SABPP™
SA BOARD FOR
PEOPLE PRACTICES
Setting HR standards

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FACT SHEET

PRODUCTIVITY BASICS

1. INTRODUCTION

A good understanding of productivity measurement and productivity improvement is essential for all Human Resource (HR) practitioners if they are to play their part fully as business partners in driving the achievement of business objectives. In the SABPP's HR Competency Model, one of the outputs under the HR Technical Competences, Organisation Development, is Productivity and the required competencies at Level 1 Professional include:

Has a working knowledge of productivity and related concepts to be able to assist in design and implementation of productivity improvement interventions;

Uses measurements and other means to diagnose productivity and quality problems or opportunities within own area of responsibility (such as requirements for new levels of productivity resulting from new technology or new products) using a recognised methodology such as Six Sigma;

Works with engineering and other technical specialists in own area of responsibility to prepare a plan to improve productivity using OD and other relevant HR specialist knowledge.

This Fact Sheet sets out some basic concepts and methods of measuring productivity.

2. THE IMPORTANCE OF PRODUCTIVITY

At a national level, "Productivity is considered a key source of economic growth and competitiveness and, as such, is basic statistical information for many international comparisons and country performance assessments. For example, productivity data are used to investigate the impact of product and labour market regulations on economic performance. Productivity growth constitutes an important element for modelling the productive capacity of economies. It also allows analysts to determine capacity utilisation, which in turn allows one to gauge the position of economies in the business cycle and to forecast economic growth." [1]

" Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker. "

Paul Krugman, The Age of Diminishing Expectations (1994)

At an organisational, team or individual level, understanding how productive a unit or individual

1 http://www.oecd.org/std/productivity-stats/40526851.pdf

is and what the productivity trends are, is critical to making management decisions on resource allocations, budgets, expansions, restructuring, investments in technology and so on. A department where productivity levels are decreasing will need diagnosis of what the problem is and management action to correct the problem. A department where productivity levels are increasing can be a source of competitive advantage.

In addition, good practice in remuneration management is to link variable pay to productivity, so it is very important to have a good understanding of productivity trends, causes and effects in the organisation before deciding how to link pay to productivity. For example, paying a bonus for increased output might not be the right thing to do if the increase in output is accompanied by additional input costs such as electricity, overtime and so on.

3. Definitions relating to productivity.

General Productivity

"A measure of the efficiency of a person, machine, factory, system, etc., in converting inputs into useful outputs. Productivity is a critical determinant of cost efficiency."[2] In more simple terms, "The rate at which goods are produced or work is completed."[3]

These definitions can be applied to any type of resource in any situation. For example, the easiest

2 http://www.businessdictionary.com/definition/productivity.html#ixzz3viK7xxsb
3 http://www.merriam-webster.com/dictionary/productivity

application is on a production line, where productivity means the number of items produced per hour or per day. Productivity of financial resources can be measured, for example, in terms of debtors per total sales, balance sheet assets per total sales. For non-manufacturing situations, for example in schools, productivity could mean number of matric passes per year or it could mean number of teachers per learner.

Although productivity itself can be measured in any situation, the use made of the result should take into account the situation and comparisons should be made with other organisations only in similar situations. Retail productivity ratios should only be compared within the retail industry. Mining productivity ratios such as ounces of gold per tonne of rock mined should be compared only within the gold mining industry, and even then, the geology and mining conditions will heavily influence these ratios.

Labour Productivity

This generally refers to national statistics of how many hours were worked in a period to produce the total output of the nation – usually the Gross Domestic Product (GDP). As an economic indicator, it is considered positive if either the same hours were worked to produce more, or less hours were worked to produce the same – that is, the ratio is improving.

Recent thinking about measuring national labour productivity is that simply using hours worked is too simple a measure and that other variables such as education levels, skills and experience are important input factors that should be considered if valid comparisons between countries are to be made.

Employee Productivity

The first definition above covers productivity of all the input factors for the work to be completed – that is, machinery, people, raw materials and so on. Employee productivity refers only to the output in relation to people employed and/or hours worked. Employee productivity could be measured at the individual level (for example, number of calls answered per shift in a call centre) or at a team level. Care must be taken when measuring employee productivity at an organisational level because of the differences in types of work between organisational units, although trends in employee productivity at the organisation level can yield interesting data for further investigation.

