

The Role of Human Resource Information Systems (HRIS) in Strategic Human Resource Management (SHRM)

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Abstract: <p>Information technology is expected to drive Human Resource (HR)'s transition from a focus on Human Resource Management (HRM) to Strategic Human Resource Management (SHRM). This strategic role not only adds a valuable dimension to the HR function, but also changes the competencies that define HR professional and practitioner success.</p> <p>The study aims at investigating what role if any do Human Resource Information Systems (HRIS) play in SHRM. It attempts to examine how HR professionals and managers in different organizations see the effects of HRIS on strategic HR tasks and job roles. It also tries to find out if there is any significant difference in the usage of HRIS between Small/Medium (SME) size and Large size companies. A survey questionnaire was sent to 170 companies and a response rate of 15.9% was received. The target group of the questionnaire was HR managers, HR directors, and HR professionals in companies based in Finland. The scope was widened to include both large and small/medium sized organizations across all the business sectors.</p> <p>The results of the survey reveal that HR professionals not only consider HRIS usage as a support for strategic HR tasks but also perceive it as an enabling technology. The study also indicates that large sized firms are most likely to experience considerable HRIS usage in support of strategic HR tasks. Moreover, there was no significant difference in proportion to the size of a company regarding HRIS usage in support of commitment management and managing trade union relations with organizations. Low response rate of this study makes generalization rather difficult however, future research would benefit from higher response rates for more generalized results.</p>	
Key Words: Human Resources, Human Resource Management, Strategic Human Resource Management, Human Resource Information Systems, Strategic Human Resource Tasks, Enabled Technology	

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1 INTRODUCTION

The subject of the strategic relevance of human resource management in organizational plans and models provides a deep foray into one of the core success factors that effectively underpins the achievement of leadership and managerial objectives. This insight drives the current inquiry into one of the principal levers of modern human resource management identified as Human Resource Information System. This research begins with the background of the study, the objective and a snapshot description of the structure of this presentation.

1.1 Study background

Invariably, human resource management (HRM) issues have been major concern for managers at all levels, because they all meet their goals through the efforts of others, which require the effective and efficient management of people (Dessler et al., 1999). The spacious array of HRM activities for example, planning, recruiting, selection, and training just to mention but few place enormous responsibilities on supervisors and managers alike. These embrace analyzing jobs, planning labour needs, selecting employees, orienting and training employees, managing compensation, communicating (which includes counselling and disciplining), and maintaining employee commitment.

In addition to the already mentioned activities are, ensuring fair treatment, appraising performance, ensuring employee health and safety, building and maintaining good employee/labour relations; handling complains and grievances, and ensuring compliance with human rights, occupational health and safety, labour relations, and other legislation affecting the workplace. Regardless of field of expertise, from accounting to production control, learning about employee rights, employer responsibilities, and effective HRM practices may provide all managers with knowledge that enables them to perform more effectively (Ibid).

However, according to Stewart (1996), the human resource management function has faced a scuffle in justifying its position in organizations. Firms easily justify expenditures on training, staffing, reward, and employee involvement systems in favourable conditions, but when faced with financial difficulties, such Human Resource (HR) systems become prime target for cutbacks. Nonetheless, introducing strategic human resource management (SHRM), in exploring HR's supportive role in business strategy, presented a possibility for demonstrating its value to the firm.

Consequently, Walker (1978) called for a connection between strategic planning and human resource planning marking the commencement of the field of SHRM, but it was not until early 1980s before extensive work was carried out on this proposed linkage. For instance, a comprehensive study by Devanna, Fombrum and Tichy (1984) was devoted to exploring the link between business strategy and HR. Since then, SHRM's evolution has consistently been followed by a few years of developments within the field of strategic management. A very good example is Miles and Snow's (1978) organizational types that were later expanded to include their associated HR systems (Miles and Snow, 1984). SHRM researchers used Porter's (1980) model of generic strategies later to explain the specific HR strategies that one would expect to observe under each of them (Jackson and Schuler, 1987; Wright and Snell, 1991).

Lately, the increasing pressure to support strategic objectives and the greater focus on shareholder value have led to changes in both job content and expectations of HR professionals (Storey et al., 2000; Ball, 2000). Similarly, Schuler et al., (2001) and Mayfield et al., (2003) noted that one such major changes included contemporary use of Information Systems (IS) in support of the HRM process. More so, a careful analysis indicated that increased human resource information systems (HRIS) usage enabled improved professional performance and thus facilitated involvement in internal consultancy activities (PMP (UK) Ltd 1997). In addition, according to Ulrich (1997), using HRIS provides value to the organization and improves HR professionals' own standing in the organization. In another development, Brockbank (1999) suggested the need for HR to become a strategic partner.

HRIS provides management with strategic data not only in recruitment and retention strategies, but also in merging HRIS data into large-scale corporate strategy. The data collected from HRIS provides management with decision-making tool. Through proper HR management, firms are able to perform calculations that have effects on the business as a whole. Such calculations include health-care costs per employee, pay benefits as a percentage of operating expense, cost per hire, return on training, turnover rates and costs, time required to fill certain jobs, return on human capital invested, and human value added. It must be noted though, that, none of these calculations result in cost reduction in the HR function (Gerardine DeSanctis, 1986: 15). The aforementioned areas however, may realize significant savings using more complete and current data made available to the appropriate decision makers. Consequently, HRIS are seen to facilitate the provision of quality information to management for informed decision-making. Most notably, it supports the provision of executive reports and summaries for senior management and is crucial for learning organizations that see their human resource as providing a major competitive advantage. HRIS is therefore a medium that helps HR professionals perform their job roles more effectively (Grallagher, 1986; Broderick and Boudreau, 1992).

Further, various studies had offered a conclusive evidence to affirm the role HRIS plays in support of strategic decision-making. There has been a dramatic increase in HRIS's usage. For example, Lawler and Mohrman (2001) in Hussain et al., (2007) established that the use of HRIS had consistently increased over the previous years, irrespective of the degree of strategic partnership held by the HR function. Definitely, HRIS usage had increased substantially even in firms where HR had no strategic role. They cautioned, however, that HRIS usage and, in particular, fully integrated HRIS systems, did not necessarily ensure that HR would become a full strategic partner.

Even though, numerous studies in this area have provided substantial empirical and theoretical contributions to the field of HRIS this area of investigation is still in its infancy. Interestingly, little however is known about the role of HRIS in SHRM. As the pressure to shift from HRM to SHRM keeps on mounting, coupling with severe global

competition, and in conjunction with the ever-increasing demand for HRIS, further research is still needed in this field.

1.2 Research Objective

This study explores the role of human resource information systems (HRIS) in strategic human resource management (SHRM). The question to address in this study therefore is “What role if any do HRIS play in SHRM?”

1.3 Structure of the study

The first five chapters are reserved for the theoretical part of the study. Chapter 1 is the introductory part. It consists of the study background, the research objective, and the research methodology. This is just to give a snapshot of the subject matter and the premise of the study. Chapter 2 presents an in-depth discussion on the HRM concept by touching on the various definitions, processes and other related issues. Chapter 3 also throws more light on SHRM, its development, the various definitions, and other related issues. Chapter 4 however, is dedicated for the HRIS. Here, issues like HRIS definitions, processes, and others will be considered.

Moreover, chapter 5 is designed to review previous literature on the study, based upon which hypotheses are developed. Consequently, chapter 6 presents hypotheses development and the research methodology. This is to illustrate how the research questions and the hypotheses were developed, including the questionnaire. In addition, the chapter illustrates how the data will be collected, sample technique to be used, statistical methods, and discussion of validity and reliability of the data. Consequently, chapter 7 evaluates the empirical results by analysing the findings of the individual hypothesis taking into consideration the various questions allocated for each hypothesis. Finally, chapter 8 presents, the implication of the results, conclusion, and offers suggestions for future research.

2 THE CONCEPT OF HUMAN RESOURCE MANAGEMENT (HRM)

The HRM concept is elaborated from different and varying view points. More so, the various definitions of the concept, context and scope of HRM and its associated processes are presented. The chapter ends with a summary.

2.1 Human Resource management (HRM)

The term ‘Human resource management’ has been the subject of considerable debate, and its underlying philosophy and character are highly controversial. Much of this controversy stems from the absence of a precise formulation of and agreement on its significance and definition (Storey, 1989; and 1995a), as cited by Bratton and Gold (2003: 7). Obviously, definition of the subject matter is needed for analysis and understanding of HRM theory and practice.

2.2 HRM definition

HRM has a variety of definitions but there is general agreement that it has a closer fit with business strategy than previous models, specifically personnel management. In all the debates about the meaning, significance and practice of HRM, nothing seems more certain than the link between HRM and performance (HRM Guide October 2006). Below are some of the definitions of HRM, although it can be argued that these will only be ones of several possible definitions.

De Cenzo and Robbins (1996: 8) defined HRM as the part of the organization that is concerned with the people dimension, and it is normally a staff or support function in the organization. HRM role is the provision of assistance in HRM issues to line employees, or those directly involved in producing the organization’s goods and services. Acquiring people’s services, developing their skills, motivating them to high levels of performance, and ensuring their continuing maintenance and commitment to the organization are essential to achieving organizational goals. This is much the case regardless of the type of

organization, government, business, education, health, recreation, or social action. The authors proposed an HRM specific approach as consisting of four functions- staffing, training and development, motivation, and maintenance.

In addition, Bratton and Gold (2003: 7) define HRM as the strategic approach to managing employment relations which emphasizes that leveraging people's capabilities is critical to achieving sustainable competitive advantage. This is achieved through a distinctive set of integrated employment policies, programs and practices. The authors presented HRM functions as planning, recruitment and selection, appraisal and performance management, reward management, development, employee relations, health and safety, and union-management relations. Moreover, to Alan Price (2004: 32) HRM aims at recruiting capable, flexible and committed people, managing and rewarding their performance and developing key competencies.

Contributing to the working definition of HRM is Abecker et al., (2004). They see HRM as a strategic and target oriented composition, regulation and development of all areas that affect human resources in a company. Efficient and effective management of these resources to a large extent, affects human resource behavior, and consequently the performance of the organization as a whole. Moreover, the authors identified HRM with the field it covers. These include planning aspects- personnel requirements analysis and personnel asset analysis, and change aspects- recruitment, personnel development and labor displacement (Ibid). Next, is the diagrammatic representation of the said field.

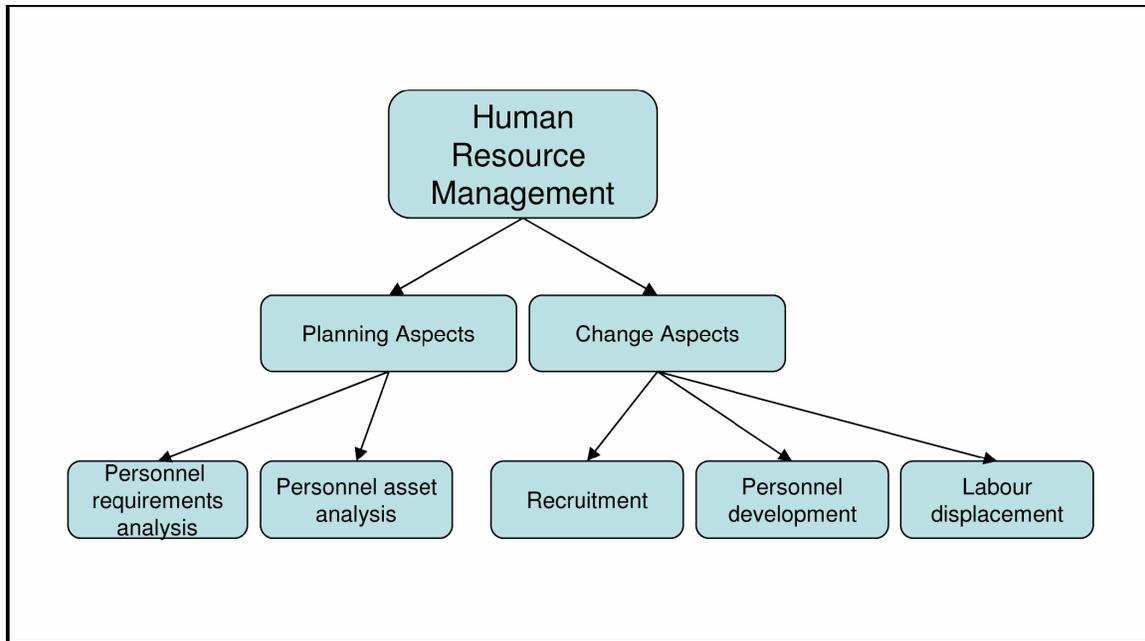


Figure1: Fields of HRM

(Source: Abecker et al., 2004)

It is however, somehow strange, that, an important aspect of HRM, payroll or compensation/payment is missing from the field in figure 1 above propounded by the authors. Abecker et al., (2004) like the previous other authors, did not present a conclusive and detailed definition of HRM including the other concepts (HR processes).

Lastly considered are the opinions of various management scholars who have taken a more in-depth look at the whole concept of HRM. These opinions should be given the greatest weight, since they reflect more in-depth research on the subject than is done by most textbook authors. Few such authors are Dessler et al., (1999), and Torrington et al., (2005).

According to Torrington et al., (2005: 5) HRM is fundamental to all management activity and has evolved from a number of different strands of thought. It is best described as a loose philosophy of people management rather than a focused methodology. Thus, distinction has been made between HRM as body of management activities on one hand (generically described as personnel management) and then on the other as a particular

approach to execute those activities (carrying out people-oriented organizational activities than traditional personnel management).

An organization gains competitive advantage by using its employees effectively, drawing on their expertise and ingenuity to meet clearly defined objectives. Torrington et al., (2005: 5) identified the role of the human resource functions with the key objectives. These four objectives are the corner stone of all HR activities. These include Staffing, Performance, Change-management and Administration. Staffing objective focuses on finding the appropriate pool of human resources needed to ensure fully and timely supply of work force (Ibid). It therefore involves designing organizational structures, identifying working conditions for different groups of employees followed by recruiting, selecting and developing the personnel required to fill the roles. Performance objective aims at ensuring workforce motivation and commitment for effective performance. Consequently, employees training and development remain important.

Moreover, managing change effectively and efficiently remains one of the core objectives in almost every business. Key issues here include recruiting and/or developing people with the required leadership skills to drive the change process. Change agents are employed to encourage acceptance of change by coming out with reward systems associated with the change process. Employees' involvement is also paramount here and is encouraged. The aim is to avoid resistance to change, more especially where it involves cultural changes (attitude, philosophy or long-present organizational norms). Administration objective aims at facilitating the smooth running of the organization. Hence, there is the need for accurate and comprehensive data on individual employees, records of achievement in terms of performance, attendance, training records, terms and condition of employment and personal details are (Ibid).

However, for the purpose of this study, literature on the HRM concept will be based on the opinions of Dessler et al., (1999). The authors defined HRM as the management of people in organizations. It consists of the activities, policies, and practices involved in obtaining, developing, utilizing, evaluating, maintaining, and retaining the appropriate

number and skill mix of employees to accomplish the organization's objectives. The goal of HRM is to maximize employee's contributions in order to achieve optimal productivity and effectiveness, while simultaneously attaining individual objectives and societal objectives Dessler et al., (1999: 2). To the authors, the function of HRM include assisting the organization in attracting the quality and quantity of candidates required with respect to the organization's strategy and operational goals, staffing needs, and desired culture. Helping to maintain performance standards and increase productivity through orientation, training, development, job design, effective communication, and performance appraisal. Helping to create a climate in which employees are encouraged to develop and utilize their skills to the fullest. Helping to establish and maintain cordial working relationship with employees. Helping to create and maintain safe and healthy work environment. Development of programs to meet economic, psychological, and social needs of the employees. Helping the organization to retain productive employees and ensuring that the organization complies with provincial/territorial and federal laws affecting the work place such as human rights, employment equity, occupational health and safety (Ibid).

2.3 HRM processes

This sub section illustrates the processes involved in executing the HRM functions. Each of the functions: planning, recruitment, selection, orientation and training, performance appraisal etc. goes through a process. Unless otherwise stated, the rest of this section will be drawn from (Dessler et al., 1999)'s literature based on pages 165 to 533.

2.3.1 Planning process

Human Resource Planning (HRP) process reviews human resources requirements to ensure that the organization has the required number of employees, with the necessary skills, to meet its goals, also known as employment planning. HRP is a proactive process, which both anticipates and influences an organization's future by systematically forecasting the demand for and supply of employees under changing conditions, and developing plans and activities to satisfy these needs. Key steps include forecasting

demand for labor considering organizational strategic and tactical plans, economic conditions, market and competitive trends, social concerns, demographic trends, and technological changes.

2.3.2 Recruitment process

Recruitment is the process of searching for and attracting an adequate number of qualified job candidate, from whom the organization may select the most appropriate to field its staff needs. The process begins when the need to fill a position is identified and it ends with the receipt of résumés and completed application forms. The result is a pool of qualified job seekers from which the individual best matching the job requirements can be selected. The steps in recruitment process include identification of job openings, determination of job requirements, choosing appropriate recruiting sources and methods, and finally, generating a pool of qualified recruits. Job openings are identified through human resource planning or manager request. Next is to determine the job requirements. This involves reviewing the job description and the job specification and updating them, if necessary. Appropriate recruiting sources and methods are chosen because there is no one, best recruiting technique. Consequently, the most appropriate for any given position depend on a number of factors, which include organizational policies and plans, and job requirements.

2.3.3 Selection process

Selection is the process of choosing individuals with the relevant qualifications to fill existing or projected openings. Data and information about applicants regarding current employees, whether for a transfer or promotion, or outside candidates for the first time position with the firm are collected and evaluated. The steps in the selection process, in ascending order include preliminary reception of applicants, initial applicant screening, selection testing, selection interview, background investigation and reference checking, supervisory interview, realistic job previews, making the hiring decision, candidate notification, and evaluating the selection process. However, each step in the selection process, from preliminary applicant reception and initial screening to the hiring decision,

is performed under legal, organizational, and environmental constraints that protect the interests of both applicant and organization.

2.3.4 Orientation, training and development process

Employee orientation is the procedure of providing new employees with basic background information about the firm and the job. Is more or less, considered as one component of the employer's new-employee socialization process. Socialization process is an ongoing process of initialing in all employees the prevailing attitudes, standards, values, and patterns of behavior that are expected by the organization. Training however is the process of teaching new or present employees the basic skills/competencies needed to perform their jobs. Whereas training focuses on skills and competencies needed to perform employees' current jobs, employee and management development is the training of long-term nature. The aim is to prepare current employees for future jobs with the organization or solving an organizational problem concerning, for example, poor interdepartmental communication. Training and development processes include needs analysis, instructional design, validation, implementation, and evaluation and follow-up.

