

## IT Human Resources Considerations in Kenya

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### Abstract

A critical issue in the management of IT organizations is the management of IT human resources. The people and their skills are the heart of the organization. In the past, there has been a focus on the technical skills needed to manage and develop the technical components of the IT organization. Today the skills requirements are considerably broader, including general management expertise, deep business and industry knowledge, and interpersonal skills.

**Keywords:** Interpersonal skills, Soft skills, Business skills, Technical skills

### Introduction

The market for IT professionals, like the market for most corporate positions, will vary with the economy, trends in business strategy, world events, and the availability of talent. The first few decades of IT (starting in the 1950's in terms of business applications, when IT was referred to as Data Processing) brought steady growth in IT professional positions. Government reports and private research trumpeted the glory of a career in IT. IT professionals were in demand as businesses expanded the ways in which technology became embedded in products and services. According to the Society for Information management (SIM) survey, hiring and retaining IT professionals has been among the top ten concerns for the last ten years.

### Global Trends

#### Top Skills for Entry Level employees

1. Ethics & Morals
2. Critical thinking/Problem solving
3. Collaboration; Teams
4. Problem solving
5. Communication: Oral
6. Communication: Written
7. User relationship management
8. Creativity/Innovation
9. Managing Expectations
10. Programming/Application Development
11. Decision making
12. Functional Area knowledge
13. Project leadership
14. Database
15. System analysis

### Top skills for mid-level employees

1. Ethics & Morals
2. Collaboration; teams
3. Critical thinking/problem solving
4. Problem solving
5. Communication: Oral
6. Communication: Written
7. Project leadership
8. Managing expectations
9. User relationship management
10. Decision making
11. Business analysis
12. Creativity/innovation
13. Project plan/Budget/schedule
14. Leadership
14. Project integration/project management

Figures adapted from *Managing Information Technology Resources*, 3rd edition, by Jerry Luftman

The number one skill for both entry and mid-level employees is ethics and morals. Given events from Enron, it comes as little surprise. Technical skills, highlighted in red are less prevalent; however, entry level employees are involved with the more technical day-to-day operations of the firm, while mid-level hires take on the larger responsibility of handling projects and plans. Note the emphasis on project budgeting, leadership, risk management, and IT planning.

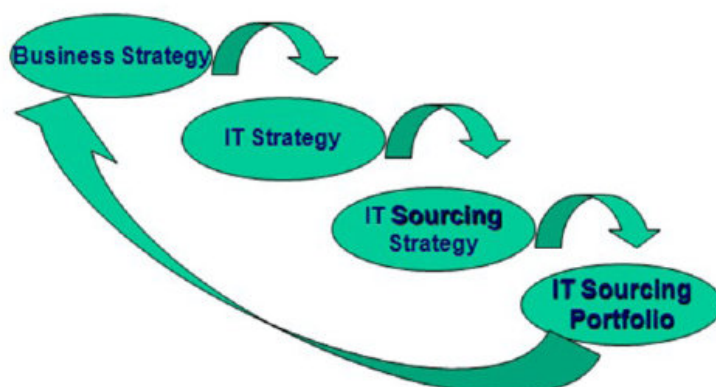
Moreover, effective project managers often assign some of their tasks to less experienced workers. Suppose, for example, that an organization is implementing a new ERP system. With an eye on ensuring the implementation's success, managers will delegate the tedious, time-consuming tasks. Such tasks might include database entry/management, system testing or help desk work.

Mid-level managers are also expected to display a high level of communicative maturity. Note how negotiation and user-relationship management are listed as important mid-management skills.

Relationship-building, and business and industry skills are becoming increasing important for IT employees. Communication was listed as the fifth and sixth most important skills for both entry-level and mid-level employees. The first technical skill for entry level employees is programming.

