms of various, quite clearly defined, stages of maturity. There are four major stages of growth models:

- The Nolan model
- The Earl model (figure 1)
- The Bhabuta model
- The Hircschheim et al. Model

The Earl Model

Unlike Nolan's model, Earl concentrates attention on the stages through which organisations pass in planning their information systems. He has revised his model a number of times, the first came 1983, The version presented here is based on the earlier models, as amended by *Galliers*.

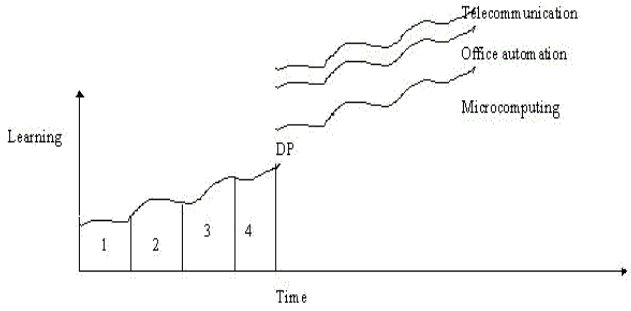


Figure 1 Multiple learning curves

The model addresses strategic, organizational and human resource issues arising in organizations associated with IT usage. The model gives organization a tool to analyze their organization's current status with respect to each of the steps. It will help the organization to determine where it should be, having identified the type of role they see Information Technology play.

I.T Application As Booster to HR as technology matured, the business computing need shifted. The internet made business real-time and goal and the expectation for business applications changed. The expectation became fast, flexible and agile systems that could respond to change in days, not years. The on-demand business application deployment cycle reduced the implementation timeframe today's and weeks. So the needs analysis, requirements specification methodology and selection process now needs to be similarly compressed. The expectation is for an environment where it is possible to identify individual software components to support the HR best practice model, and then go shopping online for the right mix of HRMS components; having selected the right mix from the right vendors at the right price, install, implement and start using the software in days, instead of years. The technical expectation for HR business applications is component assembly.

To stimulate innovation, we need to build commitment to learning and sharing in the organization. By innovation, we are talking not only about innovation in our products and services, but about organization and the processes. The question becomes how do we share innovation and knowledge across a worldwide organization faster than the speed of light? This is where exploitation of the internet and used of the latest developments in knowledge management come into play. Some HR functions that benefit from innovation and sharing include compensation program design, business process design and products/service development. In essence, the transnational HRIS is one that allows organizations to dance to two pipers at the same time, while learning from both. The key element for success is the organizations ability to be sensitive to business and technological trends-no matter where they come from and to innovate and learn, dispersing this innovation and knowledge quickly and effectively throughout the organization worldwide. Transnational innovation and learning processes are those that are locally leveraged and globally linked. Companies must learn how to learn how to balance both local and global innovation processes because too heavy dependence on central innovations creates the risk of becoming insensitive to the local situation; too heavy a reliance on local innovations creates the risk of needless differentiation.

Of course, not all HRIS business units in the organization can respond to this call with the same level of resources and capabilities we must take an evolutionary approach in developing our new model

for HRIS by forgoing relationships among functional and geographical groups and by allowing units the ability to contribute in areas where they have the most expertise and thus can have the greatest impact.

Cost reductions and quality improvements are no longer attributes of competitive advantage. They are necessary but are no longer sufficient, speed; flexibility and innovation build competitive advantage today. The transnational HRIS is one that brings "hyper-competitive" advantage in the deployment of resources and knowledge, in the integration of competencies and expertise, and in the development and implementation of innovative business processes and systems that promote sharing and learning across a worldwide organization.

The transnational HRIS, unlike the other models, is one specifically designed to respond to complexity and change. Most importantly, it requires an innovative mindset for thinking about the development, deployment and management of HRIS. The old adage, "nothing endures but change", has never been truer that it is today. We need to constantly reinvent what we do in an evolutionary, not necessarily revolutionary way because if we won't do, others may take it as an opportunity to design.

An example of a workgroup information system is one that allows individuals in the group to communicate electronically using an Electronic Mail system with e-mail, letters and memos that normally would be sent on paper are transmitted electronically from one computer in the network to another. This type of system allows member of a workgroup easily communicate with each other from different locations and at different times. A system allows employees to share information about projects they are working on together. For example, employees in the sales department may working on a brochure. With information sharing system, group members can view and comment on the brochure through personal computers connected to a network. Periodically one person in the group can summarize individual team members and revise the sales brochure. An Information system that affects many people throughout a business or organization, not just an individual or the people in a single group is called enterprise information systems. Therefore IS, including HRIS, can be used at various levels of the organization to accomplish various levels of the organization to accomplish various type of tasks by various levels of organizational workers (Chaffey et al., 2003). Below diagram shows that ARE are used at three levels: Strategic, Tactical/Middle, and Operational, hence there are three types of IS (EIS, MIS and TPS) that are used by three different level of workers (Strategic, Middle management and Operational).