4. Productivity calculations

Productivity is computed by dividing average output per period by the total costs incurred or resources (capital, energy, material, personnel) consumed in that period."[4]

An example of calculating an individual employee's productivity follows:

4 http://www.businessdictionary.com/definition/productivity.html#ixzz3viK7xxsb

Measuring An Employee's Productivity

To improve an employee's productivity as a small business owner, you must first be able to measure it. If you measure an employee's productivity twice -- one time at the beginning of a period, then again after 6 to 12 months, it will tell you whether productivity is improving or deteriorating for that employee.

Step 1
Choose the output you will measure. Units completed are a useful measure if it can be so measured. Select a period of time, such as an eight-hour day, and measure the total output for your employee. This averages any anomalies during any particular hour of the day.

Step 2
Find your input figure, which is the hours of labour put into production. Measure an employee's productivity over several hours, because any single hour might not be representative of the usual output from that employee. Choosing a full shift is helpful. The longer the period of time, the better average you will receive.

Step 3
Divide the output by the input. For example, 100 units of output completed in eight hours of input equals and employee productivity of 12.5 units per hour.

Step 4
Assign Rand values to measure your cost-benefit ratio. In the example, say the products are worth R10 each, and you pay your employee R25 per hour. For every R25 in wages (input), you get R125 worth of product (R10 x 12.5 products). Divide output by input, so 125 divided by 25 equals 5. Multiply by 100 to find that your employee is producing 500 percent of his wages in value. Your employee produces five times his wages in products.

Step 5
Measure non-manufacturing productivity in Rands instead of units. For example, imagine a salesperson makes R150 per day and sells R1,000 worth of goods or services in a day. Your output figure is 1,000, and your input figure is 150. Divide output by input. 1,000 divided by 150 equals 6.66. Multiply by 100 to find that your salesperson creates 666 percent of his wages in value. He earns your company between six and seven times what you pay him.

http://smallbusiness.chron.com/calculate-productivity-employee-21154.html

In a case example from the South African public sector, Productivity SA has worked with the government to develop a framework to measure productivity in the public service[5]. A productivity index has been created which includes tangible measures such as output quantity/magnitude; resources and resource utilisation.
Intangible quality factors includes are service image; contact personnel image; atmosphere in

5 Productivity SA Leader magazine, Volume 4 2015, p. 10.

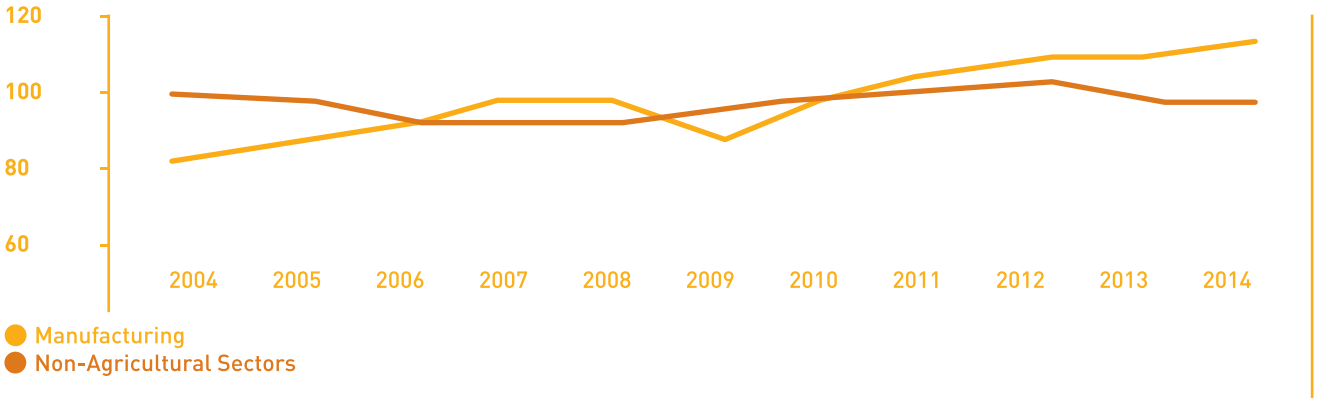
service provision; customer satisfaction. The various measures are clustered into the input; process/system; output; and outcomes framework. The framework is currently being piloted.