2.3.5 Career planning and development process

It is the deliberate process through which persons become aware of personal career-related attributes and the lifelong series of activities that contribute to their career fulfillment. Individuals, managers, and the organization have role to play in career development. Individuals accept responsibility of own career, assess interests, skills, and values, seek out career information and resources, establish goals and career plans, and utilize development opportunities.

The career stage identification entails career cycle (the stages through which a person's career evolves). These stages include the following: growth, exploration, establishment, maintenance, and decline stages. Occupational orientation identification is the theory by John Holland. This theory enumerates six basic personal orientations that determine the sorts of careers to which people are drawn. They include realistic orientation,

investigative orientation, social orientation, conventional orientation, enterprise orientation, and artistic orientation.

2.3.6 Performance appraisal process

Performance appraisal may be defined as any procedure that involves setting work standards, assessing employee's actual performance relative to these standards, and providing feedback to the employee with the aim of motivating the worker to eliminate performance deficiencies or to continue to perform above par.

Processes in performance appraisal contain three steps: defining performance expectations, appraising performance, and providing feedback. First, defining performance expectation means making sure that job duties and standards are clear to all. Second, appraising performance means comparing employees' actual performance to the standards that has been set, which normally involves some type of rating form. Third, performance appraisal usually requires one or more feedback sessions to discuss employees' performance and progress and making plans for any required development. Some of the appraisal methods include graphic rating scale, alternation ranking, paired comparison, forced distribution, and critical incident methods.

2.3.7 Employee Compensation and benefits process

Employee compensation involves all forms of pay or rewards accrued to employees and arising from their employment. This however consists of two main components: direct financial payments, and indirect payments. While direct financial payments are in the form of wages, salaries, incentives, commissions, and bonuses, indirect payments are in the form of financial benefits like employer-paid insurance and vacations. Moreover, legal considerations in compensation, union influences, compensation policies, and equity and its impact on pay rates are the four basic considerations influencing the formulation of any pay plan.

Benefits are indirect financial payments given to employees. These may include supplementary health and life insurance, vacation, pension, education plans, and

discounts on say company products. Furthermore, income and medical benefits to victims of work-related accidents or illness and/or their dependents, regardless of fault are all part of employees' compensation.

The processes in establishing pay rates involve the following five steps: First, conducting wages/salary survey to determine the prevailing wage rates for comparable jobs, which is central in job pricing. Second, determine the relative worth of each job (job evaluation) by comparing the job content in relation to one another in terms of their efforts, responsibility, and skills. This eventually results in wage or salary hierarchy. Third, group similar jobs into pay grades, a pay grade comprises of jobs of approximately equal value or importance as determined by job evaluation. Forth, price each pay grade using wage curves. A wage curve is graphical description of the relationship between the value of job and the average wage paid for the job. However, if jobs are not grouped into pay grades, individual pay rates have to be assigned to each job. Fifth, fine tune pay rates. This involves correcting out-of-line rates and usually developing rate ranges.

2.3.8 Occupational health and safety process

Occupational health and safety process aims at protecting the health and safety of workers by minimizing work-related accidents and illnesses. Laws and legislations to ensure and observe general health and safety rules bound employers. More so, rules for specific industries, for example, mining and rules related to specific hazards, for instance, asbestos have to be adhered to. The following steps are important in this process. Checking for or removing unsafe conditions by using checklist to audit a company's adherence to safety rules that are guarded against hazards, which cannot be removed. Next, through selection, screening out of employees who might be accident prone for job in question without compromising the human right legislation. More so, establishing a safety policy, this emphasizes on the importance of practically reducing accidents and injuries. Setting specific loss control goals by analyzing the number of accidents and safety incidents and then set specific safety goals to be achieved. Enforcing safety rules through discipline and conducting health and safety inspections regularly by investigating

all accidents and near misses, and by having a system in place for letting employees notify management about hazardous conditions.

2.4 Chapter Summary

There is no clear-cut definition of HRM. However, the common ground settled by different HR professionals and academicians is that they recognize that HRM is closely fitted with business strategy than personnel management.

HR processes starts by planning labor requirements. This include, resource specifications, long range planning, forecasting supply and demand of labour, staffing, applicant qualification, training programs, costs analysis, salary, contract type, and other related issues. Other key HR processes involve recruiting, selecting, performance appraising, training and orientation, career development, occupational health and safety, and compensation and benefits.

3 THE CONCEPT OF STRATEGIC HUMAN RESOURCE MANAGEMENT (SHRM)

The significant position of HRM in the overall strategy of an organization and its integral function in the strategic planning process is presented. In addition, the various definitions of strategic HRM are explained and a conceptual view of other dimensions of SHRM is provided. The chapter then ends with a summary.

3.1 SHRM development

SHRM has grown considerably in the last years. Schuler et al., (2001) described the evolution of SHRM from personnel management in terms of a two-phased transformation, first from personnel management to traditional human resource management (THRM), and then from THRM to SHRM. To improve firm performance and create firm competitive advantage, firm HR must focus on a new set of priorities. These new priorities are more business, and strategic oriented and less geared towards traditional HR functions such as staffing, training, appraisal and compensation. Strategic priorities include team-based job designs, flexible workforces, quality improvement practices, employee empowerment and incentive compensation. SHRM was designed to diagnose firm strategic needs and planned talent development, which is required to implement a competitive strategy and achieve operational goals (Huselid et al., 1997).

3.2 SHRM definition

In spite of the increasing attention paid to SHRM, the term remains unclear. Some scholars have described SHRM as an outcome, others have described it as a process, and others have considered it a combination of process and outcome. As an outcome, Wright and McMahan (1992) considered SHRM ‘the pattern of planned HR deployments and activities intended to enable a firm to achieve its goals’. Similarly, Wright and Snell (1991) considered SHRM to be ‘organizational systems designed to achieve sustainable competitive advantages through people. As a process, Ulrich and Lake (1991) described SHRM as a process of linking HR practices to business strategy. Moreover, Bamberger

and Meshoulam (2000) argued that SHRM is a competency-based approach to personnel management that focuses on the development of durable, imperfectly imitable, and other non-tradable resources. Considering both process and outcome together, Truss and Gratton (1994) defined SHRM as the linkage of HR functions with strategic goals and organizational objectives to improve business performance and cultivate an organizational culture that fosters innovation and flexibility.

Torrington et al., (2005: 5) defines SHRM as means of accepting the HR function as a strategic partner in the formulation of the company's strategies as well as in the implementation of those strategies through HR activities such as recruiting, selecting, training and rewarding personnel. Whereas strategic HR recognizes HR's partnership role in the strategizing process, the term HR Strategies refers to specific HR courses of action the company plans to achieve. The authors further presented three theoretical perspectives of strategic human resource management. The first was based on the 'one best way' concept of managing human resources to improve business performance. The second was the need to align employment policies and practices with the requirements of business strategy for successful business. This was on the assumption that different types of HR strategies are conducive for different types of business strategies. The third, which also happened to be the more recent approach to strategic HRM, was resource-based view of the firm, and the perceived value of human capital. The focus of this perspective was on the quality of the human resources available to the organization and ability to learn and adapt more quickly than competitors.

Moreover, the Universalist approach on SHRM has also proven popular. The perception was based on the concept of seeing HRM as 'best practice'. This is based on the premise that one model of labor management (a high commitment model) is related to high organizational performance in all contexts, irrespective of the particular competitive strategy of the organization (Torrington et al., 2005: 5). Guest's theory of HRM is one of the best presentations of such perspective. The Guest's theory of HRM was based on four HR policy goals: strategic intentions, commitment, flexibility and quality. These policy

goals, nevertheless, were related to HRM policies expected to produce desirable organizational outcomes. The four policy goals were described as:

- ❖ Strategic intention: ensuring that HRM is fully integrated into strategic planning by allowing coherent HRM policies, which enable line managers to use HRM practices as part of the day-to-day work
- ❖ Commitment: ensuring that employees feel bound to the organization and are committed to high performance through excellent behavior
- ❖ Flexibility: providing an adaptable organization structure and functional flexibility based on multiple skills.
- ❖ Quality: enabling a high quality of goods and services through high-quality-flexible employees

For, Flint et al., (2005) the field of Human Resource Management (HRM) has in recent times been seen as moving away from a supportive - selecting, training, and retaining- (Porter, 1996) to a strategic role (Bartlett & Ghoshal, 2002). The latter explained that rather than being supportive, focusing on recruiting, training and taking care of benefits, HRM's role has become strategic building and using human capital to ensure competitive advantage. This is further explained using a diagrammatic presentation in Figure 2 to illustrate the strategic and supportive roles of HR, and HRM functions.

The Arrow 1 indicates that a strategic role for HR moves parallel with a strategic role for HRM. To the authors, strategic role for HR does not necessarily imply a strategic role for HRM. The two are not identical but perform different functions in an organization. HR either may support a firm's processes or may constitute strategic resources that allow the firm to achieve competitive advantage. Such a shift in the status of human resources is represented by arrow 2.

Similarly, the HRM function may support a firm's HR by selecting, training, and retaining them or theoretically representing an HRM capacity that gives the firm a competitive advantage over others. Such a shift of HRM function is represented by

arrow 3. They however concluded that given the two separate dimensions, where human resources become strategic, the HRM function might very well maintain its supported role.

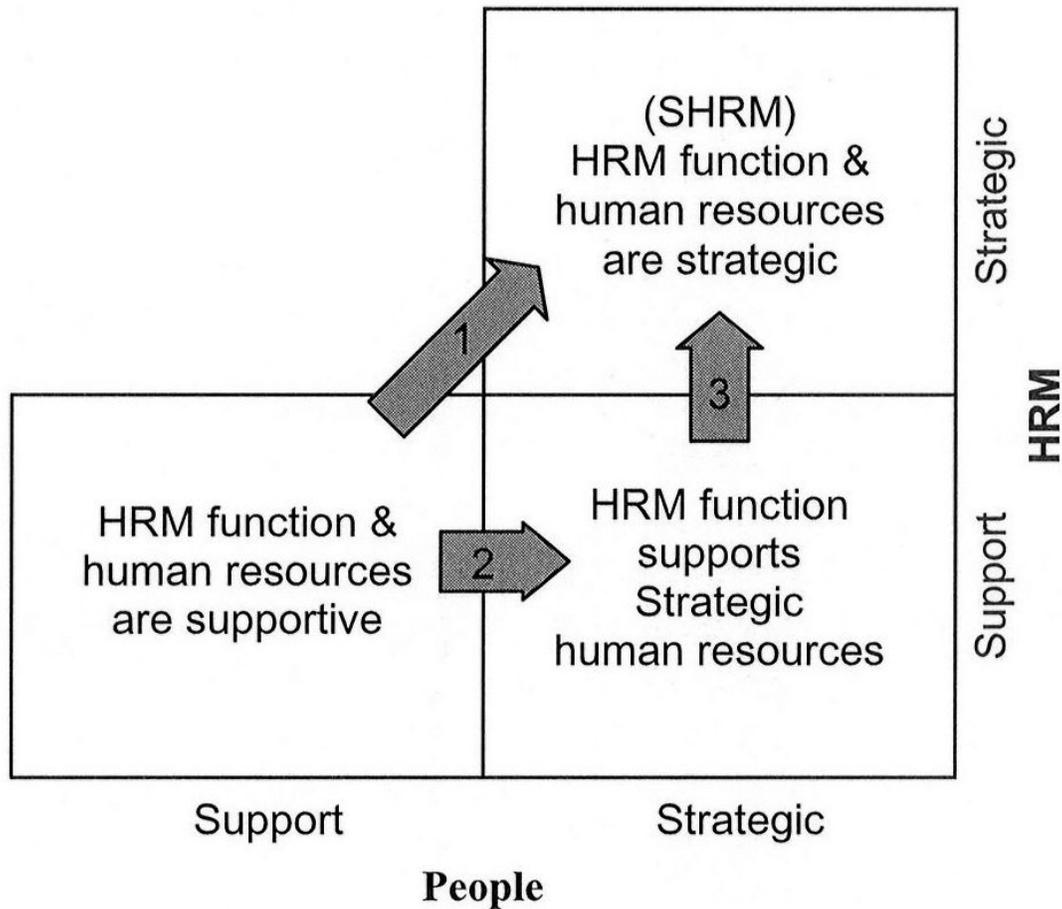


Figure 2: The Supportive and strategic Role of HRM function

(Source: Flint et al., 2005)

Bratton and Gold (2003: 37) defines strategic human resource management as the process of linking the human resource function with the strategic objectives of the organization in order to improve performance. To the authors, global companies function successfully, if strategies at different levels inter-relate. An organization’s human resource management policies and practices must fit with its strategy in its competitive environment and with the immediate business conditions that it faces. They however cautioned that the human resource-business strategy alignment could not necessarily be characterized in the logical

and sequential way suggested by some writers; rather, the design of an HR system is a complex iterative process.

However, in the absence of a consistent definition, scholars broadly agree that the central feature of SHRM involves designing and implementing a set of internally consistent policies and practices to ensure that firm human capital contributes to achieving business objectives (Gratton and Hope-Hailey, 1999; Jackson and Schuler, 1995).

Based on the broad agreement among the central features of SHRM, and the determinants of HRM as strategic, this is how this study defined SHRM. The degree of participation in core decision-making and partnership played by HRM departments, and the specificity and formality that HRM departments require in planning and implementation, all of which are designed to ensure that firm human capital contributes to achieving firm business goals (Bratton and Gold, 2003: 37).

3.3 Dimensions of SHRM

In addition to focusing on the matching of SHRM and HR strategy, researchers have identified a number of important themes associated with the notion of SHRM (Bratton and Gold 2003: 37). These are:

- ❖ Re-engineering
- ❖ Leadership
- ❖ Workplace learning
- ❖ Trade unions

3.3.1 Re engineering and strategic human resource management

All normative models of HRM emphasize the importance of organizational design. For example, the ‘soft’ HRM model is concerned with job design that encourages the vertical and horizontal compression of tasks and greater worker autonomy. The redesign of work organizations has been variously labeled ‘high-performing work systems’ (HPWSs), ‘business process re-engineering’ and ‘high-commitment management’. The literature

emphasizes core features of this approach to organizational design and management, including a flattened hierarchy, decentralized decision making to line managers or work teams. This largely enables information technology, strong leadership and a set of HR practices that make workers' behavior more congruent with the organization's culture and goals. (Hammer, 1997; Hammer and Champy, 1993), cited in Bratton and Gold (2003: 59).

3.3.2 Leadership and strategic human resource management

The concept of managerial leadership permeates and structures the theory and practice of work organizations and therefore how SHRM is understood. Most definitions of managerial leadership reflect the assumption that it involves a process whereby an individual exerts influence upon others in an organizational context. There is however a growing debate over the presumed differences between a manager and a leader. Managers develop plans whereas leaders create a vision (Kotler, 1996) cited in Bratton and Gold (2003: 60). Managers look for leadership style that develop the firm's human endowment and cultivate commitment, flexibility, innovation and change (Bratton et al., 1987). Apparently, most re-engineering shortfalls stem from breakdowns in leadership (Hammer and Champy, 1993: 107), and the organizational change driver is leadership (Kotler, 1996: 32). Moreover, popular leadership models advocated for working beyond the economic contract. Consequently, the transformational leader empowers workers. However, such leadership models shift the focus away from managerial control process and innate power relations towards the psychological contract and individualization of the employment relationship.

3.3.4 Workplace learning and strategic human resource management

Formal and informal work-related learning represent key lever that can help managers to achieve substantive HRM goals. These include commitment, flexibility and quality (Beer et al., 1984; Keep, 1989 cited in Bratton and Gold, 2003: 60). From managerial perspective, formal and informal learning arguably strengthen organizational core competencies and acts as a leverage to sustainable competitive advantage- having the

ability to learn faster than one 's competitors is of essence (Dixon, 1992; Kochan and Dyer, 1995) as reported in Bratton and Gold (2003: 60).

3.3.5 Trade unions and strategic human resource management

The idea of embedding worker commitment in HRM model has led to strong argument among writers, that, there is a contradiction between the HRM normative model and trade unions. In the prescriptive management literature, the argument is the collectivist culture, with 'them and us' attitude, sabotages the HRM goal of high employee commitment and the individualization of the employment relationship. Moreover, critics argue that, 'high-performance-high-commitment' HR strategies provide workers with false sense of job security, by hiding underlying sources of conflict, inherent in employment relations. However, other scholars with pluralist perspective argue that not only do trade unions and 'high-commitment' HRM model coexist but are indeed necessary if an HPWS is to succeed (Bratton and Gold, 2003: 60).

In addition, other researchers like Sparrow and Hiltrop (1994: 25) in Morley et al., (2006) identified a shift from the HRM function and its associated terrain to a strategic role in other areas of HRM activity. Thus, the greater emphasis on the integration of the human resource function into strategic decision-making, a decentralization of much activity to line managers, and pre-occupation with industrial relations and collective bargaining, has made way for a more SHRM activities such as communications, human resource development, workplace learning, career management and human capital accumulation.

3.4 Chapter summary

SHRM has evolved and been transformed from personnel management into traditional human resource management (THRM), and then to SHRM. SHRM, like HRM, do not have any consistent definition but scholars generally concord to the central feature of SHRM comprising designing and implementing a set of internally consistent policies and practices to ensure human capital contributions to achieving business goals

(Gratton and Hope-Hailey, 1999; Jackson and Schuler, 1995). The changes identified in the shift of HRM to SHRM included integration of the human resource function into strategic decision-making, a decentralization of much activity to line managers, effective communications, human resource development, workplace learning, career management and human capital accumulation. These were in addition to managing organization's trade unions relations, greater worker autonomy, high commitment management, leadership, and business processes reengineering.

4 HUMAN RESOURCE INFORMATION SYSTEMS (HRIS) IN ORGANIZATION

The Human Resource Information Systems is introduced by presenting the various definitions, development, costs and benefits, as well as their functions and relationship with HRM. Furthermore, different software providers and their solutions is presented. The chapter then ends with a summary.

HRIS shape an integration between human resource management (HRM) and Information Technology. Even though these systems may rely on centralized hardware resources operationally, a small group of IS specialists residing within the personnel department increasingly manage, support, and maintain them. HRIS support planning, administration, decision-making, and control. The system supports applications such as employee selection and placement, payroll, pension and benefits management, intake and training projections, career-pathing, equity monitoring, and productivity evaluation. These information systems increase administrative efficiency and produce reports capable of improving decision-making (Gerardine DeSanctis, 1986: 15).