Contribution to Organizational Performance A more advanced use of IS for strategic level work may be happening due to advances in technology (Laudon and Laudon, 2002; Lucey, 1997; Avison and Shah, 1997, Chaffey et al., 2003, Robson, 1997). HRIS are use at different levels of the organisation to help HR managers to accomplish different level of tasks hence the impact of HRIS on the role of a HR manager is likely to be a major one. According to Laudon and Laudon (2002) HRIS are used at three levels of organisation as they offer a comprehension set of functionality, such as training, career pathing and compensation analysis. It is important to focus on the typical and traditional roles of HR managers as well as the new emerging changes to their roles, such as HR consultancy roles, forming HR plans and strategy and integrating them to organizational level strategy. HRIS have been designed to help HR managers to perform different types of duties both routine and higher level. But do HRIS allow HR managers to perform their roles more professionally overall and gain better recognition? The HR profession has been changing constantly and reflects the wider changes to organizations, so the nature of their work, their professional recognition and even their use of IS would depend on the proposed changes to their jobs.

HRIS and HR Literature Perspective

Rapid changes in information systems (IS) in last five decades have been strongly influential on modern organizations (Avison and Shah, 1997; Chaffey, 2003). Many organizations are using Information System as a tool for enhancing efficiency. This is consistent with the writings of IS writers like Edwards et al (1995), Elliott and Starkings (1998), Renkema (2000), and Laudon and Laudon (2002) the use of IS, which includes systems such as HRIS, has become widespread in most organizations and more employees and departments in all types of organizations are heavily reliant on such systems. Soft world (1996/7) also reported a rise in the use of HRIS in the UK. The reducing cost of personal computers has provided medium and smaller businesses access to both hardware and hardware for the use of HRIS (Ball, 2001).

The use of IS in organization can enable them to increase efficiency, effectiveness and integration. Three general uses of IS in organizations are:

- Business operations: Day to day activities of the organization, such as producing in its products or delivering its services.

- Management of organization: The activities for controlling and monitoring the day-to-day activities of the organization in the context of its aims and goals.
- Strategic objectives: The long term, objectives and goals of the organization.

HRIS in Decision

Contemporary use of IS has become more advanced and enables organisation to make a more strategic use of them, as mentioned by Tyson and Fell. Different types of systems and their use is: Transaction Processing Systems (TPS), TPS are used to undertake day-to-day activities, transactions and functions at operational level. These systems help to make **operational decisions** such as stock control, Management Information Systems (MIS): MIS are used for predicting the financial operations of the organisation as well as graphical models that provide a visual illustration of the information. These systems help to make **Management Control Decisions** such as comparisons of data or budget data.

Strategic Information System(SIS). SIS type "systems--provide information to senior executive managers on strategic areas of a business organization's activities, to aid strategic decision making" (Lucey, 1997:p232). These systems help to make strategic Decisions that involve decisions based on ill-defined problem. Transaction Processing Systems (TPS), TPS are used to undertake day-to-day activities, transactions and functions at operational level. These systems help to make **operational decisions** such as stock control, Management Information Systems (MIS). MIS are used for predicting the financial operations of the organization as well as graphical models that provide a visual illustration of the information. These systems help to make **Management Control Decisions** such as comparisons of data or budget data. Strategic Information System (SIS). SIS type "systems--provide information to senior executive managers on strategic areas of a business organization's activities, to aid strategic decision making" (Lucey, 1997:p232). These systems help to make strategic Decisions that involve decisions based on ill-defined problem. A summary of the use of these three level of IS is provided in the below figure taken from Elliott and Starkings (1998).

Purpose of the Study

The purpose of the research study is to investigate and establish the adherence levels of the human resource management systems (HRIS) in phase of various technological insertions in the medium-scale textile industries. It also evaluates and establishes the overall performance of the human resource management systems in the same industry.

Methodology

The present conclusive study is in the specialized area of HRIS with reference to the influence of Management Information Systems (MIS) in the medium-scale textile industries of Hyderabad.

Research Design

Primary Data	:	Hyderabad based medium and large scale industries
Secondary Data	:	Industrial Directory and websites
Sample Universe	:	Employees of textile companies working in HR management
Sample Frame	:	HRIS implementing industries in Hyderabad
Research Tool	:	Five Point Likert Scale Questionnaire
Sample Size	:	96
Sampling Technique	:	Stratified Random Sampling

Sampling Design

The study precisely selected the following employees in the pre-defined approximate ratio of 1:3:5 as respondents from different Medium Scale Textile Industries of Hyderabad.