Productivity of processes or programmes

This type of productivity is generally measured through a return on investment (ROI) calculation which measures the value of the outcome divided by the cost of the inputs. ROI calculations in the HR field are particularly useful when deciding whether to continue to invest in training programmes, change interventions and so on.

5. Productivity trends in South Africa

A limited amount of data on labour productivity is available in South Africa. Productivity SA's latest analysis by economic sector was done in 2012. The SA Reserve Bank produces data which shows trends as below, but further sectoral analysis is not possible:



Source: SA Reserve Bank

From this chart, it would seem that, whilst labour productivity in the manufacturing sector has been steadily rising (probably due to increased investment in machinery), general non-agricultural productivity (which will include manufacturing) is not increasing. This could be due to a number of factors so without further analysis no conclusions can be drawn, illustrating the difficulty in interpreting statistics at a national or economic sector level.

Analysis and commentary on productivity, in particular labour productivity, has highlighted fundamental differences in approach and conclusions between different leading economists. Whilst some conclude that labour productivity is declining drastically, others dispute this.

Productivity trends at a national or economic sector level are likely to have been influenced by other trends such as growing capital intensity in manufacturing and mining, a shift to services jobs and a persistent increase in real wages.

Two international bodies, the International Monetary Fund (IMF) and the International Labour

Organisation (ILO), have produced papers on employment, real wage and productivity trends in South Africa. The IMF paper[6] concludes that there a weak link between real wage growth and labour productivity in South Africa, and that this is weaker than in other emerging markets. The ILO paper[7] points out that data is not fully reliable as there have been changes in sampling design, survey instruments and missing values. There are discrepancies between statistics from the Stats SA Quarterly Employment Survey and the Quarterly Labour Force Survey which means that statistics from the two surveys should not be mixed and matched. The ILO researcher performed some sophisticated statistical analysis to the available data to control for some of these problems and concludes that "sectors which were relatively low productivity ones in 1994 (Agriculture, Construction, Trade and Services) show much lower labour productivity growth [than] the remaining ones which all seem to have achieved productivity gains. On average there is little evidence that wages have outstripped productivity or vice versa."

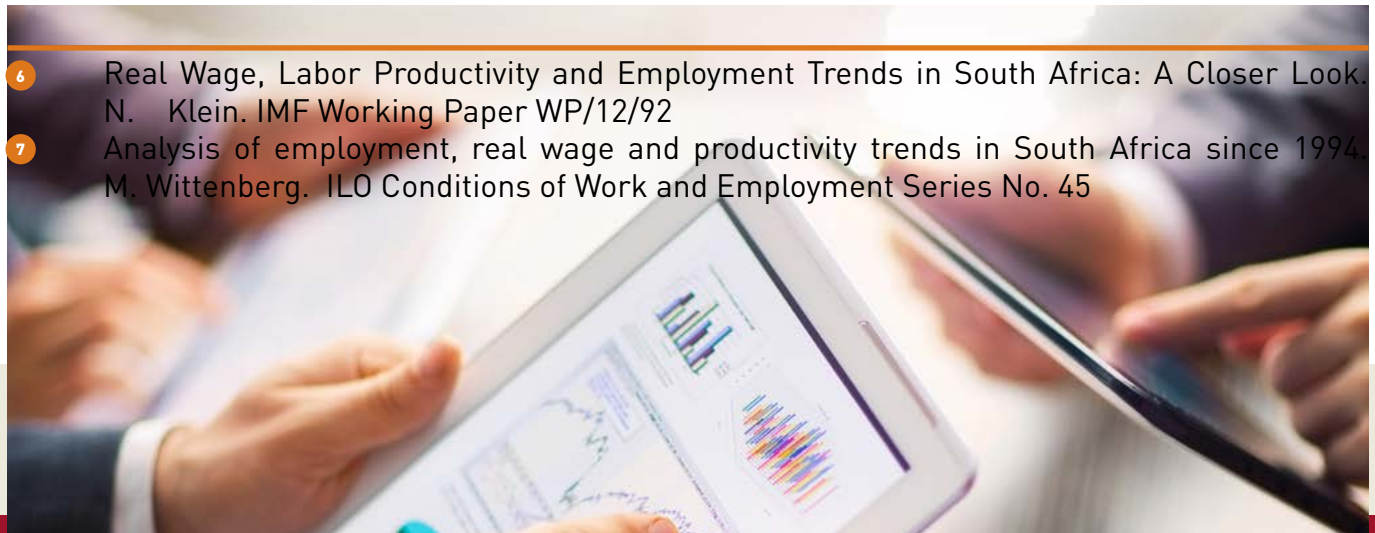
"Measuring productivity well is notoriously difficult and quite neglected in South Africa."