4.1 Development of HRIS

Recent developments in technology have made it possible to create a real-time information-based, self-service, and interactive work environment. Personnel Information Systems have evolved from the automated employee recordkeeping from the 1960s into more complex reporting and decision systems of late (Gerardine DeSanctis, 1986: 15). Today, managers and employees are assuming activities once considered the domain of human resource professionals and administrative personnel. This represents a significant break with the past, but an improvement in overall organizational effectiveness. Consequently, given the authority and relevant accessible information for decision-making, both managers and employees respond more quickly to changes (Lengnick-Hall and Lengnick-Hall, 2002).

4.2 Definition of HRIS

Tannenbaum (1990) defines HRIS as a technology-based system used to acquire, store, manipulate, analyze, retrieve, and distribute pertinent information regarding an organization's human resources. Kovach et al., (1999) defined HRIS as a systematic procedure for collecting, storing, maintaining, retrieving, and validating data needed by organization about its human resources, personnel activities, and organization unit characteristics. Furthermore, HRIS shape an integration between human resource management (HRM) and Information Technology. It merges HRM as a discipline and in particular basic HR activities and processes with the information technology field (Gerardine DeSanctis, 1986: 15). As is the case with any complex organizational information system, an HRIS is not limited to the computer hardware and software applications that comprise the technical part of the system it also includes the people, policies, procedures, and data required to manage the HR function (Hendrickson, 2003).

4.3 Components of an HRIS

Kovach et al., (1999) presented the three major functional components in any HRIS by giving the model below:



The Input function enters personnel information into the HRIS. Data entry in the past had been one way, but today, scanning technology permits scanning and storage of actual image off an original document, including signatures and handwritten notes. The maintenance function updates and adds new data to the database after data have been entered into the information system. Moreover, the most visible function of an HRIS is the output generated. According to Kovach et al., (1999), to generate valuable output for computer users, the HRIS have to process that output, make the necessary calculations, and then format the presentation in a way that could be understood. However, the note of caution is that, while it is easy to think of HR information systems in terms of the hardware and software packages used to implement them and to measure them by the number of workstations, applications or users who log onto the system, the most

important elements of HRIS are not the computers, rather, the information. The bottom line of any comprehensive HRIS have to be the information validity, reliability and utility first and the automation of the process second.

4.4 Users of HRIS applications

HRIS meet the needs of a number of organizational stakeholders. Typically, the people in the firm who interact with the HRIS are segmented into three groups: (1) HR professionals, (2) managers in functional areas (production, marketing, engineering etc.) and (3) employees (Anderson, 1997). HR professionals rely on the HRIS in fulfilling job functions (regulatory reporting and compliance, compensation analysis, payroll, pension, and profit sharing administration, skill inventory, benefits administration etc.). Thus, for the HR professional there is an increasing reliance on the HRIS to fulfill even the most elementary job tasks. As human capital plays a larger role in competitive advantage, functional managers expect the HRIS to provide functionality to meet the unit's goals and objectives. Moreover, managers rely on the HRIS's capabilities to provide superior data collection and analysis, especially for performance appraisal and performance management.

Additionally, it also includes skill testing, assessment and development, résumé processing, recruitment and retention, team and project management, and management development (Fein, 2001). Finally, the individual employees become end users of many HRIS applications. The increased complexity of employee benefit options and the corresponding need to monitor and modify category selections more frequently has increased the awareness of HRIS functionality among employees. Web-based access and self-service options have simplified the modification process and enhanced the usability of many benefit options and administration alternative for most employees.

4.5 HRIS functions

Functional HRIS must create an information system that enables an assimilation of policies and procedures used to manage the firm's human capital as well as the procedure necessary to operate the computer hardware and software applications (Hendrickson, 2003). While information technology affects Human Resource (HR) practices (Lengick-Hall et al., 2003) HRIS and HRIS administration comprise a distinct supporting function within HR. Some of the HRIS functions include the following:

4.5.1 Integrating the Technologies of HR

Is a fact, that developments in Information Technology have dramatically affected traditional HR functions with nearly every HR function (example, compensation, staffing, and training) experiencing some sort of reengineering of its processes. However, this process of change has created significant challenges for HR professionals resulting in the transformation of traditional processes into on-line processes.

4.5.2 Increased Efficiency

Rapid computing technology has allowed more transactions to occur with fewer fixed resources. Typical examples are payroll, flexible benefits administration, and health benefits processing. Though technologies of early mainframes provided significant efficiencies in these areas, the difference is that the record processing efficiencies that were once only available to large firms are now readily available to any organization size (Ulrich, 2001).

4.5.3 Increased Effectiveness

Most often, as with processes, computer technology is designed to improve effectiveness either by in terms of the accuracy of information or by using the technology to simplify the process. This is especially the case where large data sets require reconciliation. However, onerous manual reconciliation processes may be executed faster, but also with near perfect accuracy using automated systems. For instance, pension and profit sharing

applications, benefits administration, and employee activities are just to mention but a few. Using computer technology in these processes ensures accurate results and offer substantial simplification and timeliness over manual processing. Consequently, the vast majority of HR functions have had some degree of automation applied in order to gain both efficiency and effectiveness.

4.5.4 IT-Enabled Processes

While many of the application areas' gains are through increased effectiveness and efficiency over manual processing, some are only possible using contemporary technologies. Most notably, computer-based (web-based) training is a growing area of HR practice that was not available until computer software was created. Even computer-based training was not as practical as it is today because it was geographically dispersed until the training was upgraded from computer-based to web-accessible training. However, by taking traditional computer-based training programs and making them accessible on the Internet, firms have created a powerful tool to upgrade and assess employee skill sets. Moreover, many other traditional HR functions have evolved Information Technology (IT) -dependent components with the advent of the Internet. On-line recruitment centers, along with the ability to conduct virtual interviews, background checks, and personnel tests on-line have dramatically changed those processes, increasing the geographic reach of firms for potential employees.

4.6 Cost and benefit of HRIS

An HRIS system represents a large investment decision for companies of all sizes. Therefore, a convincing case to persuade decision makers about the HRIS benefits is necessary. The common benefits of HRIS frequently cited in studies included, improved accuracy, the provision of timely and quick access to information, and the saving of costs (Lederer, 1984; Wille and Hammond, 1981). Lederer (1984) discussed why the accuracy and timeliness of HRIS is very important in terms of operating, controlling, and planning activities in HR. In addition, Kovach et al., (2002) listed several administrative and

strategic advantages to using HRIS. Similarly, Beckers and Bsat (2002) pointed out at least five reasons why companies should use HRIS. These are:

- ❖ Increase competitiveness by improving HR practices
- ❖ Produce a greater number and variety of HR operations
- ❖ Shift the focus of HR from the processing of transactions to strategic HRM
- ❖ Make employees part of HRIS, and
- ❖ Reengineer the entire HR function

In their 2002, HRIS survey, Watson Wyatt found that the top four metrics used in formal business cases supporting HRIS were improved productivity within HR organization, cost reductions, return on investment, and enhanced employee communications. However, companies realize many of these cost reductions and efficiency gains early in the implementation of an HRIS system, so they provide compelling evidence needing to get a project up and running. In fact, the payback period, or the time it takes to recoup the investment, may be as short as one to three years (Lego, 2001). HRIS contribute to cost reductions, quality/customer satisfaction, and innovation (Broderick and Boudreau, 1992). According to Sadri and Chatterjee (2003) computerized HRIS function enable, faster decision making, development, planning, and administration of HR because data is much easier to store, update, classify, and analyze. Moreover, while it may be possible to identify many of the relevant costs (e.g., software and hardware), it is more difficult to quantify the intangible benefits to be derived from an HRIS system. Beyond cost reductions and productivity improvements, HRIS potentially and fundamentally affect revenue channels. However, establishing direct and objective benefits measures is more difficult to achieve.

On the other hand, there are costs associated with HRIS implementation. Moreover, to capitalize on all HR possibilities, workers need to have personal computers and global Internet connections. Some companies facilitate this by providing employees computer discount programs to encourage home usage. In addition, there is inevitably transition costs associated with moving from traditional HR to an HRIS, including slowdowns, mistakes, and other consequences associated with changing legacy systems to integrated

suites (Brown, 2002). Hardware costs for servers and software costs for application programs entail sizeable initial outlays and continuing costs over time as better technology becomes available. While many companies are adopting HRIS systems and extolling their benefits, others are reluctant in embarking on such an expensive and time-consuming change. Nevertheless, some firms are adopting less complex forms before attempting to transform their HR departments. However, for those who have already adopted HRIS, many are yet to realize its full benefits. A survey by Towers Perrin found that while 80 percent of respondents affirmed employee self-service ability to lower HR costs, only 5 percent fully achieved this objective; another 35 percent had only partially achieved that objective, and only 3 percent was accelerating HR's transformation to a strategic partner (Ibid).

4.7 Chapter summary

HRIS is an effective and efficient catalyst for integrating human resource management and Information Technology. This was common with all the various definitions of HRIS. HRIS as a system support HR functional applications such as employee selection and placement, payroll, pension and benefits management, intake and training projections just to mention but a few.

The composition of HRIS includes input, maintenance, and output. Input function enters personnel information into the HRIS. The maintenance function updates and adds new data to the database having entered data into the information system. The output is considered the most visible function of an HRIS. HRIS process that output, adjust it in such a way that it is understandable.

The three major groups that make use of HRIS are HR professionals, managers in functional areas, and employees. While HR professionals rely on the HRIS in fulfilling job functions, managers rely on the HRIS's capabilities to provide superior data collection and analysis, especially for performance appraisal and performance management. Individual employees are the end users of many HRIS applications and

complexities of job related issues have augmented the awareness of HRIS functionality among employees.

In addition to HRIS's integration function, HRIS enable effectiveness and efficiency, and ensure competitiveness among firms. However, along with the benefits are the costs involved in implementing and maintaining these systems. For example, hardware and software cost, time and other related costs. There are many software solution offers; the choice is however dependent on the decision of the user. Consequently, information validity, reliability and utility constitute a comprehensive HRIS, and should always be the pivot for every HRIS implementation.

5 HRIS ROLE IN SHRM

The reviews of various related studies conducted in this important field of research is presented. For the sake of clarity, the literature has been reviewed under the following headings: HRIS usage, role/impact and implementation.

5.1 Previous research

Within the last decade, the explosion in information systems related literature confirms that information technology, its implementation, use and benefit is a very well researched area in organizational studies (Robinson, 1997). However, human resource information systems (HRIS), their role on strategic human resource management (SHRM), and how this role is affected by the size of an organization have largely been neglected in these literatures in terms of both theory and evidence (Kinnie and Arthurs, 1996; Kossek et al., 1994) cited in Hussein et al., (2007). Nevertheless, a small amount of related case study and survey works exists, some of which has been theorized (Torrington and Hall, 2003; Martinsons, 1999). Following are some of these identified cases and surveys:

5.2 HRIS usage

5.2.1 Ball (2000)

In 'The use of human resource information systems': a survey: (Ball, 2000) reviewed the issues surrounding the use of HRIS by personnel and human resources departments in smaller organizations. The study enquired as to the nature of information stored electronically in three core areas: personnel, training and recruitment. Additionally, the paper evaluated system usage in terms of previous research, its sophistication, and other debates, which apply to larger firms. The study employed empirical data, which profiled system usage by 115 UK companies in the service sector in terms of information stored on personnel, training and recruitment and information processing features used. Consequently, the survey used random sampling to select Potential respondents from the

Financial Analysis Made Easy (FAME) database, by using a postal survey to collect data for reasons of temporal expediency. They split the sample according to organizational size and the amount of time the technology had been in place.

Ball (2000) revealed that the more people employed in an organization, the more likely the HR function was to hold information electronically both on the individual and the organization. Similarly, the more people organization employed, the more likely it was that information analysis with HRIS would occur. However, only half of the firms who employed less than 500 employees, and those who used only core HR modules, rather than additional training and recruitment modules used HRIS. Moreover, the more people employed by the organization the less likely it was to purchase additional non-core HR modules. Consequently, organizations that had purchased HRIS were more likely to buy additional modules. In general, HRIS had wider usage administratively, although those who used HRIS in training and recruitment were beginning to move away from this. Finally, time and attendance were the most frequent integrated additional modules (Ibid).

The Ball's (2000) results indicated that organizational size is a clear determinant of, first, whether an organization has an HRIS at all and, second, whether it adopts certain modules (example, core personnel administration) over others (example, training and administration), and third how information is used and analyzed. Similarly, the type of software chosen by new HRIS users was typically a low-cost option. In-house database development was an equally popular option for smaller organization adopting HRIS for the first time. This was in line with Thaler-Carter's (1998) observations that smaller organization would go for low cost and low risk HRIS purchases, typically cheaper, supplementary software that were flexible or in-house HRIS development. Additionally, of those organizations that used HRIS software, less than half of the sample used it in training and recruitment, and only very, few of these employed less than 500 people.

5.3 The role and impact of HRIS

5.3.1 Hussain et al., (2006)

Hussain et al., (2006) studied ‘the use and impact of human resource information systems on human resource management professionals’. The aim was to assess and compare the specific areas of use and to introduce a taxonomy that provides a framework for academicians. They also sought to determine whether HRIS usage was strategic, a perceived value-added for the organization, and its impact on professional standing for HR professionals.

The researchers used two techniques to investigate the IS impact on HRM. Both a questionnaire survey and in-depth semi-structured interviews were used. While the former was used to obtain responses from HR professionals in the UK organizations, the latter targeted a small number of senior executives, such as directors, in order to gain deeper insights into emerging issues.

A questionnaire was sent to HR managers at 450 organizations located in the UK. A stratified random sampling from the UK business directory was used and it covered the different sectors of the economy. Of the questionnaire received, 101 were from senior HR professionals, representing a 22% return; and these were used in the subsequent analysis.

The results showed that, on average, few differences existed between SME and large company HRIS’ usage. Further, the authors observed that the professional standing has been enhanced by the specific HRIS usage for strategic collaborating, but cautioned that it was not as pronounced as that experienced by those other professions.

In conclusion, the researchers noted that for senior HR professionals, strategic use of HRIS was increasingly the norm, irrespective of company size. In addition, they observed

that strategic use of HRIS enhanced the perceived standing of HR professionals within organizations; senior non-HR executives however did not share this view.

5.3.2 Florkowski (2006)

Florkowski (2006) in his study, ‘The diffusion of human-resource information-technology innovations in US and non-US firms’, evaluated the diffusion of eight information technologies that are transforming HR service-delivery in North America and Europe. Such information technologies include HR functional applications, integrated HR suits, IVR¹ systems, HR intranets, employee and manager self-service applications, HR extranets, and HR portals.

The study applied external, internal, and mixed-influence models of Human Resource Information Technology (HRIT) -adoption decisions of cross-sectional sample of US, Canada, UK and Irish firms. Senior HR executives provided the underlying data by means of a dynamically branching, web-based survey. The researcher reviewed that overall diffusion was best characterized as an outgrowth of internal influences, fueled primarily by contacts among members in the social system of potential adopters. Similar results were obtained when controls were introduced for national setting, targeted end-user, and technology type.

The paper showed that the modest correlation between the number of acquired Information Technologies (IT) and HR-transactions automation supports the general call for more formalized HR-technology strategies at the firm level to coordinate purchasing and implementation decisions.

5.3.3 Gascó, Llopis and González (2004)

In their paper ‘The use of information technology in training human resources’- An e-learning case study, they sought to address the influence of information technology in

¹ IVR = Interactive Voice Response

human resources management, specifically on training policy through the experience of a Spanish telecommunication firm, Telefonica. In consequent, Gascó et al., (2004) investigated the characteristics of the training model designed, technology used, key actions as well as the disadvantages and success factors in training policy.

Information about Telefonica was by interviewing the executives and consultants who collaborated to implement information technology (IT) in training, and an analysis of the internal document that the organization used to carry this process. Gascó et al., (2004) identified encouraging results on Telefonica's newly e-design training models. There was accessibility at any time and place with regard to large set of teaching materials, simulations of situations that were very difficult or risky in real life, and applications based on the universally applied Information and Communication Technologies (ICTs). The system provided user-friendly cultural tool for all Telefonica employees, and job related development opportunities or the possibility for employees to improve their performance. However, there were hindrances to the system implementation there by causing delays. Included were initial investment and permanent equipment update, heterogeneous and unconsolidated technology, limited technological culture in both trainers and trainees, self-motivation in trainees and finally problems related to intellectual property.

The researchers revealed that Telefonoca's accumulated experience in the implementation of ICT-based training programs, brought to light certain success factors. These included flexibility in the management of learning times, trainers' active participation, and the development of control mechanisms that ensured training effectiveness. While this is good, Barry (1998) and Elswick (2002) however cautioned that technology on its own do not suffice for experts to share knowledge with others. Neither will it make employees eager to acquire knowledge, however, if an organization already has the aspirations, the skills and the attention focused on knowledge, technology will facilitate the access to the knowledge, and pave the way for the suitable knowledge to reach the right person in the right moment.

5.3.4 Ordóñez de Pablos (2004)

Ordóñez de Pablos (2004) in his study on Human resource management systems and their role in the development of strategic resources empirically revealed evidence provided a conceptual framework linking human resource management, organizational learning and knowledge management. Additionally, the study built a causal model and tested it with a sample of firms from Spanish manufacturing industry. The researcher developed the HRM systems, knowledge management and organizational learning questionnaire. It was designed in an easy to read booklet format, which contained questions covering different areas. Using postal survey, he administered questionnaires to firms with 100 or more employees from Spanish manufacturing industry. However, out of the total population census of 2,136, she finally received 123 valid survey questionnaires.

Ordóñez de Pablos (2004) revealed that the empirical evidence supported the hypothesis that there was direct relationship between a particular HRM practice system and knowledge stocks at individual level. Moreover, the empirical evidence supported only two of the hypotheses linking knowledge stocks with a sustained competitive advantage; thus, human capital had a direct, positive and significant relationship with the creation of a sustained competitive advantage. Secondly, technology-based knowledge stocks at firm level also had a positive and significant relationship with creation of a long-term competitive advantage for a company. However, empirical evidence showed that knowledge stocks at both individual and group levels had a positive but no significant relationship with organizational performance.

Ordóñez de Pablos (2004) argued that HRM systems might lead to a sustained competitive advantage through the creation and development of knowledge-based resources. This was in line with the conceptual framework developed and the literature on HRM, which proposed a link between HRMS, strategic organizational resources and the creation of a sustained competitive advantage (Pfeiffer, 1994; Miles and Snow, 1992; Youndt and Snell, 1998; Youndt et al., 1996).