Table 1: Characteristics of Respondents

Employment Type	No. of Respondents
HR Manager	11
HR Coordinators	32
HR Assistants	53
Total	**96**

Data Collection

A pre-tested, well structured questionnaire is used for the data collection. The questionnaire was distributed to the selected respondents of the medium-scale textile industries and their opinion is recorded on 5-point Likert-scale. Further the collected field survey data was processed and prepared the primary data which is the basis for the further data analysis and conclusion.

Analysis and Interpretation

One of the important parts of this research study is to assess and adherence levels of HRIS technologies in system and its employee congruence of organizational learning, the technology and time, using the primary data that is pertaining to usage intensity of HRIS alongside demographic factor: Occupation of the respondents. Cumulative weighted average (CWA) technique was used for the data analysis.

Adherence Level of Technologies in HRIS:

The data pertaining to the obedience levels of technologies with HRIS in the respondents' respective organizations are presented in the table 2 and the same is depicted in the form of bar chart in figure 1.

Table 2: Obedience Levels of Technologies

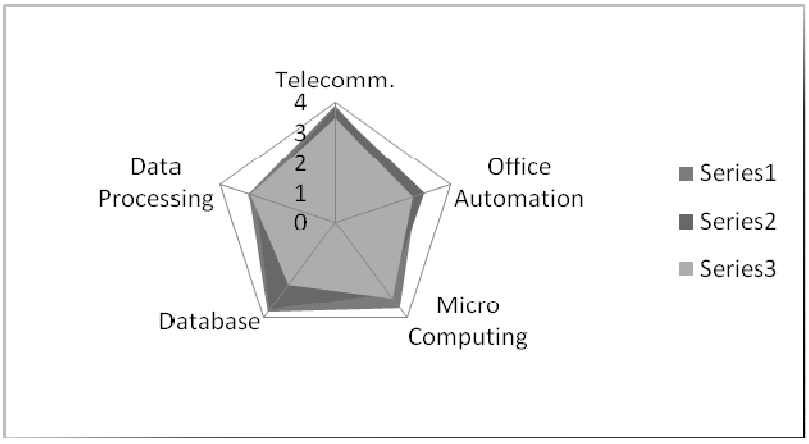
Occupation Category	Technologies – Ratings (in WA)					
	Telecomm.	Office Automation	Micro Computing	Database	Data Processing	Average (WA)
HR Managers	3.86	2.83	3.62	3.77	2.98	3.412
HR Coordinators	3.78	3.10	2.98	3.65	2.75	3.252
HR Assistants	3.47	2.69	3.21	2.64	2.95	2.992
CWA	**3.70**	**2.87**	**3.27**	**3.35**	**2.89**	**3.21**

(Source: Field Survey)
WA: Weighted Average (also called Weighted Mean)

Interpretation

From above table, the CWA value of 3.70 offered to *Telecommunication* on 5-point mean rating scale confirms that medium-scale textile industries are quite capable of usage of application of mobile, communication, managing and accessing the employee related information with the help database. Similarly the high CWA value of 3.35 offered to *Database* on 5-point scale indicates that they are quite competent to maintain and manage the operations with fewer issues with the help of HRIS. In contrary, the CWA values of less than 3.0 on 5 point scale offered to *Office automation* and *Data Processing* highlights the moderate support levels towards the components. The study recommends improvements and congruence with integration of technologies supportive among and with elements in the HRIS system and also continuous efforts of all assessment, awareness programs, of course, with a flavored intensity.

Figure 1: Obedience Levels of Technologies



Results and Discussions

The support, obedience and prevalence of technologies to the HRIS components clearly indicates that medium-scale textile industries are still reflecting for each technology with the relationship existing between the degree of organizational learning, the technology and time lagging behind the appropriate, wise and wide usage of information technology. Firms must first recognize the importance of HRMS and then enhance the systems in order to improve the organization efficacy. The technologies in companies are able to attain only 2/3 of the adherence with HRIS and losing the remaining 1/3 of benefits. This evidently indicates that the support levels must be improved in order to realize the full benefits from the HRIS.

Conclusion

The study confirms that prevalence levels of technologies of HRMS in medium-scale textile industries are holdup reflecting not at par with organizational learning, the technology and time still towards the existing Information System is highly moderate and suggest improvements to maintain congruence and integration of every element related directly or indirectly in IS to effectively use menu in order to exercise and reap the maximum Return On Training Investment or Return on Investment. The researchers recommend that firms must improve the analysis and assessment of systems with firm committee and frequent evaluation of performance of existing information system, its work productivity, Human Interface capability, End user compatibility to overcome hurdles. In continuation to this they also recommends the continuity of periodical committee or third party committees can bridge the gaps and increase End used viability to system whoever and what level they are working to firm prolifically.

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