Miriam Altman, Distinguished Research Fellow, HSRC and National Planning Commissioner

6. Productivity Improvement Programmes

There are five ways of improving productivity sustainably, by:

1. Decreasing input but maintaining output (for example, finding cheaper raw materials)
2. Decreasing input but increasing output (for example, finding cheaper raw materials plus investing in more efficient machinery)
3. Decreasing input with a smaller decrease in output (for example, reducing man hours worked while improving production efficiencies)
4. Maintaining input but increasing output (for example, improving production efficiencies)
5. Increasing input but getting a larger increase in output (for example, employing more people at a higher skill level who can use more sophisticated machinery which produces more).



6 Real Wage, Labor Productivity and Employment Trends in South Africa: A Closer Look. N. Klein. IMF Working Paper WP/12/92

7 Analysis of employment, real wage and productivity trends in South Africa since 1994. M. Wittenberg. ILO Conditions of Work and Employment Series No. 45

Because quite a number of different factors or variables may be involved in productivity improvements or declines (for any output there are several inputs and processes), any of these five approaches needs to focus not only on a single factor such as labour, but also on capital, material and even on environmental factors. Careful diagnosis of the current situation and trends is critical before deciding on the approach and the point of intervention.

CASE STUDY FROM US RETAIL

A clothing retailer cut store labour costs by 10% in part by improving back-end processes and re-designing activities to maximize high-quality customer facing time. Employees were spending too much time setting clothing out. The root cause of this was identified as deliveries to the store being too frequent and too inconsistent. The solution was for the distribution centre to work out a more practical delivery schedule and to keep stores better informed on timing and size of deliveries.

Source: Bain and Company January 2016

Innovation is also a very important driver of productivity improvement. Innovation leading to the tremendous growth in the Information and Communication Technology (ICT) field has been a major driver of economic growth in many parts of the world. According to the Productivity SA Leader magazine, innovation has contributed to productivity improvements over the period 2003 to 2013 largely in the agriculture/forestry/fishing sector and the banking/financial services sector, whilst the electricity/gas/water sector saw declines in productivity gains due to innovation over that period.[8] Therefore, innovation in terms of financing, use of technology, work processes, employee motivation/recognition/reward needs to be harnessed to achieve sustainable productivity improvement.

There is a range of standard methodologies for improving productivity. For example, Six Sigma which is a disciplined, data-driven approach and methodology for eliminating defects in any process – from manufacturing to transactional and from product to service. It was first introduced in the electronics industry in the 1980s and has been further developed to the extent it became a central strategy in General Electric globally. Another popular programme is Lean Manufacturing, in which "the core idea is to maximize customer value while minimizing waste, creating more value for customers with fewer resources. A lean organisation understands customer value and focuses its key processes to continuously increase it. The ultimate goal is to provide perfect value to the customer through a perfect value creation process that has zero waste. A popular misconception is that lean is suited only for manufacturing. Not true. Lean applies in every business and every process. It is not a tactic or a cost reduction program, but a way of thinking and acting for an entire organisation."[9] In South Africa, the Lean Institute Africa[10] has applied the principles of the approach across many sectors, and projects in the public health sector, as an example, have delivered amazing results, see example in the box below.

