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Title

CONVERGENCE OF INFORMATION AND
COMMUNICATIONS TECHNOLOGY AND
BUSINESS INTELLIGENCE
WITH HUMAN RESOURCE FUNCTIONS

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Abstract:

The role of **ICT** (Information and Communications Technology) accelerating the overall functions of **Human Resource** Department in this highly competitive age acquires a new definition altogether. The competitive edge of a business in today's global competition with an ever-changing world economic scenario has made success for any organization highly dependent on how it attracts, recruits, motivates and retains its workforce. There is a constant need for developing workforce to attain sustainable competitive advantage. Business Intelligence Application which is a specialized software that generates Business Intelligence or 'actionable information' to managerial functions finds solutions thus enabling one to improve business performance by pulling data from transaction processing systems and sometimes relating them to market related data sources. Today's organizations need to be more flexible and strategic so that they are equipped to develop their workforce and enjoy their commitment. Proactive managers and human resource departments respond to this challenge by finding new ways to optimize return on workforce investment while also implementing an effective quality work-life balance.

However, the authors through this paper try to establish the convergence of Human Resource Functions with ICT and Business Intelligence which is inevitably making a positive impact on fast, transparent, convenient and cost-effective flow of HR business practices and promising the advent of a new era of HR in centuries to come.

Keywords:

Business Intelligence, ICT, HR Capital, Human Resource Functions, HR Metrics, Strategic HRM

Introduction:

Prior to the start of the Information Age in the late 20th century, businesses at times took the trouble to laboriously collect data from non-automated sources. As they lacked in computing resources to properly analyze the data, they often made commercial decisions primarily on the basis of intuition and on business instinct. As businesses started more and more automation systems, more and more data became available. However, collection of data often remained a challenge due to a lack of infrastructure for data exchange or due to incompatibilities between these systems. Reports on the data collected sometimes took weeks and months to generate. Such reports allowed well-informed long-term strategic decision-making. However, tactical and short-term decision-making often continued to rely on intuition.

In 1989 Howard Dresner, a research analyst at Gartner, made "Business Intelligence" (BI) popular as an umbrella term to describe a set of concepts and methods to improve business decision-making by using 'fact-based support systems'. Performance management built on a foundation of BI, but along with the planning and control cycle of the enterprise - with enterprise planning, consolidation and modeling capabilities.

Business Intelligence (BI) is a term coined for applications and technologies employed in data collection, data access and analysis of information about an organization's business. It refers to the use of several financial or non-financial metrics or key performance indicators to assess the present state of business and to assist in deciding future course of action. It is thus, referred to as 'actionable intelligence'. Increasing standards, automation, and technologies have led to vast amounts of data and information becoming available. Data warehouse technologies have allowed the building of repositories to store this data. Improved enterprise application integration tools have increased the timely collecting of data. As of last year, 2010, Business Intelligence has become the art of sieving through large amounts of data, extracting useful information and turning that information into actionable knowledge

Investment on implementation of BI pays off:

On closer examination of BI applications one finds that investment in BI Application is well rewarded for the following reasons:

- More efficient access to information by end-users without involvement of ICT
- Much higher scope for developing more intelligence in one's business by analysis of relevant data
- Looking at summary information by variety of Key Performance Indicators and Dimensions
- Graphical presentation of information
- Longitudinal information – trend of performance over several years; ERP data is archived every year
- Drill-down into details of summary information
- Slice and dice such information by different dimensions
- Study correlation between certain business drivers and outcomes

KEY CHALLENGES OF BI THAT NEED FOCUS:

Delivering Business Intelligence to a Global and Transnational Organization: BI is an especially critical area and a challenge for global organizations, given the complexities of managing a geographically and culturally diverse workforce. An organization should start with a clear understanding of what it needs to measure and why, and take an inventory of the systems that in-house the base data.

Often, a capital investment is necessary to obtain the requisite tools and infrastructure. It's best for companies to start with a few key business challenges that are significant to overall results. Although a long-term vision is essential, it is better to implement in stages.