One of the most significant challenges for IT management is retaining the critical talent and understanding the mix of skills that are needed as the business strategy evolves

### IT Sourcing Cycle



### IT Project Portfolio Elements

Portfolio Element	Value	Sample Metrics /Methods	Risk Level	Sourcing Strategy	Key IT issues
<b>Infrastructure</b>	IT Process Efficiency, Enabling Foundation	Reliability, Response Time, Flexibility, Scalability	Low-Medium	<b>Lowest TCO High Reliability Centralized Resources</b>	IT Process and Vendor Management, Infrastructure Service Management
<b>Support Services</b>	System performance	Response time, User satisfaction	Low	<b>Lowest TCO Effectiveness Outsourcing</b>	Vendor management
<b>Utility/ Commodity Applications</b>	Lower IT Cost Effective data processing and transaction management	Reliability, Low IT Cost, Benchmarks	Low	<b>Lowest TCO/High Reliability Outsourcing</b>	Maximizing Scale Economies, Vendor Management
<b>Business Value Applications</b>	Lower Operating costs Productivity, Competitive Advantage	Identification of opportunities, Evaluation and Ranking	Medium	<b>In-House Expertise, Vendor Partnership and Understanding</b>	Business and IT Knowledge, Business Partnership and Prioritization
<b>Innovations</b>	Revenue generation, High-Impact, Competitive Advantage	Innovation, Leadership, Risk Tolerance	High	<b>Expert Partner and In-House Advanced Development</b>	Business Partnership, Knowledge Protection and Transfer, Collaboration.

Figures adapted from managing Information Technology Resources, 3rd edition, by Jerry Luftman

The figure shows how IT strategies lead to IT sourcing strategies, and an IT sourcing portfolio. A big part of the IT sourcing strategy for an online airline-ticketing system would be low total cost, yet high reliability and effectiveness. The main purpose of setting up the online system is to save money and improve customer service. Those goals would be measured in terms of actual cost, reliability, flexibility/scalability, response time, and user satisfaction. The above figure illustrates how IT portfolios consider infrastructure, support services, applications and innovation. All IT service offering must be considered.

### Characteristics of the Environment Contribute to the Complexity of the Human Resource Management

Characteristics of the IT environment contribute to the complexity of human resource management. There is constant pressure to master new technologies (e.g., software, hardware, telecommunications) brought on by the pace of change in the industry and the rate of adopting new innovations. Basic materials research and advances bring about significant changes in hardware.

Software vendors push expanded and improved versions of their products resulting in releases that introduce huge disruptions in service and integration complexities. The telecommunications industry is buried in standards battles while a lack of coherence in wireless technology still maintains.

At the same time, however, organizations have legacy systems requiring traditional IT skills and knowledge, and a commitment to long-term maintenance and support.

The need for both constant learning of new technologies and maintaining the old ones can create a two-class society within the IT organization; those who get to work on the new and exciting stuff and those who must remain with the legacy technologies. One distinct challenge for the CIO is keeping these two groups of staff content and productive.

As much as 65% of IT staff may be involved in maintenance and support activities (e.g., programming and software engineering, tech support and enterprise systems). This is the category of deployment where CIOs find

the most discontent. So staff discontent from this source must be red flagged for aggressive management attention. Specific management plans are discussed later in this chapter

Moreover, it is fundamental to ensure that IT understands how to also effectively understand and communicate how business partners can leverage these technologies. In addition to the technical requirements of the position, IT professionals are under pressure to relate IT to the business in increasingly significant ways. As IT enables/drives business processes and becomes an integral part of the competitive positioning of an organization, IT staff must enhance their business and industry knowledge to play an effective role. Some of this knowledge comes from experience working with the business areas, some comes from in-house education sessions and, increasingly, this knowledge is coming from IT staff seeking formal education through graduate Management degrees. They are recognizing it requires more than technical knowledge to have a successful career in IT.