5.3.5 Buckley, Kathleen, Joy and Michaels (2004)

Buckley et al., (2004) presented the results obtained from using an automated recruiting and screening system by an educational publisher, a global provider of educational products, services and technologies for K-12 grade levels. The researchers used a case study to obtain the results by carefully observing the case company's systems, the Pearson Reid London House Quick-Screen system. The system was implemented to recruit, screen, and hire professional scorers who read, evaluated, and scored tests taken by students throughout the US. The analyses showed conservative savings due to reduced employee turnover, reduced staffing costs, and increased hiring-process efficiencies. The researchers revealed that a commutative savings yielded a return on investment of 6 to 1 or a return of \$6, 00 for every \$1, 00 invested in programs. That was attributable to the use of an automated system.

Buckley et al., (2004) concluded by stating that the enhanced employee selection system was solely responsible for the reduction of employee turnover. The results buttress the point that human capital, as the principal corporate asset must be effectively managed (Jones and Arnold, 2003) cited in Buckley et al., (2004). However, one plausible alternative explanation that needed to be addressed was any effect possibly due to the economy. While the link between automation and Return On Investment (ROI) attributable to reduce operating costs was expected then turnover reduction associated with the automated screening process needed further research.

5.3.6 Gardner, Lepak and Bartol (2003)

Gardner et al., (2003), in their research work, 'Virtual HR: the impact of information technology on human resource professional', investigated the extensive use of IT influence on jobs in one professional occupational segment, human resources (HR). Additionally, they sought to examine how HR professionals handled HR information as well as the expectations placed on them resulting from an increased reliance on IT. The study used primary data about HR professionals working for a sample of HR executives. The Society for Human Resource Management (SHRM) provided these names and

contact information. In addition, they obtained IT information usage from the HR executives. Moreover, they mailed surveys to 1969 HR executives in various organizations from a total sample of 2019. Of these, there were 155 returns marked as undeliverable, reducing the sample size to 1814 members. A total of 455 HR executives completed surveys for a response rate of 25.1%.

The results indicated that extensive use of IT enabled HR professional to have more information autonomy. Furthermore, extensive use of IT is positively associated with HR professional spending more time on IT support activities. In addition, functional specialists reported increased time demands for both transformational activities and IT support activities. Moreover, the result supported the theorized impact suggesting that with more IT, HR tasks are further automated (Broderick and Boudreau, 1992; Greengard, 1999; Groe and Pyle, 1996; Hatlevig, 1995; Wilcox, 1997). The study also suggested that IT related to two distinct aspects of HR professional roles: enabling aspects as well as time shifting aspects. The study however noted the likelihood that additional factors may influence the relationship between IT use and the job of HR professionals.

Gardner et al., (2003) revealed that, in spite of the research limitations, the results provided important support for theoretical framework suggested by Zuboff (1998) and demonstrated its usefulness in assessing the impact of IT on the job role of the professional worker. The findings suggested that IT could lead to profound changes in the nature of professional work by reducing routine work whilst also allowing greater information responsiveness to clients and affording greater autonomy with respect to information handling.

5.3.7 Baran, Karabulut, and Pekdemir (2002)

Baran et al., (2002) examined the differences in HR practices and the effects of new HR practices on organizational change during 1995-1999 in manufacturing companies with ISO 9001-9002 certificates received from the Turkish Standards Institute (TSI) in their article “The new HR practices in changing organizations” an empirical study in Turkey.

The researchers used simple random sampling to select 253 manufacturing firms from a list of the first ten sectors of the manufacturing companies registered at the TSI since 1992 with ISO 90001-9002 certificate. Questionnaires were mailed to the general managers of these 253 firms. In each firm, either the general manager or the assistant director was asked to respond and mail back. However, ten were returned due to unknown addresses, two of the companies did not answer the survey because they were not in the above-mentioned sectors and sixty-five responded, generating a 26.97 per cent response rate.

Baran et al., (2002) revealed that out of the companies studied 62 per cent reported significant changes in their vision during the period under study. They noted also that, there was no difference between human resource practices of organizations operating in different sectors. In addition, the correlation analysis carried out to determine the relation between human resource practices and organizational change yielded a low, but significant, positive correlation between the variables at 0,05 significant levels. Consequently, the t-test carried out to measure the possible differences in information sharing between top and bottom level managers yielded a significant difference of 0,051. Again, the t-test carried out to measure possible differences in information sharing between managers at the same level yielded a significant difference at 0,05 significance level.

There was significant positive correlation between human resource practices and organizational change. Moreover, there was significant difference in information sharing between top and bottom level managers during the period. Additionally, they indicated that there were no differences between the human resource practices of companies of different sizes. However, some differences existed in the information sharing between managers of same level. Various studies conducted also confirmed the Baran et al., (2002) findings. Whittington (1999) examined mid-level managers' degree of participation in decision-making, and sharing of information between top and bottom level managers. Similarly, an article in *Training and Development* (2000) revealed the differences in human resource functions within various sized organizations. Rouda and

Kusy (1995) examined the influence of new human resource practices on the change in management.

5.3.8 Tansley, Sue and Hazel (2001)

‘Effecting HRM-style practices through an integrated human resource information system (HRIS)’ - An e-Greenfield site: In this study, Tansley et al., (2001) examined the move towards HRM-style practices in organizations that had developed HRIS as an opportunity structure that could enable a break with the past. Using a ‘Greenfield’² philosophy, they investigated a major UK engineering company, Quality Engineering Limited (QEL). Furthermore, they examined the reasons behind the greater shift in the required change in mindset for some particular managers.

The researchers undertook case study research in major UK engineering company implementing the HRIS element of an Enterprise Resource Planning (ERP) system (SAP software) into its existing organizational locations. In this study, a number of methods were used, including participant observation of eight members of the project team brought together to develop foundation of a major ERP initiative. Research methods included attendance at meetings and process mapping workshops, interviews with HRIS project team members, HR process owners and HR directors (total number of interviews 16, each tape-recorded and transcribed) and analysis of documentation such as policy documents, company newsletters and internal memos.

Tansley et al., (2001), found the case evidence contrary to QEL's mission statement, which suggested that the introduction of the ERP HR system could potentially provide the stimulus to effect the required change in employee management practices, this was in conformity to Davenport (1993). The reason identified was that those involved in the introduction of the HRIS had a narrowed view of the ERP HR system potential. This restricted view was also due to lack of knowledge and experience in design and implementation. Another factor leading to failure was lack of support from senior

² Adopting new philosophy towards the new way in which people are managed (Clark, 1995, 45).

colleagues. Additionally, resistance to changing long-developed philosophies, and the inability to take a holistic and strategic perspective in identifying the links and potential synergy across the different areas were all part of the case company's failure to exploit the Greenfield opportunities.

Introduction of a new system does not necessarily affect the expected strategic advantages. However, E-Greenfield concepts provided useful sense-making heuristics to facilitate the jettisoning of old, problematic HR information systems that constrained HRM-style practices by their inflexibility. Moreover, HR and HR information systems strategy making enables the full transformational capacity of HR systems usage. Carole Tansley et al., (2001) indicated that taking account of the automate potential of HR systems in the e-Greenfield environment positively influence the nature and implementation of HRM-style philosophies, policies and practices at particular sites. Not taking account however constrains the development of HR specialists' knowledge of the client and workforce needs.

5.4 HRIS Implementations

5.4.1 Ngai and Wat (2004)

In their article, 'Human resource information systems: a review and empirical analysis' Ngai et al., (2004) presented a comprehensive literature review of human resource information systems and reported the results of the survey on the implementation of HRIS in Hong Kong. They also aimed at examining the use and applications of HRIS. Moreover, the purpose was also to identify the perceived benefits of, barriers to, and implementation of HRIS. A structured questionnaire was designed, pre-tested, modified, and used to capture data on cross-section of HRIS users in Hong Kong. The questionnaire was pilot-tested by practicing HRIS consultants and by HR and Management Information System (MIS) managers. Based on the feedback from the pilot-test, the questionnaire was modified and a final questionnaire was developed and mailed to companies in Hong Kong.

According to Ngai et al., (2004) most Hong Kong industries perceived that the greatest benefits to the implementation of HRIS were the quick response and access to information that it brought, and the greatest barrier was insufficient financial support. Moreover, there was statistically significant difference between HRIS adopters and non-adopters, and between small, medium and large companies, regarding some potential benefits and barriers to the implementation of HRIS.

They revealed that the size of a company might have an impact on the achievement of a number of benefits and on the obstacles faced when implementing HRIS. Again, they indicated that support of top management was one of the most important factors in successful implementation of HRIS. This finding supported Beckers and Bsat (2002), and Kovach and Cathcart (1999) research findings on barriers to the implementation of HRIS. In addition, they found that a comprehensive HRIS requires a sizeable budget to implement and maintain. This was also in support of the survey conducted by the Institute of Management and Administration (2002) indicating the biggest problems or obstacle for managing an HRIS. The study therefore provided some insights into the implementation of HRIS by Hong Kong companies, which might help HR practitioners, acquire a better understanding of the benefits and barriers to the implementation of HRIS.

5.4.2 Shrivastava and Shaw (2003)

Treating installation of HR technology as a form of innovation, Shrivastava et al., (2003) in their study on the topic ‘Liberating HR through technology’ introduced a model describing technology implementation process. The aim was to use the model to highlight various issues that merited the attention of academics and practitioners. The researchers used an exploratory method of research. They designed a Descriptive Model for HR technology installations. The model was partitioned into three phases. They are adoption, implementation, and institutionalization. Using previous research findings, they compared the various HR technology implementation processes with the descriptive model. They reviewed that organizations that adopted a process-driven approach tend to customize IT solutions in support of their existing HR processes. In contrast, organizations that favored a technology-driven approach tend to apply directly off-the-

shelf packages. Moreover, Samir et al., (2003) found out that there was universal agreement that large-scale technology projects failed due to managerial and not technical reasons. Additionally, they identified that climate conduciveness for technology implementation related positively to the extent of neutralization of inhibitors. In consequent, they realized that firms needed effective facilitating strategies in order to create a climate conducive for implementing technology.

Moreover, they revealed that phase or incremental implementations had a plain vanilla that bias business process reengineering effort. Consequently, they identified that firms that undertook technology initiatives with the view to enable the HR function to focus more on value-added activities were the ones most likely to realize the full potential of technology. This was in confirmation of Lutz's (1996) assertion that by automating basic HR transactions, companies have empowered employees to engage in self-service and freed their HR to deal with more strategic and value-added issues.

5.4.3 Lado and Wilson (1994)

Lado et al., (1994) in their study dubbed 'Human Resource Systems and Sustained Competitive Advantage': A Competency-Based Perspective, explored within a system's perspective, the organizational competencies that might be sources of sustained competitive advantage. In addition, they discussed how HR systems facilitated the development and utilization of organizational competencies and how HR systems could destroy those competencies or inhibit their exploitation. The aim was also to examine the extent to which HR managers and professionals could enable or constrain the strategic decision-making process by providing or withholding critical information concerning people-related business issues.

The research was based on a stream of literature reviews. They drew on the theoretical insights from the resource-based view of strategic management to examine the potential of human resource management and organizational competencies. *'The resource-based view suggests that human resources systems can contribute to sustained competitive advantage through facilitating the development of competencies that are firm specific,*

produce complex social relationships are embedded in a firm's history and culture, and generate tacit organizational knowledge' (Barney, 1992; Reed and DeFillippi, 1990; Wright and McMahan, 1992).

Lando et al., (1994) realized that conditions in the firm's external and internal environment might enable or constrain the capacity of HR systems to develop and exploit organizational competencies. Moreover, they noted that decisions made in firms with an overriding concern for legality and avoidance of potential litigation might overlook other important decision criteria. This was also in conformity with Sitkin and Bies' (1993) findings. Furthermore, they identified that their competency-based view complimented and extended the behavioral perspective of strategic HRM, which had emphasized observable and transferable role behavior of employees as the basis for creating competitive advantage (Schuler and Jackson, 1987). The researchers concluded that achieving a sustainable competitive advantage through firm-specific competencies would require continuous monitoring by the firm because competency patterns might change over time. Again, the technique of 'strategic assumption surfacing and testing' (Mitroff and Emshoff, 1979) might be useful for monitoring and assessing the desired competency profile.

5.5 Analysis of the previous research

The size of organization determines HRIS usage, the type of module it adopts, and how information is analyzed. In addition, certain core modules for example personnel administration precedes over others like training and administration. Similarly, new HRIS users normally opt for low-cost solutions. In-house database development is a trendy option for smaller organization adopting HRIS for the first time Ball (2000). This was also in line with Thaler-Carter's (1998) observations that smaller organization would go for low cost and low risk HRIS purchases, typically cheaper, more software that was flexible or in-house HRIS development. Additionally, of those who used HRIS software, less than half of the sample used it in training and recruitment, and those who used them were small size companies.

HRIS define an integration between human resource management (HRM) and Information Technology. These information systems increase administrative efficiency and produce reports capable of improving decision-making (Gerardine DeSanctis, 1986: 15). Hussain et al., (2006), observed in their research 'The use and impact of human resource information systems on human resource management professionals' that , few differences existed between Small/Medium (SME) and large company HRIS' usage, and that specific use of HRIS for strategic collaboration enhanced professional standing. However, a note of caution was that it was not as pronounced as that experienced by those other professions. For instance, using the semi-structured interviews the organizational executives identified that HRIS use has not enhanced their professional standing within the organization, but they noted a substantial HRIS usage benefit to the company.

Florkowski (2006) studied 'The diffusion of human-resource information-technology innovations in US and non-US firms. The study noted that modest correlation between the number of acquired ITs and HR-transactions automation supports the general call for more formalized HR-technology strategies at the firm level to coordinate purchasing and implementation decisions.

Similarly, Gascó et al., (2004) also supported this argument through their investigation on Spanish telecommunication firm, Telefonica in order to analyze the impact of Information technology in human resources management (HRM), specifically on training policy. It was revealed that Information systems enhanced flexibility in the management of learning times, trainers' active participation, and the development of control mechanisms that ensured training effectiveness. In a similar research, Ordóñez de Pablos (2004) found out that HRM systems might lead to a sustained competitive advantage through the creation and development of knowledge-based resources. This was also in line with the conceptual framework developed and the literature on HRM, which proposed a link between HRMS, strategic organizational resources and the creation sustained competitive advantage (Pfeffer, 1994; Miles and Snow, 1992; Youndt and Snell, 1998; Youndt et al., 1996).

Moreover, Buckley et al., (2004) in their study ‘The use of an automated employment recruiting and screening system for temporary professional employees’: A case study, showed conservative savings due to reduced employee turnover, reduced staffing costs, and increased hiring-process efficiencies. The researchers revealed a cumulative savings yielded a return on investment and that was attributable to the use of an HRIS.

Furthermore, Gardner et al., (2003), in their research work ‘Virtual HR: the impact of information technology on human resource professional’ investigated the extensive use IT influence on jobs in one professional occupational segment, human resources (HR).

They concluded that extensive use of IT enabled HR professional to have more information autonomy, and it is positively associated with HR professional spending and a more time on IT support activities. In addition, functional specialists reported increased time demands for both transformational activities and IT support activities. More so, the result supported the theorized impact suggesting that with more IT, HR tasks are further automated (Broderick and Boudreau, 1992; Greengard, 1999; Groe and Pyle, 1996; Hatlevig, 1995; Wilcox, 1997). Baran et al., (2002) examined the differences in HR practices and the effects of new HR practices on organizational change. Lando et al., (1994) in their study dubbed ‘Human Resource Systems and Sustained Competitive Advantage’: A Competency-Based Perspective, explored within a system’s perspective identified that competency-based view complemented and extended the behavioral perspective of strategic HRM, which had emphasized observable and transferable role behavior of employees as the basis for creating competitive advantage (Schuler and Jackson, 1987).

On the other hand, Barry (1998) and Elswick (2002) however cautioned that technology on its own do not suffice for experts to share knowledge with others. It will neither make employees eager to acquire knowledge, however, if an organization already has the aspirations, the skills and the attention focused on knowledge, technology will facilitate the access to the knowledge, nor pave the way for the suitable knowledge to reach the right person in the right moment. Tansley et al., (2001) examined the move towards HRM-style practices in organizations that had developed HRIS as an opportunity

structure that could enable a break with the past. They found the case evidence contrary to case company's mission statement, which suggested that the introduction of the ERP HR system could potentially provide the stimulus to effect the required change in employee management practices; this was in conformity to Davenport (1993).

HRIS implementation is costly and requires careful planning and vivid examination of various critical success factors (Brown, 2002). Ngai et al., (2004), in support of this asserts that the size of a company might have an impact on the achievement of a number of benefits and on the obstacles faced when implementing HRIS. Again, top management support was one of the most important factors in successful implementation of HRIS. This finding supported Beckers and Bsat (2002), and Kovach and Cathcart (1999) research findings on barriers to the implementation of HRIS. Shrivastava et al., (2003) in their study on the topic 'Liberating HR through technology' concluded that there is universal agreement that large-scale technology projects failed due to managerial, and not technical, reasons. Additionally, they identified that climate conduciveness for technology implementation related positively to the extent of neutralization of inhibitors. Lando et al., (1994) realized that conditions in the firm's external and internal environment might enable or constrain the capacity of HR systems to develop and exploit organizational competencies.

HRIS' role of integrating human resource management (HRM) and Information Technology, which leads to competitive advantage, has attracted many HR professionals and managers. HRIS usages have increased markedly among firms of different sizes due to their enhancing strategic role in human resource management. Researchers like Ball (2000), Thaler-Carter's (1998), Grallagher (1986), and Broderick and Boudreau (1992: 7) have attested to this piece of fact. Amidst the convincing HRIS' benefits are also the costs of implementation. HR Systems however do not adequately meet important business needs. Moreover, it takes too long to implement, and sometimes exceed expected costs due to lack of clarity and common understanding. However, a painstaking planning of HRIS will yield favorable results, especially if certain critical factors are

considered (Brown, 2002; Ngai et al., 2004; Beckers and Bsai 2002; Kovach and Cathcart 1999).

Drawing from the above-mentioned HRIS capabilities in integrating HR functions (example: planning, recruitment, selection and training) through HR technologies, it can be argued that HRIS applications, for certain, will not be limited in its operations regarding the shift from 'HRM to SHRM'.

