Enabling Modern Technology Jobs through Optimised Human Resource Management Practices

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INTRODUCTION

Annual surveys on the state of human capital and the trends in addressing persistent skills gap management issues, specifically in the Engineering and Technology industries, attempt to highlight the scope of the unavailability of skills. These skills management challenges are addressed both by academic research and industry reporting. The industry reporting plays a significant role in shaping employer perspectives, and subsequent actions, on skills management practices.

The Manpower Group conducts a global annual talent shortage survey, interviewing over 38 000 employers. The 2012 and 2013 survey results (Manpower, 2012; Manpower, 2013) focus on the inability of organisations to fill required positions. Deloitte Consulting's annual surveys (Deloitte, 2013a; Deloitte, 2013b) provide the survey results of 1300 businesses in 59 countries, citing reasons for the inability to find suitable candidates and what organisations are doing to overcome this constraint. These surveys confirm that there is a lack of available candidates with the right technical expertise and employability skills. The global results for the Manpower Group surveys suggest that more than a third of interviewed employers find it difficult to fill specific jobs (34% in 2012 and 35% in 2013). Skilled trades and engineering jobs top these surveys year on year, suggesting that there is a lack of focus on developing science, technology, engineering, and mathematics skills (STEM skills).

The reasons cited in the surveys for the difficulty to find suitable candidates include a lack of technical, industry and generic skills and experience; undesirable geographic locations; candidates expecting higher remuneration (Manpower, 2012); the unwillingness of candidates to relocate for the short-term nature of work offered; overqualified applicants; and the poor image of the company (Manpower, 2013; Deloitte, 2013b).

These surveys predominantly use aggregated labour demand and supply data, coupled with perception based assessment from business leaders and potential employees to inform the general state of the skills gaps crises rather than using a true verified measure of actual skills available and the shortfall in the skills expected. These indirect measures do not provide quantitative data to help focus interventions. The Deloitte Consulting IT survey (Deloitte, 2013b) for example, refers to high-performing individuals who can operate across technical and functional business silos. Skills gaps reporting in these surveys usually group skills in categories such as low, middle and high skills, which leaves the exact jobs included and excluded open to interpretation (ACT, 2013). These perception-based surveys do add value for educational feedback or identifying important areas for policy debate such as the brain drain phenomena and the inconsistency of engineering registration and practice requirement across Africa (Royal Academy of Engineering, 2013). These surveys contribute very little to our understanding of what the exact problem with our skill pipeline in industry is.

BACKGROUND

Several sources point to the origin of the current skills gap problem as a misalignment in the supply and demand of skills, with some stating that there simply isn't a skills gap if the candidate matching process is improved (Deloitte, 2013a; Harris, 2012; Weddles, 2013; Giang, 2013a; Giang, 2013b; Gordon, 201; Cappelli, 2012). From the industry literature it is also clear that unfilled jobs co-exist with high unemployment numbers in all regions.

"Depending on who you speak to, the South African ICT industry faces a critical shortfall of skills, or it doesn't have enough jobs for all of its experienced professionals" (Harris, 2012, p.1). There is evidence of structural job changes where jobs are lost in one sector and many new jobs created in another sector. The labour market does not have time to catch up and are not producing enough graduates with current skills. Industry is addressing this gap between education or vocational training and what industry needs. ABB, a South African power and automation solutions provider is taking part in an internship scheme to teach new graduates the required industry skills (ABB, 2013). The Plastics Federation of South Africa (PFSA) and Merseta are mapping out career paths in the plastics industry while promoting this industry as a career choice rather than having people land in this industry by chance and entering very unprepared (O'Donnell, 2012). IT skills service provider Rigatech, is offering an internship for black female ICT talent (Gauteng Business News, 2013).

But are these the right type of interventions? Organisations that specialise in psychometric assessment and matching of candidates to roles based on personal attributes suggest in their experience, organisation value experience more than ability. Organisations are not employing people for who they are but what they have done. They use traditional hiring criteria and are unable to do a proper match (Greenberg, 2013). Organisations are increasingly fearful of taking on a person with potential but no proven delivery track record and who would require investment to become productive (Cappelli, 2012; Fishman, 2012; Greenberg, 2013).

There is however an industry contradiction between "have done" and "can do." The hiring practice is inconsistent. In some cases the exact experience and a long list of academic qualifications are required including the exact title on a candidate's resume. In other cases the right "can do" attitude is required, which suggest that the employer is looking for somebody who can figure it out and make it happen (Cappelli, 2012).

A challenge with traditional matching criteria is the hybrid nature of jobs today. Partly due to retrenchments and roles going unfilled, current staff doubles up to perform the work. When a staff member needs to be replaced, the matching criteria do not resemble the traditional job but the attributes that the exiting person brought to the job. The organisation is looking for somebody who has done exactly that combination of work before (Greenberg, 2013; Vilet, 2013; Cappelli, 2012). This job combing is referred to as a hybrid job (containing elements of two or more traditional jobs such a Payroll and Accounts Payable). Hybrid jobs reflect infinite combinations of skills and personal attribute and cannot be matched through screening software or even manually given the volumes of potential candidates applying for a specific job. Since the organisation may be hesitant to invest in training but expects the exact match, the majority of candidates will be unsuitable.

Qualifying criteria are further modified by legislation. In America the criteria need to be vague so as not to discriminate. In South Africa the exact opposite happens. It is not uncommon to see the sentence "Non-AA need not apply." This is a conscious delimitation of the selection pool from which a match can be made. Employers may further pile on all the possible requirements to ensure that they only get the perfect fit. Broadening of skills requirement is common to support hybrid job needs. Additional matching criteria may also be unrelated to the job. Cappelli (Cappelli, 2012) uses the example of an Engineer that must be able to type sixty-five words per minute, because the current job incumbent can type sixty-five words per minute.

A major contributor to job-candidate mismatching is filtering software. Due to the enormous volumes of applications being received, computer technology is employed to sift through these volumes and identify potential candidates worth further assessment. The success of a resume making the semi-final list depends largely on the use of specific keywords and document formatting rules (Giang, 2013a; Giang, 2013b; Cappelli, 2012).

SOUTH AFRICAN EXAMPLES OF POOR SKILLS MATCHING PRACTICES

An ethnographic study conducted in the South African ICT and Mobile Telecommunications industries as part of a PhD study in Engineering Management, identified several instances of poor matching of available skills to the job requirement in support of general industry skills gap management reporting. The study assumed that real skills *shortages* exist in the form of too few Engineering students completing their studies and

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