### Key IT functions



1 = Lowest - 10 = Highest

Ref: Gartner 2009

CIOs and IT leaders must champion cross-enterprise development of boundary-spanning roles and assignments. The roles typically require insight into multiple business domains (for example, infrastructure, architecture, relationship management and business process redesign). Moreover because the roles are neither exclusively IT nor business, career development must extend beyond the IT organization's boundaries.<sup>12</sup>

The Gartner group identified the key IT function for 2012. To meet these demands it is fundamental to have the appropriate balance of technical, business/management, and interpersonal skills.

### Business and technical skills development for the IT professional

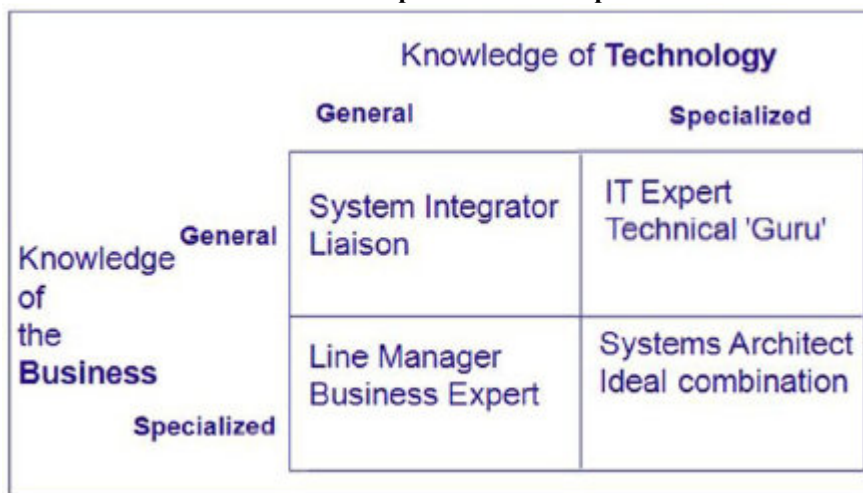


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The figure gives examples of people with varying levels and types of knowledge. The nature of their jobs requires systems integrators or liaisons to have generalized business and IT knowledge. A business expert will tend to have more specialized business knowledge, while an expert technician will tend to have more specialized IT knowledge. Ideally, however, people need both specialized business and IT knowledge. A systems architect, for example, would need a great deal of both business and IT knowledge.

For individuals seeking promotion within their current firm, skills indicating a depth of knowledge about the specific company and general managerial skills are highly valued:

- Ability to communicate across business disciplines.
- Ability to employ consulting skills.
- Ability to influence decision-making.
- Information about business processes.
- Understanding organizational philosophy.
- Understanding the strategic goals and objectives.

With each year of employment, experience-based skills grow. General management skills, however, need to expand through both experience and education. IT managers should seek to provide their employees with educational programs that enhance their general managerial skills. At the same time, however, technology skills must continue to expand and change as the technology evolves.

### IT Human Resource Concerns in Kenya

The present supply of skills does not meet business requirements in various ways including the currency of the courses taught as well as the need for business specific training (soft skills).