6 HYPOTHESES DEVELOPMENT AND RESEARCH METHODOLOGY

The process of establishing the performance indices and measurement for the study is rigorously and dutifully developed through the research questions and hypotheses presented in the following sections. The research methodology is also introduced and finally the survey questionnaire is discussed. The chapter is divided into sections. Section 6.1 presents the research objective. Section 6.2 presents the hypothesis of the thesis. Section 6.3 describes the sample and data collection method utilized in the study. Section 6.4 describes the survey questionnaire

6.1 Research Objective

As has been stated already in section 1.2 in chapter 1, the aim of this study is to examine the role, if any, of HRIS in SHRM. According to Gerardine DeSanctis (1986: 15), Human resource information systems outline an integration between human resource management (HRM) and Information Technology. HRIS support planning, administration, decision-making, and control. Similarly, the definition of SHRM was given in section 3.2 of chapter 3 as ‘The degree of participation in core decision-making and partnership played by HRM departments, and the specificity and formality that HRM departments require in planning and implementation, designed to ensure that firm human capital contributes to achieving firm business goals’ (Bratton and Gold 2003: 37). This was based on the broad agreement among the central features of SHRM, and the determinants of HRM as strategic.

In order to investigate this, a number of strategic HR tasks identified by various researchers will be used to test for HRIS’ role in SHRM. For example, Sparrow and Hiltrop (1994: 25), in Morley et al., (2006) identified communications, human resource development, workplace learning, career management and human capital accumulation as some of the functional changes resulting from the shift from HRM to SHRM. This was in agreement with (Beer et al., 1984 and Keep, 1989) cited in Bratton and Gold (2003: 60).

Moreover, Dixon (1992), and Kochan and Dyer (1995) reported greater worker autonomy, high commitment management, leadership, and business processes reengineering as noted changes. These were in addition to managing organization's trade unions relations as noted by Gunnigle (1998: 17). Therefore given these observations, the various HRM activities in which HRM might play strategic roles as observed from the aforementioned literatures include communications, human resource development, workplace learning, career management, managerial leadership, business process re-engineering, commitment management, trade unions management, and decision making. In consequent, for the purpose of this study, the above-mentioned SHRM activities or tasks will form the basis of the hypotheses and the questionnaire.

6.2 Research questions and Hypotheses

The study purports to investigate the role of HRIS in SHRM by examining how HR professionals or and managers in different organizations see the effects of HRIS on these SHRM activities, and job roles. It also examines whether or not the size of an organization affects HRIS' role.

The study examines the following research questions:

- ❖ Do HRIS play any role in strategic HR tasks?
- ❖ Do HR professionals think that HRIS are used in support of strategic HR tasks?
- ❖ Do HR professionals see HRIS as an enabling technology?
- ❖ Will small and medium sized companies in support of strategic HR tasks relative to large sized companies use HRIS differentially?
- ❖ Will HRIS be used more in support of strategic HR tasks in organizations in the future?

6.3 Hypotheses development

Various researchers have all agreed to HRIS capabilities in shaping the integration between human resource management (HRM) and Information Technology by supporting planning, administration, and strategic decision-making, and control (Gerardine DeSanctis, 1986: 15; Tannenbaum, 1990; Hendrickson 2003). To them, the system supports most applications such as employee selection and placement, payroll, pension and benefits management. These information systems increase administrative efficiency and produce reports capable to improve decision-making. In addition, Florkowski (2006) in his studies on ‘The diffusion of human-resource information-technology innovations in US and non-US firms’ revealed a modest correlation between the number of acquired ITs and HR-transactions. Similarly, Ordóñez de Pablos (2004) found out that HRM systems might lead to a sustained competitive advantage through the creation and development of knowledge-based resources. Along with office-automated systems (OAS) capabilities, HRIS include features of transaction processing systems (TPS), decision support systems (DSS), communication systems, and systems with elements of artificial intelligence (Kovach et al., 2002).

Based on the HRIS capabilities on HRM functions and the general acceptance that HRIS enable sustained competitive advantage, it can be argued that, HRIS applications are also applicable in supporting those identified strategic functions.

- ❖ To answer if HRIS play any role in strategic HR tasks, this Hypotheses 1 is formulated.

Hypotheses 1: HRIS play a major role in strategic HR tasks.

In identifying the role of HRIS in strategic HR tasks, the following question 11 was asked.

Q11) To what extent do HRIS play a role in strategic HR tasks?

To indicate the extent of HRIS role, respondents were asked to express their opinion using a scale, 1 to 5 (Not at all = 1, and Very much = 5). Moreover, it is assumed that a mean value greater than 3 will offer support for the hypothesis 1 above. A single sample t-test will be carried out in order to assess the differences between the mean value and the hypothesized mean.

Buckley et al., (2004) in their study ‘The use of an automated employment recruiting and screening system for temporary professional employees -A case study’ showed conservative savings due to reduced employee turnover, reduced staffing costs, and increased hiring-process efficiencies. The researchers revealed that a cumulative savings yielded a return on investment. That was attributable to the use of an HRIS.

Furthermore, Gardner et al., (2003) concluded that extensive use of IT enabled HR professional to have more information autonomy, and it is positively associated with HR professional spending more time on IT support activities. In addition, functional specialists reported increased time demands for both transformational activities and IT support activities.

Moreover, the Gardner et al., (2003) result supported the theorized impact suggesting that with more IT, HR tasks are further automated (Broderick and Boudreau, 1992; Greengard, 1999; Groe and Pyle, 1996; Hatlevig, 1995; Wilcox, 1997). Increased use of human resource information systems (HRIS) allows professionals to achieve improved performance and thus facilitate participation in internal consultancy activities (PMP (UK) Ltd 1997). Ulrich (1997) and Brockbank (1999) also realized that HR professionals both provide value to the organization and improve their own standing in the organization by using HRIS. They supported the need for HR to become a strategic partner. HRIS are medium that helps HR professionals perform their job roles more effectively (Grallagher, 1986; Broderick and Boudreau, 1992) and to support strategic decision-making. Therefore, given the unrelenting HRIS support to the HR professionals’ job, it will equally not be a surprise if HR professionals think that HRIS are used in support of strategic HR tasks.

- ❖ To answer if HR professionals think that HRIS are used in support of strategic HR tasks, this Hypothesis 2 is formulated.

Hypothesis 2: HRIS are used by HR professionals in support of strategic HR tasks

Data for this hypothesis were obtained from responses to the question 9 following.

Q9) To what extent do you think that HRIS are used in support of strategic HR tasks?

To measure the degree of support with respect to this question, respondents were asked to demonstrate their level of support using a scale, 1 to 5. Here too, the mean value will be computed and examined.

Gerardine DeSanctis (1986: 15), Tannenbaum (1990) and Hendrickson (2003) all identified HRIS capabilities in shaping the integration between human resource management (HRM) and Information Technology by supporting planning, administration, and strategic decision-making, and control. Anderson (1997) reported HR professionals' rely on the HRIS in fulfilling job functions. Thus, for the HR professional there is an increasing reliance on the HRIS to fulfill even the most elementary job tasks. Consequently, because human capital plays a larger role in competitive advantage, functional managers expect the HRIS to provide functionality to meet unit's goals and objectives. Moreover, managers rely on the HRIS' capabilities to provide superior data collection and analysis, especially for performance appraisal and performance management. HRIS provides management with strategic data not only in recruitment and retention strategies, but also in merging HRIS data into large-scale corporate strategy (Kovach et al., 2002). In addition, functional specialists reported increased IT support activities. This result supported the theorized impact suggesting correlation between more IT and HR tasks automation (Broderick and Boudreau, 1992; Greengard, 1999; Groe and Pyle, 1996; Hatlevig, 1995).

- ❖ To answer if HR professionals see HRIS as an enabling technology, this Hypothesis 3 is formulated.

Hypothesis 3: HR professionals see HRIS as an enabling technology

To evaluate the extent of HR professionals' opinion on HRIS as an enabling technology, questions 10 and 13 were asked.

Q10) To what extent are HRIS used in support of the following strategic HR tasks?

- ❖ Human resource development and workplace learning
- ❖ Communications
- ❖ Career management
- ❖ Commitment management
- ❖ Leadership management
- ❖ Business processes reengineering
- ❖ Managing relations with the organization's trade unions
- ❖ Decision-making

Q13) How would you rate your professional standing in the organization after using HRIS?

Like the other cases, a scale of 1 to 5 was provided for respondents to measure the extent of HRIS technological enhancement. The thought behind questions 10 and 13 were drawn from the findings of Broderick and Boudreau (1992), Greengard (1999), Groe and Pyle (1996) and Hatlevig (1995). According to the findings, *'There are increased IT support activities, and that there is positive correlation between more IT and HR tasks automation. 'HR professionals' rely on the HRIS in fulfilling job functions. Thus, for the HR professional there is an increasing reliance on the HRIS to fulfill even the most elementary job tasks'* (Anderson, 1997).

Hence, the assumptions for Questions 10 and 13 are that, the greater the degree of HRIS supports for the presumed strategic HR tasks, the stronger the HRIS' technological enhancement. Moreover, the higher the HR professional standing in the organization after HRIS' uses in strategic HR tasks, the stronger the HRIS technological enablement. In addition, it is also presumed that a mean value greater than 3 will offer support that *'HR professionals see HRIS as an enabling technology'*

Ball (2000) identified that the size of organization determines HRIS usage. Similarly, new HRIS users normally opt for low-cost solutions. In-house database development is a trendy option for smaller organization adopting HRIS for the first time. Thaler-Carter (1998) also observed that smaller organization would go for low cost and low risk HRIS purchases, typically cheaper, more software that was flexible or in-house HRIS development. Additionally, Kinnie and Arthurs (1996: 3) in Hussain et al., (2006) findings of HRIS usage based on a national survey and four in-depth case studies of UK organisations observed a difference in the level of HRIS use. They found that the nature of usage had not changed appreciably since the 1980s. The comparative benchmarking study by Martinsons (1994: 305) also suggested similar patterns of usage. Ball's survey in the UK of small and medium sized private and public sector organisation, based on 127 usable returns, with a 24.4% response rate from organisations with up to 1500 employees, found that HRIS was primarily used in support of routine administrative HR tasks. This was based on respondents working in personnel or HRM and of these, 36% were personnel or HRM managers and the remainder, including the 10.4% of respondents were directors from non-HRM functions but used HRIS systems. This conclusion was broadly consistent with that of Kinnie and Arthurs cited in Hussain et al., (2006).

In contrast, Lawler and Mohrman's (2001) US study built on the work of Ulrich and surveyed HR directors of large commercial companies (the average number of employees was 21,023), found consistent increased in HRIS usage irrespective of the degree of strategic partnership held by the HR function. They also identified HRIS' usage increase, significantly even in firms where HR had no strategic role.

- ❖ To answer if Small and medium sized companies use HRIS differentially for strategic HR tasks relative to large sized companies. This Hypotheses 4 is formulated.

Hypotheses 4: HRIS will be used differentially by Small and medium sized companies in support of strategic HR tasks relative to large sized companies.

To test for hypothesis 4, data response obtained from the question 10 below was used.

Q10) To what extent are the following strategic HR tasks supported by HRIS?

- ❖ Human resource development and workplace learning
- ❖ Communications
- ❖ Career management
- ❖ Commitment management
- ❖ Leadership management
- ❖ Business processes reengineering
- ❖ Managing relations with the organization's trade unions
- ❖ Decision-making

It is expected that the responses given by the respondents in SMEs regarding the above-mentioned tasks will be different from those provided by those in the large-scale companies, indicating that the two organizational types will use HRIS differentially. Once again, to measure the question 10 above, respondents were given a scale 1 to 5 to indicate the level of HRIS support. An independent sample t-test will be carried out for each category of use to determine whether the proportion of users differed between SME and the large organizations.

HRIS facilitate the provision of quality information to management for informed decision-making. Most notably, it supports the provision of executive reports and summaries for senior management and is crucial for learning organizations that see their human resource as providing a major competitive advantage. HRIS are also media that help HR professionals perform their job roles more effectively (Grallagher, 1986; Broderick and Boudreau, 1992) and to support strategic decision-making. Given the increase in demand for HRIS among small, medium and large sized organizations (Ball, 2000; Thaler-Carter's, 1998) the pressure on HR professionals to support strategic objectives through more innovative HRIS applications will be augmenting (Storey et al., 2000; Ball, 2000). It is therefore expected that HRIS will continue to be used in more support of strategic decision making in organizations in the future.

- ❖ To answer if HRIS will be used more in support of strategic HR tasks in organizations in the future. This Hypotheses 5 is formulated.

Hypotheses 5: HRIS will be used more in support of strategic HR tasks in organizations in the future.

Answering the hypotheses 5 above, data response on question 12 was used.

Q12) In your organization, to what extent do you consider that HRIS should be developed, concerning the following?

- ❖ Human resource development and workplace learning
- ❖ Communications
- ❖ Career management
- ❖ Commitment management
- ❖ Leadership management
- ❖ Business processes reengineering
- ❖ Managing relations with the organization's trade unions
- ❖ Decision-making

Again, a scale 1 to 5, Not at all = 1, and Very much = 5 were available for respondents to measure the extent of HRIS' future support. Once again, the idea behind the question 12 was that, the more HR professionals consider HRIS' development, the higher the indication that they expect future HRIS usage. This was against the background that, for HR professionals to see more HRIS usage in future, it is more probable that they might also want HRIS development in various strategic HR tasks. The mean value will be calculated and examined.

6.4 Data and Sample collection methods

The study used a questionnaire survey to explore the HRIS' role in SHRM. The target group of the questionnaire was HR managers, HR directors, and HR professionals in companies based in Finland. To retrieve a list of these companies, the Voitto database available on the server of the Swedish School of Economics and Business Administration was used. The assumption was that, most companies have HR department especially, the larger size ones. The first query was to find large companies in all the business sectors. The inquiry returned 100 firms in alphabetical order. The second query however aimed at all companies in all the sectors. Surprisingly, 400 firms were returned and these included the 100 large companies. After going through the list, 70 more companies were randomly selected from the remaining 300. In all 170 companies were selected for the survey.

The scope was widened to include both large and small/medium sized organizations across all the business sectors. The questionnaire was first developed, and presented for testing. Most of the ambiguous questions were then removed, and the revised version of the questionnaire was then sent to the respondents by post.

The questions were designed to ascertain demographic information about the respondents and their organization, with the aim of obtaining information about the HR tasks they perform, and the extent to which those HR tasks that they perform were considered strategic compared to the proposed strategic HR tasks by the study. It was also to establish their level of experience as HR professionals and the role/position in the organization. Likewise, it was intended to find out the extent of HRIS role especially in strategic HRM, the propose HRIS' impact on the professional standing after use, and the proportion of HRIS usage in SME and large companies. In all 13 questions were used, and for much detailed information about the relevant research questions, please see Appendix A (ii). A sample however is a subset of a population, and in the majority of research analysis one works with a sample of a population (Foster, 1998). Regarding this study, a sample of 170 companies were stratified and randomly selected out of a sample of 400 companies. This sample size represented 42.5% of the original sample from which the 170 companies were selected. The decision to select 170 out of the 400 was not sheer coincidence it was financially motivated. The monetary value involved in conducting the survey through post was so expensive that the available resources could only permit using such a sample size. This was in addition to the non-availability of individual contact information. The only information obtained was the companies' addresses. Although a much larger sample size would have been better and representative however, the sample size used for this study was also not unreasonable. Moreover, this was far from being poor sample design, as in this case could constrain and limit the application of appropriate statistical technique and further generalization of the results (Forza, 2002).

6.5 Chapter summary

The chapter shared more light on the empirical aspect of the study. Among the areas reviewed included questions and questionnaire design, the research model based upon

which the hypotheses were developed and a vivid explanation as to the idea behind the choice of data and sampling collection method used. In exploring the role HRIS play in SHRM, five hypotheses were developed and the linkages to HRIS' usage in strategic HR tasks were shown. There were relevant questions and qualifying questions with regard to some of the hypotheses. In all, the survey made use of 13 tested questions, which cut across all the hypotheses.

7 EMPIRICAL RESULTS AND ANALYSIS

The statistical analysis of the data obtained from the survey, process monitoring and organizational data bank is presented in three major sections. Section 7.1 examines the response rate and thoroughly investigates the possible limiting factors. While section 7.2 presents the results using frequency distributions, descriptive statistics, and graph presentations; Section 7.3 evaluates the validity and reliability of the study. The subsequent sections analyze the results and their implications.

7.1 The Response rate

The questionnaire was sent to 170 companies out of which 27 were returned representing 15.9% response rate. In all, it took more than three weeks to receive the 27 responses, however, 24 (14.1%) out of the 27 were actually used. This rate of response was very low, and this can be attributed to the fact that the sample universe was not large enough, which also stemmed from the non-availability of respondents' personal contact information and financial constraints. Three of the responses were not usable because, the questionnaire was not filled at all. In two instances, the respondents explained that their HR departments were located in the UK and would not be in the position to participate. In the other case, their HR had been outsourced. These might not be the only reasons why not enough responses were received. It was probable that the individual companies' addresses were wrongly written and could not get to the respondents, or they were rightly written but have changed. It might also be very much the case that most of the companies either;

- ❖ Did not have any HR department and for that matter not having HR manager or director.
- ❖ Have more than one HR managers or directors and did not know whose business it is to fill the survey questionnaire.
- ❖ Had moved their HR departments outside Finland or outsourced. This was pretty much the case for the three non-usable cases or
- ❖ The respondents did not have time to fill the questionnaire due to workload.

In spite of the low response rate of 15.9%, a 14.1% usable rate was nonetheless appropriate for carrying out a statistical analysis of this kind.

7.2 Characteristics of the Statistics

As stated earlier in sub section 5.3.1 of section 5.3 in chapter 5, the questionnaire included demographic information needed to assess the respondents' level of experience in the field of HR and their various positions held. Questions 1 and 3 were asked in that effect. Respondents were asked, "What is your role or title?", and "How long have you worked as an HR specialists?" It was expected that the longer the years of experience as HR professional, the more likely it is to obtain reliable information. More so, the position or title in the questionnaire was to determine the authority of the respondents in the field under study. The study revealed that while 25% of the respondents had below 5 years experience as an HR specialist, 37.5% of them had between 5 and 10 years experience. Again, respondents with over 15 years of experience as an HR specialist also represented 37.5%. Altogether, 75% of the respondents had more than enough experience to give information that is more credible in this area of study. The highest recorded experience was 30 years, and the lowest was 6 months.