Benchmarking also considerably increases the value of Business Intelligence as HR outsourcing has matured and more industry benchmarking information is becoming available. Proprietary databases are being developed that can be used with benchmarking data maintained by third-party vendors, industry groups and government.

By comparing typical ranges for workforce metrics in the marketplace, HR can set appropriate targets. For example, a company can consider payroll tax, labor supply, compensation; healthcare and norms to understand what will drive its future profitability and productivity, to evaluate the impact of changing workforce demographics or to consider where to expand its operations geographically.

Linking of workforce value to Financial Performance is done by Business intelligence and serves as an important input in measuring the value of a company's workforce because it helps link people data and programs to financial performance. Sophisticated analytics now can measure how HR programs and systems may affect employee behavior and how that, in turn, influences customer behavior which ultimately drives financial outcomes.

Companies need to know the demographic and skills profile of their workforce in order to optimize the value of that workforce. That is increasingly the job of a strategic HR function and companies must be able to link workforce measurement and the role of the HR function to their business goals. That allows them to evaluate whether HR is doing the right things to help the company grow.

With the use of current employee data and projections about future workforce trends, companies can model the people implications of their business plans. HR can then develop targeted workforce strategies to help it attract, engage and retain the right people, in the right locations, at the right cost. For example, a global banking organization modeled on its total projected labor costs to make decisions about where non-customer-facing employees should be located. In another instance, a leading information services provider was able to better understand current and future staffing trends to better align its reward programs.

SCOPE OF HUMAN RESOURCE FUNCTIONS THROUGH BUSINESS INTELLIGENCE

Business intelligence (BI) can be used in HR to improve results across all aspects of the organization —candidate screening, performance appraisals, cost-containment, retention and productivity. With BI HR can accelerate to:

- **Acquire Talent:** Key insights can help HR cost-effectively find the right people in the shortest time.

- Apart from HR's administrative issues its value will lie in using a **fact-based analytic approach** to solve business problems and providing a longer-term viewpoint about how the organization should adjust to environmental changes.
- **Deploy Staff:** To segment workforce and invest time in the key employees who make the biggest contribution.
- **Segment Talent:** To provide opportunities for growth such as training, on-the-job experience, and mentoring.
- **Retain Top Talent:** To identify the critical talent within the organization and ensure HR retains it.
- **Aligning payroll and incentives** with corporate goals
- **Monitoring key metrics** like turnover, demographics, cost per employee, recruiting, and training effectiveness
- **Analyzing opportunities** for improvement in areas such as recruitment, attrition, and retention
- **Minimizing the administrative burden** of manual processes involved with spreadsheets

BI acts as a **decision support system** that helps analyze and manage all HR processes. It provides access to accurate, timely, comprehensive data from HRMS applications and provides the tools to make better, more strategic decisions. Perform comprehensive manpower analysis and budget reports. View employee development and performance reports. Analyze salary, recruitment, vacancy and termination trends. The results: drive faster, better decision-making that aligns your workforce with corporate objectives.

By accessing HR data horizontally across functional areas, companies can establish an informational baseline. That, in turn, allows them to measure the results of HR programs and practices, and identify critical insights about their workforce. They can examine trends over time and build a base for modeling and conducting "what-if" projections for the future.

AGEING WORKFORCE AND TALENT ACQUISITION THROUGH BI

Companies around the world face a workforce that is getting older. This will make attracting and retaining talent a top priority. This trend will catapult into the role of HR department right into the middle of formulating a people centric business strategy, especially in Knowledge Industry.

As the global war on talent continues, it will become increasingly difficult for large organizations to hire, motivate and retain talent. With the technological advances and globalization, organizations will be subjected to intense competition. Thus, utilizing the right human capital will be of paramount importance. Intense competition will also lead to growing attrition. This is where HR can play an important role in 'Talent Management'. Rather than doing only administrative work and 'reactive' hiring/firing employees, the HR professional need to 'proactively' start solving people issues. IT executives will not be able to address this on their

own. Like it or not, they will have to collaborate with HR department in producing solutions to strategic 'people' issues facing the organization.