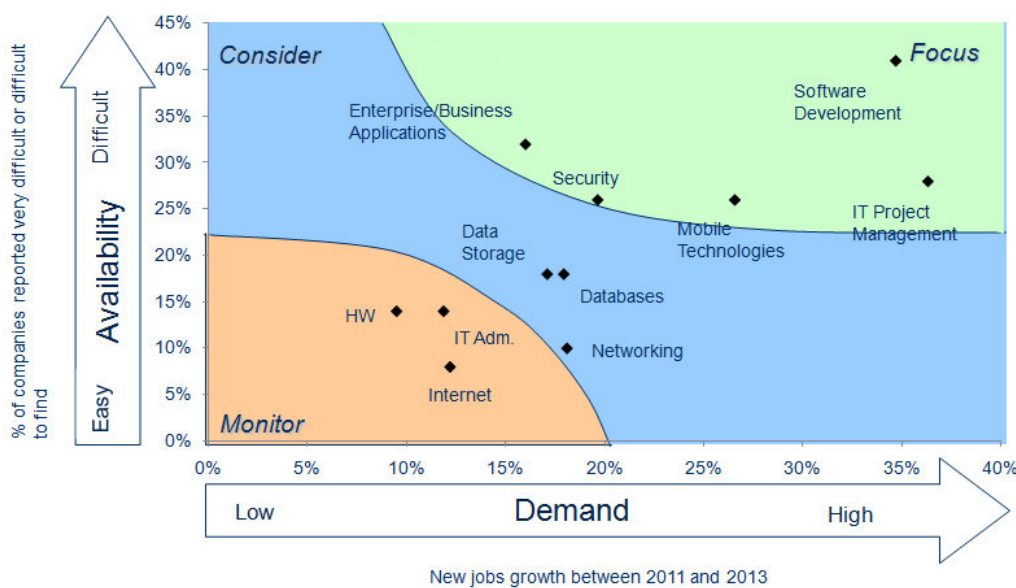
There is little visibility on the demand for specific skills, suggesting that greater and closer collaboration is needed between education institutions (universities) and businesses to determine the exact mix of skills needed in the market.

Presently some skills gaps are temporarily met via expert labour though it does not always translate into skills transfer to locals. Thus when projects are completed, a void is left in the market.

### Overview of ICT Skills in Kenya

The ICT sector directly employs an estimated 27,000 professionals. Of the total IT employment in Kenya, IT support people represent the largest portion (27%), followed by Applications Systems Analysts and System Engineers (13% each).

Although an estimated 9,600 professionals are added to the ICT market each year, a third of the companies surveyed plan to contract external providers. The Julisha report reveals that software development and project management are the most in-demand skills for the 2011-2013 period and represent the areas with the widest skills gap.



### Kenya as an emerging economy



With the arrival of broadband connectivity through three submarine cable systems, the Kenyan IT market and indeed many business sectors are to grow rapidly; allowing for the introduction of new and advanced services, further setting the stage for the development of ICT as a valid contributor to Kenya's GDP.

Developing ICT skills remains a constant issue to be addressed by end users, vendors, and even governments. Public-private partnerships between vendors and governments to set up facilities for technology and knowledge transfer continue to gain momentum, especially in view of the Government long-term plans to make ICT a key part of the Kenyan Economy

### **Developing IT skills in Kenya**

There is a growing recognition that the skills gap for ICT professionals is widening. Many organizations have come to realize that certain new technologies can optimize efficiency and make processes more effective. ICT can bring industry closer to their customer, partners and suppliers through more integrated business and communication systems, and can provide enhanced educational opportunities for students on campus and at a distance. The opportunity to gain competitive advantage through the rapid adoption of new technology has fuelled the drive to improve and develop ICT infrastructure and new applications, and has been a key factor in the demand for skilled ICT professionals outstripping supply. Even with the economic slowdown in the high tech industries; other companies from outside the sector are continuing to demand more skilled workers.

Besides the dissemination of ICT across all sectors, deep organizational changes are required and new skills are needed to fully exploit the new technologies. What matters most in a knowledge based society are people and ideas, and the ability to make commercial use of the skills. One of the main challenges is therefore to identify, measure, forecast, and finally to provide the necessary ICT skills to ensure economic and social sustainability.

There is need to assess the national requirement for ICT skills, establish how much of this is available, and then determine the best strategy of meeting the appropriate ICT skills demand. However the ICT skills that will be needed, and therefore the kind of training that will be required, depend very much on the ICT policy adopted by Kenya as a nation and the Government in particular.

There is need for Kenya to exploit the ICT Skills in the country to create employment.

Unfortunately, Kenya does not have documented data on the ICT Workforce to enable it plan for this opportunity. Factors like attitudes and personal communication skills etc. are more important than before when firms are recruiting new staff. The new needs are reflecting the changes taking place inside the ICT industry, but also in the relationship between the ICT and other sectors.

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