Similarly, regarding the roles or positions of the respondents in the various organizations, 25% were HR managers, another 25% represented HR directors, and whiles 33.3% were HR professionals. It was also noted that 16.7% of the respondents did not provide their roles. This might be explained by the general roles, which most managers assume, or a calculated attempt not to provide such piece of information. Therefore, given that 83.3% of the respondents had specific roles in the field of HR boosted the validity of the survey by adding more value to it.

It must be observed here that HR professionals used here in this context included HR legal advisers, HR consultants and any other HR specialists not found in the net of HR managers and directors. Figures 3 and 4 provide clear graphical representations of the above-mentioned statistics (See also Appendix B (i) & (ii)).

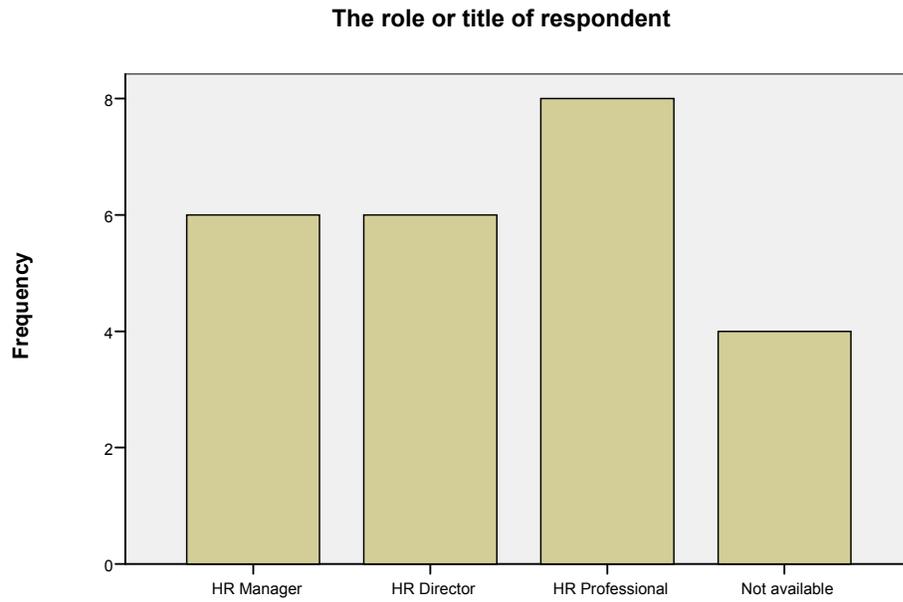


Figure 3: A frequency distribution of the role or title of respondents



Figure 4: A frequency distribution of Years of Experience as an HR specialist

7.3 Presentation of the research findings

This section presents the results from the empirical studies. The findings were reviewed by considering the different formulated hypotheses one after the other.

7.3.1 Hypotheses 1

Hypotheses 1 purported that HRIS plays a major role in strategic HR tasks. In order to verify this assertion, respondents were asked, “To what extent do HRIS play a role in strategic HR tasks?” (Question11).

A single sample t-test was conducted using a hypothesized mean value of 3. This was because, respondents were asked to use a scale 1 to 5 in responding to the question. The aim here was to compare the sample mean with the hypothesized mean for probability estimation, that the sample mean is different by chance or random occurrence.

The t-test revealed that the “Question 11” used for this hypothesis had a mean value of 3.88 with a corresponding significant p-value of less than 0,000 (See Table 1 below and Appendix B (iii)). It showed that there is a significant difference between the two mean values, and therefore indicated that the probability of this being a chance was 0 (t-test, $p < 0.05$). Figure 5 is the graphical representations of the results.

Table 1: The extent of HRIS role in strategic HR tasks (T-test)

	One-Sample Test					
	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
Lower					Upper	
The extent of HRIS role in strategic HR tasks	4,143	23	,000	,875	,44	1,31

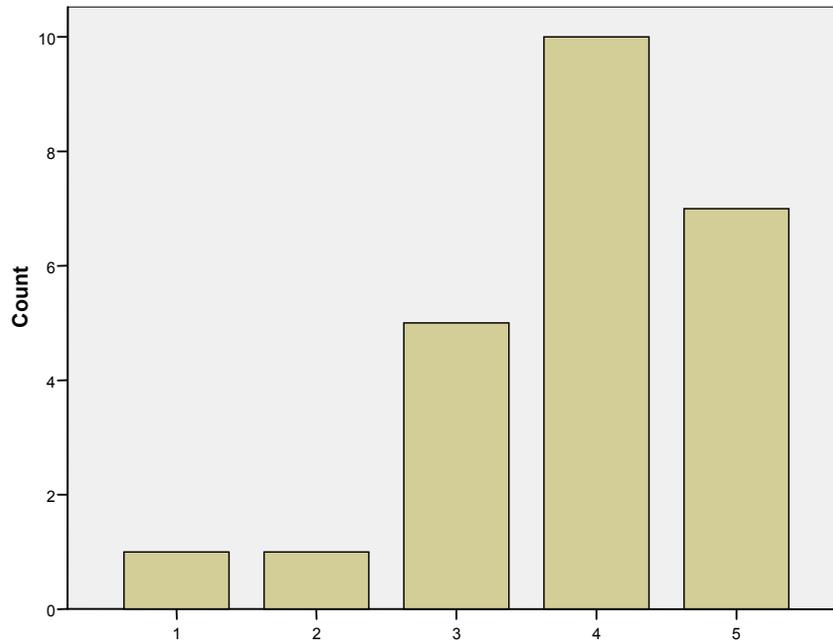


Figure 5: Frequency distribution of the extent of HRIS role in strategic HR tasks

7.3. 2 Hypothesis 2

Hypothesis 2 purports that “HRIS are used by HR professionals in support of strategic HR tasks”. In investigating this assertion, Question 9 “To what extent do you think that HRIS are used in support of strategic HR tasks?” A single sample t-test carried out produced a mean value of 3.13 with corresponding p-value of 0.63 at 95% CI. The p-value of 0.63 is not statistically significant. In other words, the mean value (3.13) is not significantly different from the hypothesized value of 3. Tables 2 following and Appendix B (iv) demonstrate the test and the frequencies respectively. Figure 6 also shows the graphical presentation.

Table 2: The extent of HRIS use in support of strategic HR tasks performance

One-Sample Test

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The extent of HRIS support of strategic HR tasks performance	,485	23	,632	,125	-,41	,66

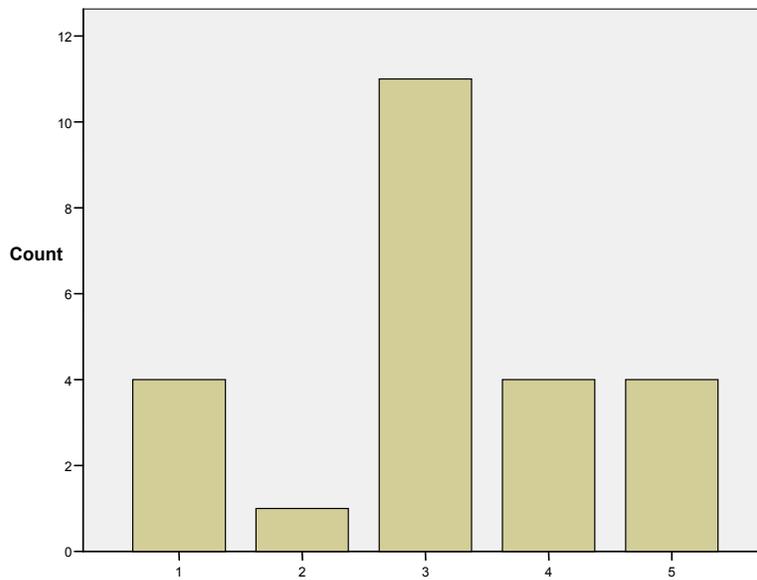


Figure 6: Frequency distribution of the extent of HRIS use in support of strategic HR tasks performance

7.3.3 Hypothesis 3

Hypothesis 3 presumes that HR professionals see HRIS as an enabling technology. This was investigated using Questions 10 and 13, and in each case, a scale 1 to 5 was given to measure the degree of HRIS support. The assumptions for Questions 10 and 13 are that, the greater the degree of HRIS supports for the presumed strategic HR tasks, the stronger the HRIS' technological enhancement. Moreover, the higher the HR professional standing in the organization after using HRIS in strategic HR tasks the stronger the HRIS technological enablement.

The single sample t-test conducted reported a mean value of 3.35 regarding HRIS use in support of Communication as a strategic HR task with corresponding p- value 0.20 (t-test $p > 0.05$). This shows that there is no statistically significant difference between the mean value and the hypothesized mean, 3.

Likewise, HRIS use in support of Human resource management and workplace learning as a strategic HR has mean value (3.30) not significantly different from T-value of 3 with a p-value of 0.15 (t-test, $p > 0.05$).

Additionally, the extent of HRIS use in support of Career management as a strategic HR task recorded a mean value of 2.83 and a p-value, 0.48 (t-test, $p > 0.05$). There is no statistically significant difference between the mean values.

Similarly, there is no significant difference between the mean value (2.67) and the hypothesized mean (3) given the p-value of 0.23 (t-test, $p > 0.05$) in respect of the extent of HRIS use in support of Commitment management.

Moreover, the single sample t-test performed on the extent of HRIS support for Leadership management revealed that there is no significant difference between the mean value (2.78) and the hypothesized mean (3), with a p-value of 0.40 (t-test, $p > 0.05$).

Again, the test results on HRIS use in support of Business process reengineering noted that there is no significant difference between the mean value (3.26) and the hypothesized mean, 3. The p-value was 0.30 (t-test, $p > 0.05$). However, HRIS use in support of Managing relations with organizations trade unions as a strategic HR task showed a significant difference in the mean values (2.18) and (3). The p-value of 0.01 (t-test, $p < 0.05$) is statistically significant.

Finally, Decision making as a strategic HR task generated mean value (3.30) and a p-value 0.25 (t-test, $p > 0.05$). This indicates that there is no statistically significant difference between the means. See Appendix C (iii and iv) and Appendix E (i to ix).

Furthermore, the t-test for “Question 13” has a mean value of 3.57 corresponding to the p-value of 0,001. The p-value is significant indicating that there is a significant difference between the mean value and the hypothesized mean value (3). HR professionals noted an increase in their professional standing after using HRIS. See the Tables 3 below and Appendix C (v).

Table 3: Ratings of professional standing in organization after using HRIS

One-Sample Test						
	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Ratings of professional standing in organization after using HRIS	3,725	22	,001	,565	,25	,88

7.3.4 Hypothesis 4

Hypothesis 4 asserts, “HRIS will be used differentially by Small and medium sized companies in support of strategic HR tasks relative to large sized companies”. To investigate this proposition, data responses obtained from question 10 were used. The appropriateness of the response was gauged by the qualifying questions 2 and 8 (See Appendix A (i)).

The independent sample t-test carried out revealed that the degree of HRIS usage in respondents’ organization in the SME differed significantly from the large organizations. The results from the associated statistical tests are presented in Table 4 and Figure 7. Please see also Appendix D (i).

Table 4: Type of Organization and HRIS usage in respondents’ organizations

Independent Samples Test

	Type of Organization	Sig. (2-tailed)
HRIS usage in respondents' organizations	Large	,010
	SME (Small/Medium)	,057

Significant at 0.05 level

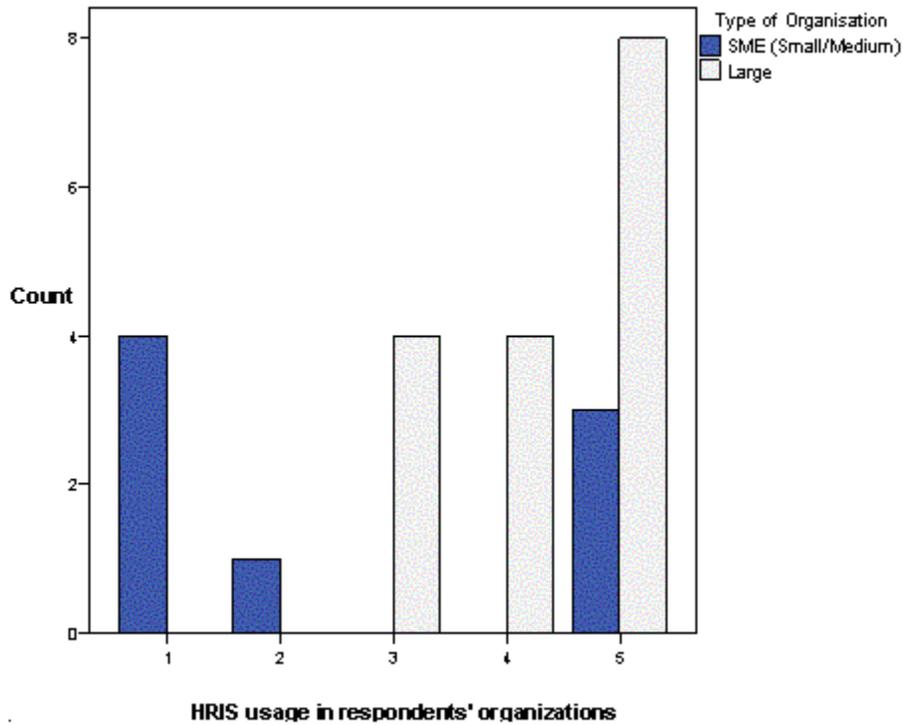


Figure 7: Frequency distribution of type of organization and HRIS usage in respondents' organizations

The results from testing the extent of HRIS support for specific strategic HR tasks are presented in Appendix D (ii and iii).

There was a significant difference in the proportion of SME and large companies, who use HRS in support of communication as a strategic HR task.

However, the test showed no significant difference in the proportion of users from SME and large companies who use HRIS in support of human resource development and workplace learning.

In addition, there was a significant difference in the proportion of users between SME and large companies, who use HRIS to support Career management as a strategic HR task.

Moreover, there was no significant difference in the proportion of users between SME and large companies, who use HRIS to support Commitment management as a strategic HR task.

Nonetheless, there was a significant difference in the proportion of users between SME and large companies using HRIS in support of Leadership management as a strategic HR task.

Again, there was a significant difference in the proportion of users between SME and large companies, who use HRIS to support business process reengineering as a strategic HR task.

Similarly, there was a significant difference in the proportion of users between SME and large companies, using HRIS to support managing trade union relations as a strategic HR task.

Finally, there was also a significant difference in the proportion of users between SME and large companies, using HRIS in support of decision-making as a strategic HR task.

7.3.5 Hypotheses 5

Hypothesis 5 examines whether HRIS will be used more in support of strategic HR tasks in organizations in the future. In investigating this, question 12 was used. Additionally, a single sample t-test was performed.

The single sample t-test performed as regards development of HRIS in communication showed that there is no significant difference between the mean (3.57) and the hypothesized mean value, 3. The p-value, 0.24 (t-test, $p > 0.05$) is statistically not significant.

Moreover, the test on Human resource development and workplace learning recorded a mean value of 4.13, and a p-value of 0.000 (t-test, $p < 0.05$). This indicates that the mean

value is significantly different from the hypothesized mean of 3. In a similar test performed in this study, the results revealed that the mean value in respect of career management was significantly different from the hypothesized mean. The mean and the p-values were 4.04 and 0.000 respectively (t-test, $p < 0.05$).

Again, there is no significant difference between the mean value (3.33) and the hypothesized mean (3) given the p-value of 0.15 (t-test, $p > 0.05$) in respect of HRIS development in Commitment management.

More so, the test performed on HRIS development in Leadership management revealed that there is a significant difference between the mean value (3.57) and the hypothesized mean (3), with a p-value of 0.02 (t-test, $p < 0.05$).

Consequently, the test results on HRIS development in Business process reengineering noted a significant difference between the mean value (3.61) and the hypothesized mean, 3. The p-value was 0.003 (t-test, $p < 0.05$).

In addition, HRIS development in Managing relations with organizations trade unions showed a significant difference in the mean values (2.21) and (3). The p-value of 0.006 (t-test, $p < 0.05$) is statistically significant.

Lastly, HRIS development in Decision-making generated mean value (3.83) and a p-value less than 0.000 (t-test, $p < 0.05$). This indicates that there is a significant difference between the means. See Appendix C (vi and vii).

7.4 Evaluation of the Empirical Results

In exploring the role of Human Resource Information Systems (HRIS) in Strategic Human Resource Management (SHRM), five hypotheses were developed.

Hypothesis 1 ‘HRIS plays a major role in strategic HR tasks’

The results revealed that there is a strong support for the statement that HRIS plays a major role in strategic HR tasks. The findings are consistent with the organizations’ increased reliance on the use of HRIS in support of strategic HR tasks, and HR professionals’ higher professional ratings after using HRIS. Hypothesis 1 is therefore accepted.

Hypothesis 2 ‘HRIS are used by HR professionals in support of strategic HR tasks’

There is evidence that HRIS are used in support of strategic HR tasks. The findings are consistent with the organizations’ increased reliance on the use of HRIS in support of strategic HR tasks. Hence, hypothesis 2 is accepted.

Hypothesis 3 ‘HR professionals see HRIS as an enabling technology’

The findings indicated that HR professionals see HRIS as an enabling technology because using HRIS in their organizations increase their professional standing. However, the test to see if HRIS support HR strategic tasks noted that it is not all of the proposed strategic tasks that HRIS support. There is evidence of HRIS support for communication, human resource development and workplace learning, business process reengineering, and decision-making as a strategic HR tasks. On the other hand, while there is a weak evidence of HRIS support for career management, commitment management, and leadership management as a strategic HR tasks; the evidence of HRIS’ support for managing trade union relations is very weak. On the average, there is evidence that HR professionals see HRIS as enabling technology. Hypothesis 3 is therefore accepted.

Hypothesis 4 ‘HRIS will be used differentially by Small and medium sized companies in support of strategic HR tasks relative to large sized companies’

The independent sample t-test carried out revealed that the degree of HRIS usage in respondents’ organization in the SME differed from the large organizations. In other words, the degree of HRIS usage in respondents’ organization is dependent on the type of organization. The large companies favored HRIS usage than the SME.

Moreover, the results from testing the extent of HRIS usage in support of specific strategic HR tasks were as follows:

Communication

There was a significant difference in the proportion of SME and large companies, who use HRS in support of communication as an HR task. There was strong evidence that the degree of use by SME was lower compared to large companies.

Human resource development and workplace learning

The test showed no significant difference in the proportion of users from SME and large companies who use HRIS in support of human resource development and workplace learning. There was no evidence that the extent of use by SME were any different.