With BI tool, HR department can utilize all the data related to their existing employees to analyze their human capital and provide decisions around staffing and retention. Business intelligence can also help HR Department to mine out information regarding:

- How to motivate individuals and departments within organizations
- Do one's incentives and benefits reward smart contribution
- How to flush out innovation from individuals and departments
- Whether the individuals work their best in collaborative environment
- The best technique to train employees?
- How to incorporate feedback from individuals
- Why do employees leave the Organization and where do they go
- What does the individual employee think of work environment and its culture

BENEFITS OF HR FUNCTIONS 'MASS CUSTOMIZATION' THROUGH BI

With the BI tools, the HR can tailor the incentives and benefits. The era of providing generic benefits is over. BI tools help get 'Mass Customization' of benefits to suit individual employee. This is very critical in the age of competitive attracting and retaining talent.

Getting answers to questions like whether workforce is capable enough to meet the target or why the employee turnover is so high or even to have the right people recruited is very critical not just for formulation of HR strategy but to make HR competent for business as a whole. But are the systems giving the right information to help the HR answer these questions. They might be giving one numbers, percentages and statistics. But a lot of times an HR personnel would not have known what to do with them. Unless and until they facilitate good decision making and intelligent choices, they mean nothing.

Thus, HR is a key function and BI is required for better people management and overall business management. One understands the critical need of good decision making whatever be the functional domain. It is with this vision that one designs and integrates business intelligence solutions with HR solutions.

BI AND HR METRICS

Along with integrating HR with one's core business strategy, one will have a reporting system which will take care of its metrics. One needs to get metrics for:

- Trends analysis
- Budget control
- Workforce analysis
- Salary Monitoring
- Recruitment cost analysis
- Employee turnover

BI can help HR departments become a strategic asset within the respective organization in two ways: by generating efficiencies within the department itself; and by using the insight that BI delivers to help their organizations make strategic decisions around staffing, planning, and budgeting to support key goals.

HR is benefitted out of BI through attaining answers to the questions that have a direct bearing on their organization's strategy like answers to questions like whether the recruitment program attracts one's future managers, whether employees are ready for management positions, or what would one's staffing be like five years down the line or which are the employees who would be at the risk of leaving and what would be the right skill mix to achieve one's goals, or whether HR can identify trends in their workforce that lead to a better understanding of how to maximize human capital. Positive trends can be leveraged for greater value; negative trends can serve as an early warning system to spur corrective action before problems become acute.

Hiring, retaining, and deploying employees with the right skill sets can be challenging and has strategic implications to firms across industries. With software like Business Intelligence Reporting & Analytics, the decisions that determine the composition of the workforce can be done with greater insight and accuracy than ever before.

INTEGRATE BUSINESS INTELLIGENCE SOLUTIONS WITH HR SOLUTIONS

Human Resources metrics have always been linked to other key performance indicators such as profits and revenue accumulation. However, applying measurements systems, including Balanced Scorecard, to people management has always been a challenging task. HR is not usually viewed as a source for hard measures. In order to analyze the return on all workforce investments, such as recruiting, developing capabilities, compensation and directing behavior, HR function should understand the business challenges of its entire organization. HR professionals must understand the organization's business plans and the operational, financial and customer-facing goals they are expected to achieve. Then they should associate these goals with the existing workforce metrics.

In majority of the cases, HR information is scattered, which leads to non-systematic HR Functions like ineffective hiring, training, performance management and compensation

processes. Detailed HR measurement data is essential these days, as globalization, tight labor markets and an aging workforce are causing many businesses to more closely inspect the performance of their largest investment: the workforce whose compensation represents 60 percent to 70 percent of the general expenses. New Business Intelligence technologies offer HR departments the ability to invest in Human Capital Management analytics solutions designed to yield the insights essential for making informed decisions on HR.