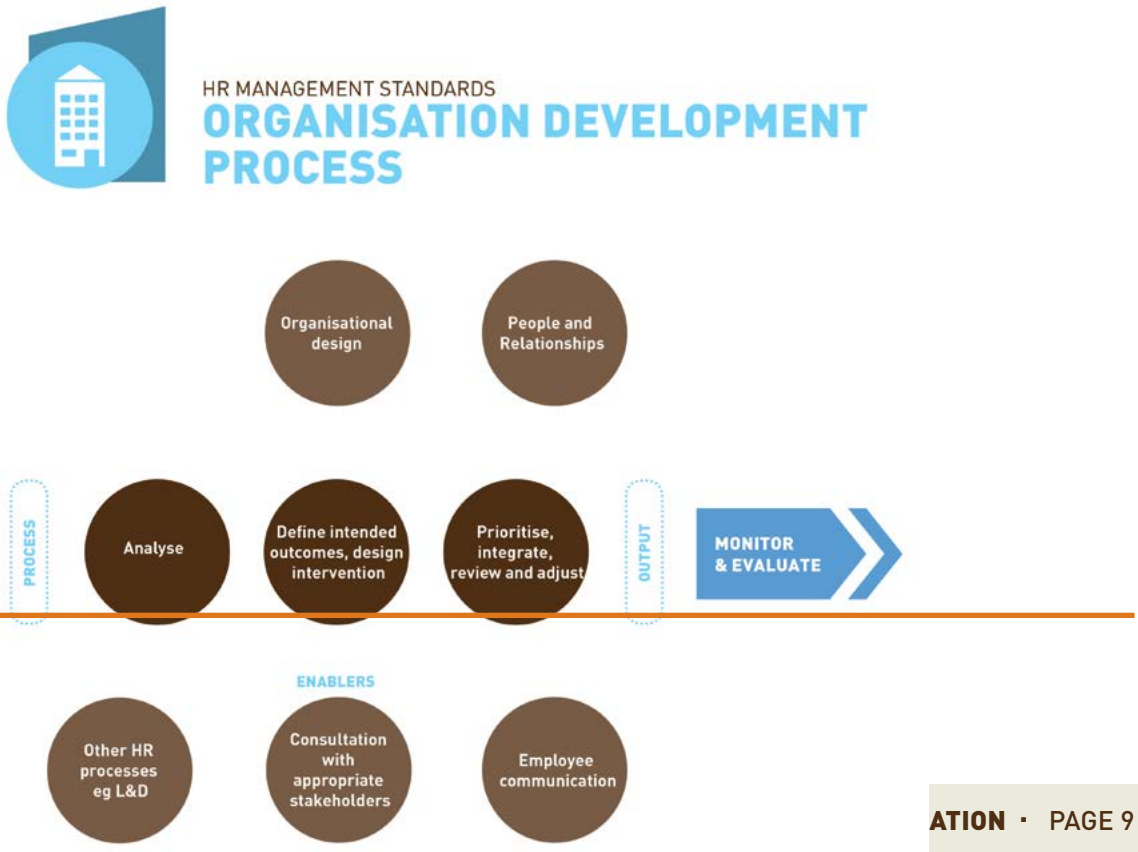
8 Productivity SA Leader. 2015. Vol. 1. p. 11.
9 http://www.lean.org/WhatsLean/
10 http://www.lean.org.za/lean-institute-africa-about-us/

Implementing a Daily Management System in four Gauteng hospitals

The MEC for Health in Gauteng launched an initiative last year aimed at reducing waiting times at Gauteng health facilities. In the fuller vision for the initiative, the capacity will be built within the Gauteng DoH itself and be able to improve all aspects of quality of care. Because there is no 'vaccine' against all the causes of poor service delivery in the Gauteng health system, the focus of the initiative is to develop new habits and routines that underpin the reliable delivery of quality care; in a phrase, the initiative is designed to put in place a 'management system'. This will have at its core a 'Daily Management System' for each patient journey pathway, in a sense a daily 'ward round' on processes that will allow for the assessment of the health of the process and strengthen understanding of how to make it 'healthier'.