Career management

There was a significant difference in the proportion of users between SME and large companies, who use HRIS to support Career management as a strategic HR task. There was evidence that the extent of HRIS use in support of career management by large companies were higher.

Commitment management

The study showed no significant difference in the proportion of users between SME and large companies, who use HRIS to support Commitment management as a strategic HR

task. There was no evidence of difference in the extent of HRIS use in support of commitment management between SME and large companies.

Leadership management

There was a significant difference in the proportion of users between SME and large companies using HRIS in support of Leadership management as a strategic HR task. There was strong evidence of greater HRIS use in support of leadership management among large companies.

Business process reengineering

There was a significant difference in the proportion of users between SME and large companies, who use HRIS to support business process reengineering as a strategic HR task. Once again, there was strong evidence that HRIS use in support of business process reengineering was higher in large companies.

Managing trade union relations with the organization

There was evidence of difference in the proportion of users between SME and large companies, using HRIS to support managing trade union relations as a strategic HR task. SME usage was significant, demonstrating limited use of HRIS in support of this.

Decision-making

There was also a significant difference in the proportion of users between SME and large companies, using HRIS in support of decision-making as a strategic HR task. There was evidence that HRIS use in support of decision-making was lower in SME.

In sum, there was overall evidence of difference in the proportion of users between SME and large companies, using HRIS to support specific strategic HR task. SME had limited use of HRIS in support of specific strategic HR tasks compared to large companies. The conclusion is therefore that HRIS will be used differentially by Small and medium sized companies in support of strategic HR tasks relative to large sized companies. Hypothesis 4 is then accepted.

Hypothesis 5 ‘HRIS will be used more in support of strategic HR tasks in organizations in the future’

There was evidence that HRIS would be used more in support of strategic HR tasks in organizations in the future. This is consistent with the test to see if HR professionals think that HRIS should be developed in organizations. The results showed that HR professionals think that HRIS should be developed in most of the strategic HR tasks. This is very much the case concerning HRIS development in communication, human resource development and workplace learning, career management, commitment management, leadership management, business process reengineering, and decision-making as a strategic HR tasks except managing trade union relations. Again, there is strong evidence of HRIS development in most of the strategic HR tasks, but weaker evidence with regard to managing trade union relations. In all Hypothesis 5 is also accepted.

7.5 Validity, Reliability and Generalizability

This section of the study examines how valid and reliable the empirical results are. This allows general conclusions to be drawn. The results of this study are valid because the data primary was, collected purposely for this study. More so, the sample universe was randomly selected and stratified. Respondents of the questionnaire survey were also HR specialists who command respect in the field of study. Furthermore, the questionnaire was tested and the refined version sent to respondents. The postal technique used, reduced the possibility of influencing the respondents since there was no personal contact between the writer and respondents. This makes the results reliable especially where people with authority filled the questionnaire. The larger the sample size, with a higher response rate the better it is to generalize the results. In this case, the sample size was limited because of non-availability of contact information of HR specialists. Another limitation was financial resources to send more questionnaires or send reminders. For this reasons, the results of this study might not be used for drawing general conclusions. However, it might form a base for further research.

7.6 Chapter Summary

Here, an examination of the empirical study was carried out. This was based on a response rate of 15.9% representing 27 cases. Both descriptive statistics and various t-tests were conducted. All the hypotheses were accepted but the degree of acceptance differed. Hypothesis 1 was accepted. 'Thus HRIS plays major role in strategic HR tasks'. Hypothesis 2 'HRIS are used by HR professionals in support of strategic HR tasks' was accepted. Moreover, Hypothesis 3 was also accepted 'HR professionals see HRIS as an enabling technology'. Hypotheses 4 and 5 were also accepted. Hypothesis 4 asserted that 'Small and medium sized companies use HRIS differentially for strategic HR tasks relative to large sized companies' while Hypothesis 5 purport that 'HRIS will be used more in support of strategic HR tasks in organizations in the future'.

8 CONCLUSION

The conclusion precipitated on the research and analysis of the preceding chapters is presented. Section 8.1 is dedicated for the analysis of the contribution and examination of the implications of the findings. Section 8.2 is however allocated for recommendations and suggestion for further research.

8.1 Analysis of the Contribution

This study aimed at exploring HRIS role in SHRM. The study attempted to examine how HR professionals or managers in different organizations see the effects of HRIS on strategic HR tasks, and job roles. It also tried to find out if there is a significant difference in HRIS usage between SME and large sized companies in respect of strategic HR tasks performance.

On one hand, various studies on HRM propose that HRIS can contribute to the creation of a long-term competitive advantage through integration of HRM functions with HR technology (Gerardine DeSanctis, 1986: 15; Tannenbaum, 1990; Hendrickson, 2003). However, these studies did not address the role if any HRIS play in SHRM. On the other hand, a number of strategic HRM tasks have been identified. These include communications, human resource development, workplace learning, career management and human capital accumulation (Sparrow and Hiltrop, 1994: 25 cited in Morley et al., 2006; Beer et al., 1984; Keep 1989). Dixon (1992) and Kochan and Dyer (1995) consider greater worker autonomy, high commitment management, leadership, and business processes reengineering as strategic HRM tasks. Another one includes managing organization's trade unions relations (Gunnigle, 1998: 17).

Linking both fields of research, it was argued that HRIS might play a vital role in SHRM based on the following assumptions:

- ❖ HR professionals might also consider HRIS usage in support of strategic HR tasks given the unrelenting HRIS support for the HR professionals' job (Buckley et al., 2004; Gardner et al., 2003; Ulrich, 1997; Brockbank; 1999).
- ❖ HRIS would continue to be used in more support of strategic HR tasks in the organization in the future considering the augmenting pressure on HR professionals to support strategic objectives through more innovative HRIS applications (Storey et al., 2000; Ball, 2000).

The empirical results of the study revealed that HRIS play a key role in strategic HR tasks. This is an indication that HRIS capabilities in shaping the integration between HRM and IT (Hendrickson, 2003) are also applicable to SHRM. This means that HR professionals would be able to cope with their new roles without panicking because their new role, SHRM, is still supported by HRIS.

However, in the case of specific strategic HR tasks, the degree of the support depended on the type of organization. Larger firms/companies experienced a great deal of HRIS support in most of the strategic HR tasks namely communication, human resource development and workplace learning, career management, business process reengineering, and decision-making. On the contrary, HRIS usage in support of commitment management, and managing trade union relations with organizations did not reveal any significant difference in proportion of users in SME and large companies. It implies that users of HRIS need to identify their strategic HR tasks and organization type before embarking on any HRIS implementation in order to enjoy the full benefit of using HRIS both to HR professionals and to the organization as a whole.

HR professionals considered that HRIS are used in support of strategic HR tasks. This might be explained by the fact that increased uses of HRIS allow professionals to achieve improved performance and thus facilitate participation in internal consultancy (PMP (UK) Ltd 1996; and 1997). The results confirmed Gardner et al., (2003) revelation, that extensive use of IT enables HR professional to have more information autonomy. This disclosure implies that firms will more or less need to rely on HRIS technology for effective and efficient performance of their strategic human resource management tasks. This calls for total commitment on the part of both management and HR professionals towards a successful HRIS implementation. In a dynamic global market where IT is the order of the day, firms without this technology might not only find it difficult attracting HR professionals who are yet to acquire HRIS skills and seeking for one on the job but also loose those HR professionals who have these skills and might want to develop and improve upon them.

Notably, the study suggested that HRIS are likely to be used even more for strategic HR tasks in the future; this was a strongly held belief by both SME and large sized companies. The response from the large companies were however, remarkably more positive than those from the SMEs. Large companies have well-established facilities such as intranets and extranets to access the required personnel information quickly and efficiently (Ngai et al., 2004). SMEs generally lack the capital and technical resources to implement HRIS (Ibid). While it is incumbent upon all organizational types to stay abreast with HRIS dynamics by keeping system updates SMEs are the most vulnerable due to the incidence of cost. A more feasible way to start may be to use prepackaged HRIS software. Implementing HRIS is very costly but a successful implementation contributes to cost reductions, quality/customer satisfaction, and innovation, which eventually lead to competitive advantage (Broderick and Boudreau, 1992). It therefore implies that SMEs especially will need to consider a vigorous positive change in policy regarding HRIS applications to strategic HR tasks regardless of the cost involve because the cost of non-implementation may be relatively more expensive.

The study again showed that HR professionals agree that the HRIS usage for strategic HR tasks leads to enhance professional standing in the organization. This was in line with Brockbank's (1999) findings that HR professionals both provide value to the organization and improve their own standing in the organization by using HRIS. The implications of this disclosure are that HR professionals will need to develop their IT skills and become abreast with HRIS' technology in order to remain competitive in the labor market. This means that firms will also need to develop and plan HRIS training programs for both prospective and existing HR professionals in line with specific strategic HR tasks since enhanced professional standing implies effective and efficient work-force which leads to improved performance and increased output resulting to higher profit margins and acceptable returns on investment (ROI).

Interestingly, the study showed a lack of HRIS support for managing trade union relations with the organization. This was very much the case irrespective of the type of organization. The failure to use HRIS in support of trade union relations with the organization means that there will be little consideration of how HR policies regarding labor issues might potentially change trade unions' attitude towards collective bargaining. The immediate objectives and activities of trade unions vary, but may include provision of professional training, collective bargaining, industrial action, legal advice and representation for members (Fraser and Hamish 1974: 34). In an attempt to enforce the union's objectives, union leaders normally find themselves in confrontation with the employers, which most often leads to industrial actions. Effective and efficient management of trade union relations reduces industrial actions, conflicts, and wastes. However, the lack of HRIS' support in managing trade union relations implies no standard way of communicating just-in time information between the parties. This might make conflict resolution difficult. The inability to resolve conflict leads to strike actions, the ultimate results of which are, output reduction, low returns, slow growth and expansion, lost of skilled employees, high employee turnover, and other resultant effects.

Overall, the study suggested that HRIS play a key role in SHRM, but the degree of the role was also very much dependent on the type of organization. This provides some

insights into the usage of HRIS in strategic HR tasks by some selected Finnish based companies, which should help HR practitioners acquire a better understanding of HRIS role in SHRM. However, caution should be exercised in generalizing the results of the study due to the small sample size. Nevertheless, the results provide basis for future research.

8.2 Recommendations and Suggestions for Further Research

Whilst this study has confirmed existing studies into HRIS, it provides a platform for future work in this area, which should concentrate on a number of issues. First, a detailed research would be needed to explore the role of HRIS in SHRM, especially; with much, bigger sample size and a higher response rate so that a deeper analysis can be done for generalization.

Second, HRIS represent a large investment decision for companies of all sizes. However, SMEs are increasingly failing to use HRIS in support of strategic HRM tasks. It would therefore be very interesting if future research could geared towards finding answers to why SMEs are reluctant to commit time and resources for the implementation of HRIS in strategic HR tasks. This will enable a careful analysis and diligent consideration of HRIS application to strategic HR tasks since a successful execution is rewarded with numerous benefits including improved accuracy, provision of just-in-time information, and costs saving (Lederer, 1984; Wille and Hammond, 1981).

Third, an in-depth study on HRIS usage in support of trade unions' relations with organizations needs further examination. This will allow both the trade unions and the employers to manage and resolve conflicts and other related labor issues efficiently and effectively.

Finally, as HRIS becomes an increasingly vital component of SHRM tasks performance, researchers must expand their efforts to understand the opportunities and threats that it fosters. Human resource information systems may be a key enabler allowing HR

professionals to balance successfully the competing roles of administrative expert, employee champion, change agent, and strategic partner (Ulrich, 1998). There is also a risk that large investments in HRIS will not improve HR professionals' satisfaction or render the SHRM tasks performance a more efficient cost center. This may be outgrowth of low technology-acceptance among intended users, inappropriate technology choices, or other factors. Until more is known, investments in these innovations should proceed with caution.

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Appendices

Appendix A

(i) Cover Letter

Asafo-Adjei Agyenim Boateng
Palovartijantie 13-17E 56
00750, Helsinki

9th March, 2007

Dear Sir/Madam

SURVEY ADDRESSED TO HR MANAGERS/HR PROFESSIONALS/HR
DIRECTORS IN FINLAND

I am Asafo-Adjei Agyenim Boateng, a student of the Swedish School of Economics and Business Administration. I am currently pursuing a program in Advanced Financial Information Systems (PAFIS) at the department of Accounting. As part of my Masters theses, I am conducting a survey on the role of Human Resource Information Systems (HRIS) in Strategic Human Resource Management (SHRM).

This research project is directed towards the successful completion of my Masters thesis. I would therefore be most grateful if you could find time to answer the enclosed questionnaire.

The confidentiality of the response to this questionnaire would be guaranteed. I wish to reiterate that the purpose of this research results is mainly academic and for my graduation.

I would be very much appreciative if the questionnaire could be returned at your earliest suitable time. Counting on your kind cooperation.

Thank you very much for participating.

Yours sincerely

Asafo-Adjei A.B.

Enclosures:

1. Questionnaire
2. Self-addressed-stamped envelop

(ii) Questionnaire

In designing the questionnaire, Hussain et al., (2006)'s model of research questions were used; especially questions 1 to 4 were taken directly from their list of questions with slight modifications in the rest of the questions. The authors studied the use and impact of human resource information systems on human resource management professionals. They used questionnaire survey and interview as a method of gathering data. A revised version of the questionnaire was sent to 450 HR managers and professionals. The response rate was 22%. The results of their study suggested an increasing custom in strategic use of HRIS among senior professionals irrespective of company size. It was also noted that strategic use of HRIS enhanced perceived standing of HR professionals. They however identified that it was beneficial to use HRIS for non-strategic purposes. The decision to use the author's questionnaire model and some of the questions directly was the fact that their research area fitted well into my study area. I found their study useful and applicable in my case.

Consequently, the categorization of companies into small/medium or large was based on the *Commission Recommendation Concerning the Definition of Small and Medium-Sized Enterprises, Commission of the European Community (C.E.C.), 1996* cited in Hussain et al., (2007).

Definitions of terms:

HRIS = Human Resource Information Systems. HRIS form integration between human resource management (HRM) and Information Technology It merges HRM as a discipline and in particular basic HR activities and processes with the information technology field (Gerardine DeSanctis 1986, 15).

HRM = Human Resource Management

SHRM = Strategic Human Resource Management

1) What is your role or title?

2) What type of organization do you work for?

- Small/medium _____ (*Less than or equal to 500 employees*)
- Large _____ (*Over 500 employees*)

3) How long have you worked as a HR specialist? _____

4) Do you view yourself as professional and why? *Please tick one or more*

	Reasons
No	
Yes	<input type="checkbox"/> Am trained in HRM
	<input type="checkbox"/> Have a HR specific under/postgraduate degree
	<input type="checkbox"/> Am a member of an HR Association
	<input type="checkbox"/> Have worked as a HR specialist for a very long time
	<input type="checkbox"/> Other: please specify

5) To what extent do you perform the following HR tasks? *In each case, please tick your response using the scale 1 to 5*

Not at all = 1 Very much = 5

	1	2	3	4	5
Human resource development and workplace learning					
Communications					
Career management					
Commitment management					
Leadership management					
Business processes reengineering					
Managing relations with the organization's trade unions					
Decision-making					

6) Do you consider yourself to be performing strategic HR tasks? *Please tick your response using the scale 1 to 5*

Not at all =1 Very much = 5

1	2	3	4	5

7) To what extent do you consider the following HR tasks strategic? *In each case, please tick your response using the scale 1 to 5*

Not at all = 1 Very much = 5

	1	2	3	4	5
Human resource development and workplace learning					
Communications					
Career management					
Commitment management					
Leadership management					
Business processes reengineering					
Managing relations with the organization's trade unions					
Decision-making					

8) Does your organization use HRIS? *Please tick your response using the scale 1 to 5*

Not at all = 1 Very much = 5

1	2	3	4	5

9) "To what extent do you think that HRIS are used in support of strategic HR tasks?" *Please tick your response using the scale 1 to 5*

Not at all = 1 Very much = 5

1	2	3	4	5

10) To what extent are HRIS used in support of the following strategic HR tasks? *In each case, please tick your response using the scale 1 to 5*

Not at all = 1 Very much = 5

	1	2	3	4	5
Human resource development and workplace learning					
Communications					
Career management					
Commitment management					

Leadership management					
Business processes reengineering					
Managing relations with the organization's trade unions					
Decision-making					

11) To what extent do HRIS play a role in strategic HR tasks? *(Please tick your response using the scale 1 to 5)*

Not at all = 1 Very much = 5

1	2	3	4	5

12) In your organization, to what extent do you consider that HRIS should be developed, concerning the following? *In each case, please tick your response using the scale 1 to 5*

Not at all = 1 Very much = 5

	1	2	3	4	5
Human resource development and workplace learning					
Communications					
Career management					
Commitment management					
Leadership management					
Business processes reengineering					
Managing relations with the organization's trade unions					
Decision-making					

13) How would you rate your professional standing in the organization after using HRIS? *(Please tick your response using the scale 1 to 5)*

Not valued at all = 1 Highly valued = 5

1	2	3	4	5

Appendix B (Frequencies)

(i) The role or title of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HR Manager	6	25,0	25,0	25,0
	HR Director	6	25,0	25,0	50,0
	HR Professional	8	33,3	33,3	83,3
	Not available	4	16,7	16,7	100,0
	Total	24	100,0	100,0	

(ii) Years of Experience as an HR specialist

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	6	25,0	25,0	25,0
	10 to 15 years	9	37,5	37,5	62,5
	More than 15 years	9	37,5	37,5	100,0
	Total	24	100,0	100,0	

(iii) The extent of HRIS role in strategic HR tasks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	4,2	4,2	4,2
	2	1	4,2	4,2	8,3
	3	5	20,8	20,8	29,2
	4	10	41,7	41,7	70,8
	5	7	29,2	29,2	100,0
	Total	24	100,0	100,0	

(iv) The extent of HRIS use in support of strategic HR tasks performance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	4	16,7	16,7	16,7
	2	1	4,2	4,2	20,8
	3	11	45,8	45,8	66,7
	4	4	16,7	16,7	83,3
	5	4	16,7	16,7	100,0
	Total	24	100,0	100,0	

Appendix C (One sample T-tests)

(i) One-Sample Statistics The extent of HRIS role in strategic HR tasks (Statistics)

	N	Mean	Std. Deviation	Std. Error Mean
The extent of HRIS role in strategic HR tasks	24	3,88	1,035	,211

(ii) One-Sample Statistics The extent of HRIS use in support of strategic HR tasks performance

	N	Mean	Std. Deviation	Std. Error Mean
The extent of HRIS support of strategic HR tasks performance	24	3,13	1,262	,258

(iii) One-Sample Statistics of HRIS support for individual strategic HR tasks.