Business Intelligence allows HR departments to become a strategic asset within the organization. It helps boost the efficiency within the HR department and make key decisions around recruitment, planning, and budgeting to support the strategic goals. Business Intelligence systems help HR professional access information from data warehouses and other sources, structure analyses to find areas of improvement, and communicate the results in a way that is convincing to others.

HR function in the organization is not limited by administrative issues. HR department should use a fact-based systematic approach to solve business problems and offer a longer-term viewpoint in order to adjust to environmental changes. The key task of the HR professional is to proactively produce solutions to strategic business issues facing the organization as demonstrated in Figure 1 displaying the Graphical Dash Board for Quick Grasp of Performance, a BI Application used at M/s. Syscon Infotech Pvt. Ltd.

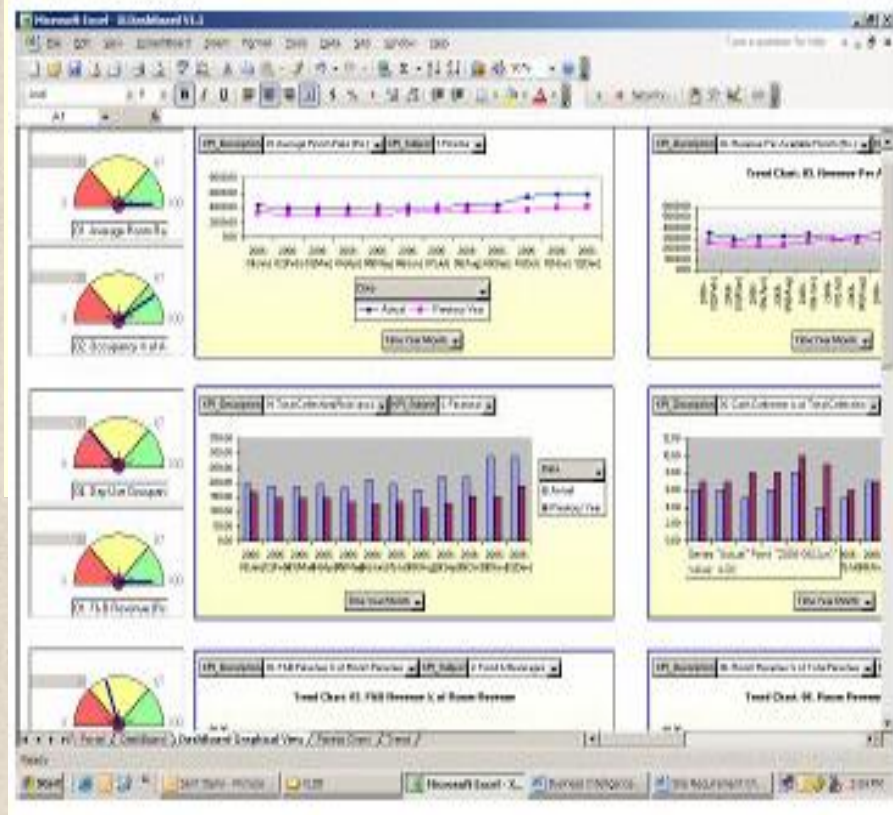


Figure 1: Graphical Dash Board for Quick Grasp of Performance, a BI Application used at M/s. Syscon Infotech Pvt. Ltd.

Challenges of Managing Performance in Human Resources Management Function are increasingly becoming an important area in most organizations spanning across industries. It is also becoming an area which is beginning to rely more and more on hard facts and data analysis to come up with innovative ideas to benefit all the employees of the organization. However, the following types of questions still bother most HR functions:

- How much is one spending on one's people resources? Is one matching up to the industry standards?
- Is one providing the right kind of work to every employee appropriate to their skills?
- Is one able to acquire and retain the best talents in the industry?
- How does one's attrition rate compare to that of the industry and of one's competitor?
- Is one taking adequate care of the training and development needs of one's employees?
- How do different departments and functions utilize the available people resources? Is the demand-supply well matched?
- Is one getting the full advantage of the manpower of one's organization?
- How does one measure the performance of the HR function with respect to their Key Result Areas?