	N	Mean	Std. Deviation	Std. Error Mean
The extent of HRIS support for Communication as a strategic HR task	23	3,35	1,265	,264
The extent of HRIS support for Human Resource Management and Workplace Learning as a strategic HR task	23	3,30	,974	,203
The extent HRIS support for Career Management as a strategic HR task	23	2,83	1,154	,241
The extent of HRIS support for Commitment Management as a strategic HR task	21	2,67	1,238	,270
The extent of HRIS support for Leadership Management as a strategic HR task	23	2,78	1,204	,251
The extent of HRIS support for Business Processes Reengineering as a strategic HR task	23	3,26	1,176	,245

The extent of HRIS support for Managing Relations with Organization's Trade Unions as a strategic HR task	22	2,18	1,296	,276
The extent of HRIS support for Decision Making as a strategic HR task	23	3,30	1,222	,255

(iv) One-Sample Test of HRIS support for individual strategic HR tasks.

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The extent of HRIS support for Communication as a strategic HR task	1,318	22	,201	,348	-,20	,89
The extent of HRIS support for Human Resource Management and Workplace Learning as a strategic HR task	1,499	22	,148	,304	-,12	,73
The extent HRIS support for Career Management as a strategic HR task	-,723	22	,477	-,174	-,67	,33
The extent of HRIS support for Commitment Management as a strategic HR task	-1,234	20	,232	-,333	-,90	,23
The extent of HRIS support for Leadership Management as a strategic HR task	-,866	22	,396	-,217	-,74	,30
The extent of HRIS support for Business Processes Reengineering as a strategic HR task	1,064	22	,299	,261	-,25	,77
The extent of HRIS support for Managing Relations with Organization's Trade Unions as a strategic HR task	-2,961	21	,007	-,818	-1,39	-,24

The extent of HRIS support for Decision Making as a strategic HR task	1,194	22	,245	,304	-,22	,83
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(v) One-Sample Statistics Ratings of professional standing in organization after using HRIS

	N	Mean	Std. Deviation	Std. Error Mean
Ratings of professional standing in organization after using HRIS	23	3,57	,728	,152

(vi) One-Sample Statistics of HRIS development in the individual strategic HR tasks

	N	Mean	Std. Deviation	Std. Error Mean
Development of HRIS in Communications	23	3,57	1,121	,234
Development of HRIS in Human Resource Development and workplace Learning	24	4,13	,612	,125
Development of HRIS in Career Management	24	4,04	,955	,195
Development of HRIS in Commitment Management	21	3,33	1,017	,222
Development of HRIS in Leadership Management	23	3,57	1,037	,216
Development of HRIS in Business Processes Reengineering	23	3,61	,891	,186
Development of HRIS in Managing Relations with Organization's Trade Unions	24	2,21	1,285	,262
Development of HRIS in Decision Making	23	3,83	,778	,162

(vii) One-Sample Test of HRIS development in the individual strategic HR tasks

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Development of HRIS in Communications	2,418	22	,024	,565	,08	1,05
Development of HRIS in Human Resource Development and workplace Learning	9,000	23	,000	1,125	,87	1,38
Development of HRIS in Career Management	5,346	23	,000	1,042	,64	1,44
Development of HRIS in Commitment Management	1,503	20	,149	,333	-,13	,80
Development of HRIS in Leadership Management	2,614	22	,016	,565	,12	1,01
Development of HRIS in Business Processes Reengineering	3,275	22	,003	,609	,22	,99
Development of HRIS in Managing Relations with Organization's Trade Unions	-3,019	23	,006	-,792	-1,33	-,25
Development of HRIS in Decision Making	5,095	22	,000	,826	,49	1,16

Appendix D (Independent sample T-test)

(i) Type of Organization and HRIS usage in respondents' organizations

	Type of Organization	N	Mean	Std. Deviation	Std. Error Mean
HRIS usage in respondents' organizations	Large	16	4,25	,856	,214
	SME (Small/Medium)	8	2,63	1,996	,706

(ii) Group Statistics for specific individual strategic HR tasks and type of organizations

	Type of Organization	N	Mean	Std. Deviation	Std. Error Mean
The extent of HRIS support for Communication as a strategic HR task	Large	16	3,81	1,167	,292
	SME (Small/Medium)	7	2,29	,756	,286
The extent of HRIS support for Human Resource Management and Workplace Learning as a strategic HR task	Large	16	3,50	,894	,224
	SME (Small/Medium)	7	2,86	1,069	,404
The extent HRIS support for Career Management as a strategic HR task	Large	16	3,13	1,147	,287
	SME (Small/Medium)	7	2,14	,900	,340
The extent of HRIS support for Commitment Management as a strategic HR task	Large	15	2,87	1,302	,336
	SME (Small/Medium)	6	2,17	,983	,401
The extent of HRIS support for Leadership Management as a strategic HR task	Large	16	3,13	1,258	,315
	SME (Small/Medium)	7	2,00	,577	,218
The extent of HRIS support for Business Processes Reengineering as a strategic HR task	Large	16	3,63	1,088	,272
	SME (Small/Medium)	7	2,43	,976	,369
The extent of HRIS support for Managing Relations with Organization's Trade Unions as a strategic HR task	Large	16	2,44	1,413	,353
	SME (Small/Medium)	6	1,50	,548	,224
The extent of HRIS support for Decision Making as a strategic HR task	Large	16	3,63	1,204	,301
	SME (Small/Medium)	7	2,57	,976	,369

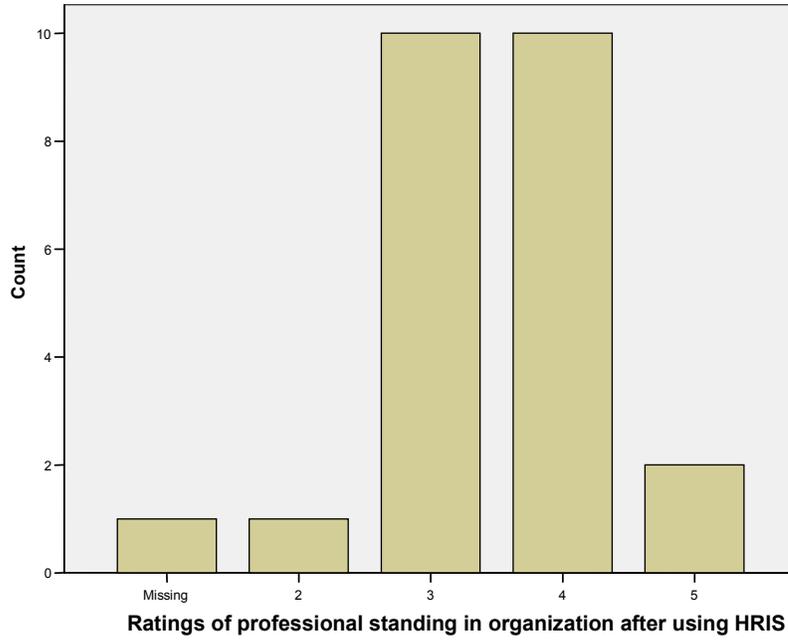
(iii) Independent Samples Test for specific individual strategic HR tasks and type of organizations

	Type of Organization	Sig. (2-tailed)
The extent of HRIS support for Communication as a strategic HR task	Large	,005
	SME (Small/Medium)	,002
The extent of HRIS support for Human Resource Development and Workplace Learning as a strategic HR task	Large	,149
	SME (Small/Medium)	,194
The extent HRIS support for Career Management as a strategic HR task	Large	,058
	SME (Small/Medium)	,044
The extent of HRIS support for Commitment Management as a strategic HR task	Large	,252
	SME (Small/Medium)	,205
The extent of HRIS support for Leadership Management as a strategic HR task	Large	,036
	SME (Small/Medium)	,008
The extent of HRIS support for Business Processes Reengineering as a strategic HR task	Large	,021
	SME (Small/Medium)	,022
The extent of HRIS support for Managing Relations with Organization's Trade Unions as a strategic HR task	Large	,134
	SME (Small/Medium)	,036
The extent of HRIS support for Decision Making as a strategic HR task	Large	,055
	SME (Small/Medium)	,044

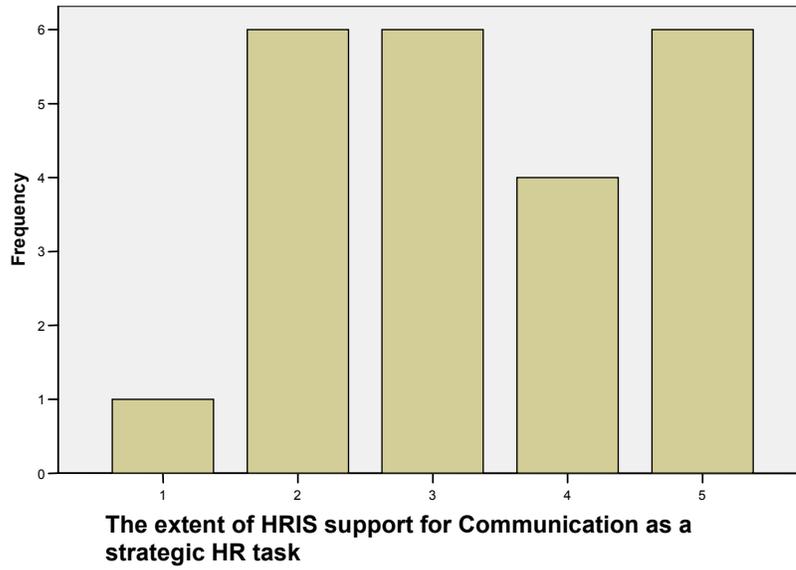
Significant at 0.05 level

Appendix E (Graphs)

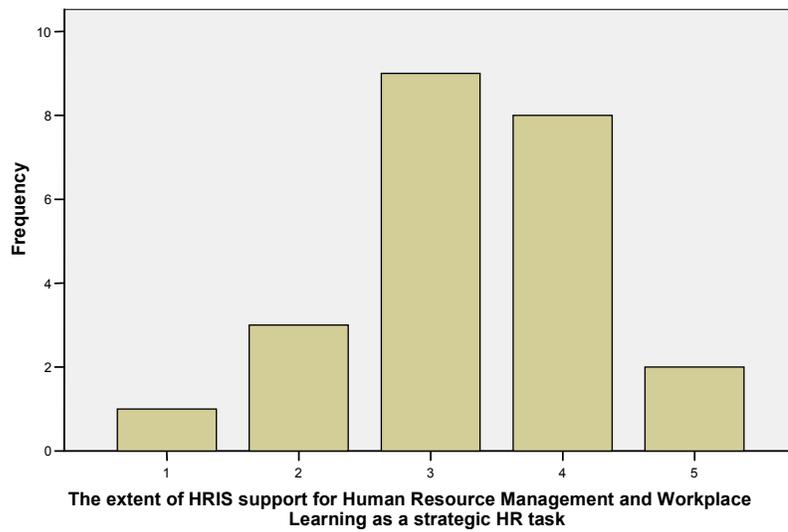
(i) Ratings of professional standing in organization after using HRIS



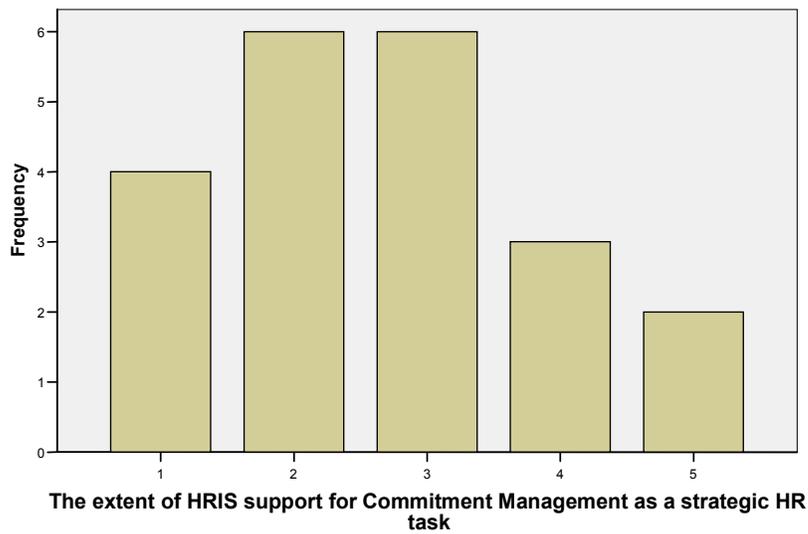
(ii) The extent of HRIS support for **Communication** as a strategic HR task



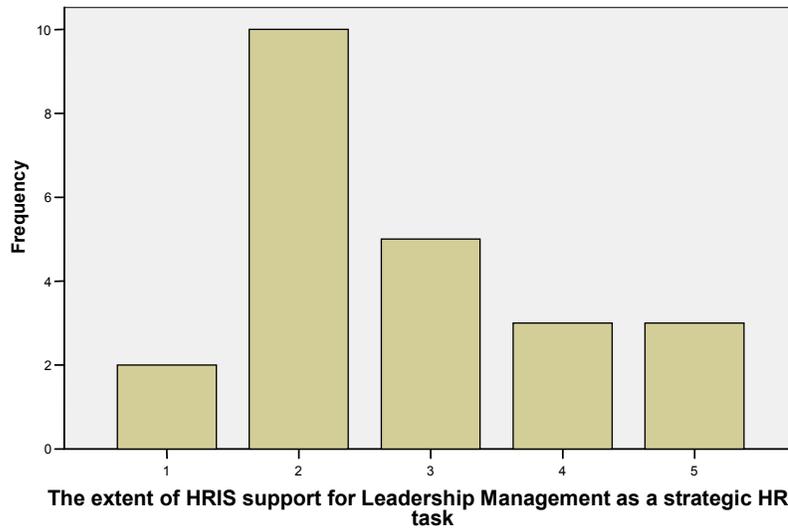
(iii) The extent of HRIS support for Human Resource Management and Workplace Learning as a strategic HR task



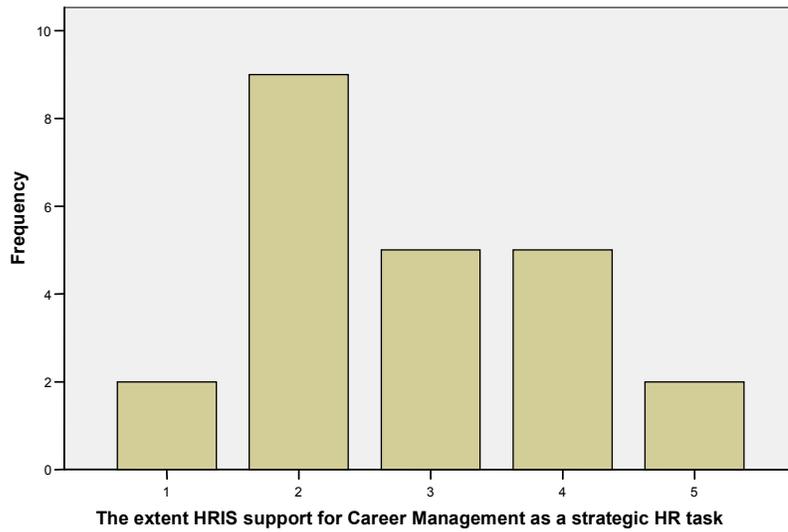
(iv) The extent of HRIS support for Commitment Management as a strategic HR task



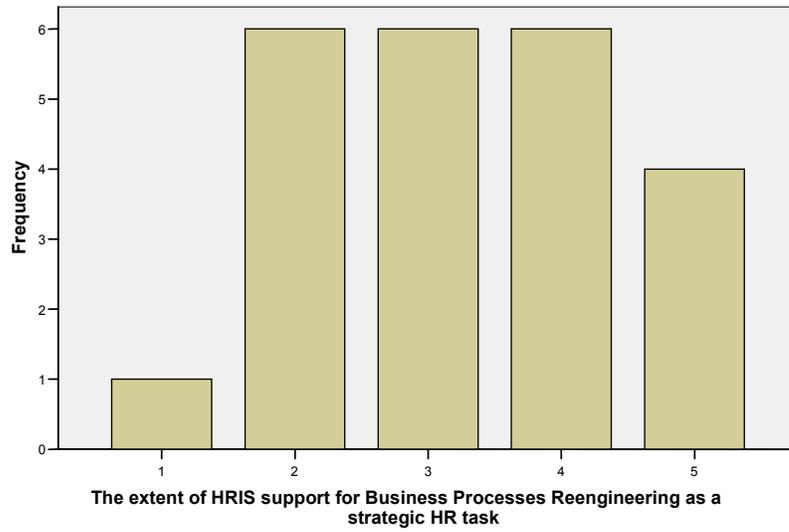
(v) The extent of HRIS support for Leadership Management as a strategic HR task



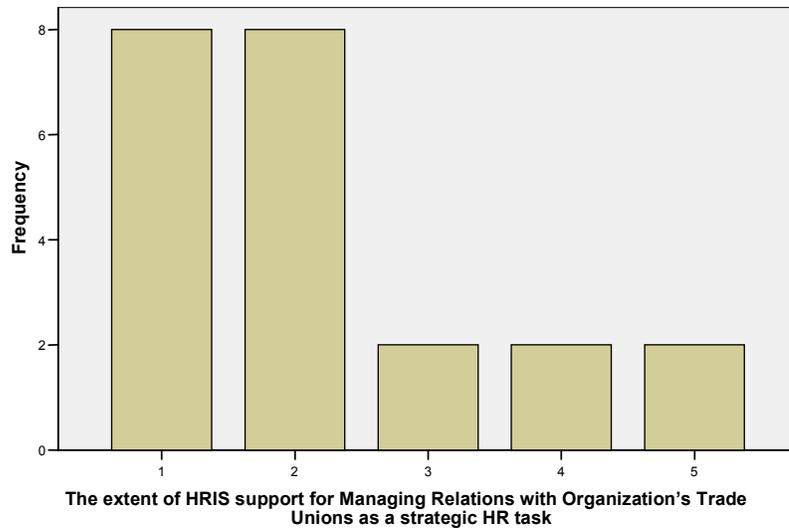
(vi) The extent HRIS support for Career Management as a strategic HR task



(vii) The extent of HRIS support for Business Processes Reengineering as a strategic HR task



(viii) The extent of HRIS support for Managing Relations with Organization's Trade Unions as a strategic HR task



(ix) The extent of HRIS support for Decision Making as a strategic HR task