Business Intelligence (BI) Application is extremely useful to assist HR Functions in today's challenging managing performance.

ALIGNING OF BUSINESS INTELLIGENCE WITH STRATEGIC HR DECISION-MAKING

Many companies struggle with the problem of disparate data that is housed in separate HR systems, making it difficult to extricate, and even tougher to interpret.

The first step is to extract and combine data from the various vertical HR functions, such as benefits, payroll and staffing. This integrated information can then be examined using appropriate metrics and analytics to produce business intelligence (BI) - the useful information on which HR professionals can base strategic decisions. For example, a company can discover what is really driving the cost of benefits - the plan design or a hiring freeze that was instituted to

control near-term expense and has created an older workforce over time. or, whether increased hiring is due to growth and skill upgrades or to unwanted turnover. Additionally, BI incorporates insight into statutory and regulatory compliance issues that are front of mind .

By accessing HR data horizontally across functional areas, companies can establish an informational baseline. That, in turn, allows one to measure the results of HR programs and practices, and identify critical insights about one's workforce. One can examine trends over time and build a base for modeling and conducting 'what-if' projections for the future.

Leading companies create capability in workforce management. By leveraging a combination of excellent processes and technology, one may take control of one's future workforce today and position oneself to be ready to deliver on one's strategy.

- Identifies and links performance drivers and critical workforce trends that better inform the strategy for end-to-end business solutions
- Introduces modeling capabilities based on real data to make projections about the changing dynamics of a company's workforce in advance of, during and after policy, regulatory and other changes
- Provides accurate, meaningful and actionable information
- Delivers the methodologies, tools and analyses to understand the business impact of workplace trends, decisions and policies
- Gain Daily Business Intelligence: Leverage predefined set management goals. Consolidate all key information on a single homepage, with one-click access to automated out-of-tolerance notifications, reports, and more.
- Manage Workforce Development and Learning: Analyze competence gaps by person and job. Analyze skills gaps for groups and individuals. Manage training attendance, resource use, costs, and success rates.
- Optimize Compensation: Analyze salary trends. Compare average salaries by group. Look at salary distributions and skews by grade, performance, and service test. Evaluate benefits plans for maximum value.
- Manage Recruitment: Analyze time and costs by recruitment method. Review recruitment success rates. Analyze applicant statistics and dropout reasons.
- Analyze Workforce Composition: Understand workforce trends by job, geography, user-defined categories, minority groups, and business areas.
- Manage Utilization and Productivity: Analyze planned and unplanned hours by cost band over time. Analyze absenteeism by reason over time.

CONCLUSION

HRM has various functions as in improving performance standards and excellence, staffing motivation to name a few. When HRM is clubbed with ICT and Business Intelligence it promises some excellent results and also enhances the value of HRM. The statistical techniques applied in BI are sure to yield precise and reliable results in solving many problems proactively.

More than ever before, HR professionals are being asked to show how their company's workforce policies affect its overall business plan. As a rule, this information is not readily available. In order to provide strategically sound answers, the HR staff needs the critical information provided by the right technology processes and analytical tools. To be able to access and analyze data from all HR functional areas and employ appropriate methodologies to interpret the data, draw meaningful conclusions and make fact-based decisions, the usage of BI has almost become mandatory.

Fortunately, today's advanced technology systems can assimilate essential data and transform that data into business acumen that supports the broader enterprise business plan. Companies may have this expertise in house, or that one may turn to HR outsourcers and consultants who have the data, technology and knowledge to provide solutions.

To conclude Business Intelligence would inevitably help HR departments to solve people's issues proactively. It will help HR in Talent acquisition, reducing costs, retaining better talent, work force segmentation, accessing the performance of the employees or workforce etc. BI gives a new facet to HRM. BI helps HR departments to generate wide variety of on demand HR reports and thus contributes for the effective functioning of HR in organizations through accurate decision making. Thus an appropriate use of BI helps in creating and adding an optimum value to the Human Capital Management.

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