Work began in mid-November 2014 with a 'cohort' of twenty staff from four hospitals and one each from the District office and Provincial office. A team consisting of a 'Master Facilitator' assisted by a Co-Facilitator and supported by two 'Apprentice' facilitators has worked with the cohort members through a series of interventions leading to four 'coaching and mentoring' days per facility per month. The coaching and mentoring has as its target the development of the Daily Management System in the main three stages of the outpatient journey: waiting for the patient folder, waiting for to be seen at a clinic, and waiting to receive prescribed medicines at the pharmacy.

Productivity improvement programmes involve people working differently and therefore should be developed and implemented in the same way as any other organisational change programme. The SABPP Organisation Development Standard sets out the following process:



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Productivity improvement programmes should be conducted in partnership with employee representative and/or organized labour. In order to get the required buy-in and commitment, management needs to be transparent with financial and organisational information. Productivity SA runs a government funded initiative called Workplace Challenge which assists organisations with negotiated workplace productivity improvement programmes.[11]

7. Results

To demonstrate that results of productivity improvement programmes need to be viewed in several dimensions, the annual Productivity Awards of Productivity SA use judging criteria that include:

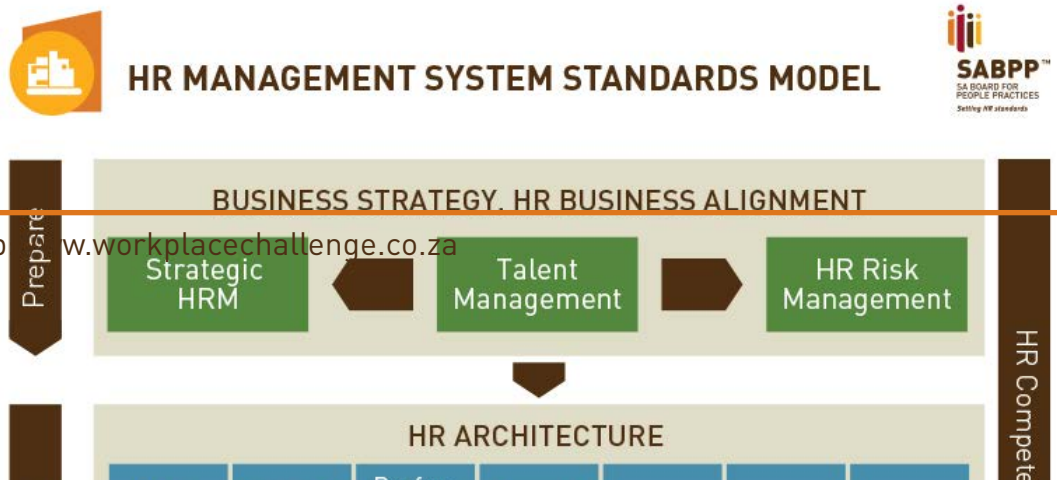
- What did the company want to accomplish and how did it achieve this?
- Are there clear objectives for productivity improvement?
- Is management actively involved?
- Is labour actively involved?
- How does the company manage productivity?

Results and impacts are measured in terms of:

- Financial Results - improvements, trends and targets, benchmark results with competitors
- People Results - employee performance & recognition, absenteeism, incentives
- Customer Results - % returns/complaints from customers, satisfaction index
- Operational Results - has the broader community benefited and how
- Challenges/Obstacles that were overcome and how
- Sustainability and Transferability
- Social and Environmental Impact
- Quality, Safety and Working Environment

8. CONCLUSION

One of the most tangible value adds that HR practitioners can bring to any organisation is a well-planned and implemented productivity improvement programme. This is business partnering at its best and requires a good understanding of organisational priorities, stakeholder interests (customers, public, suppliers etc.), organisational dynamics, leadership behaviour, cost accounting, and business process engineering. Accurate and comprehensive measurement before and after the programme is essential. Therefore it is clear that the entire SABPP HRM System Model needs to be brought into play in an integrated manner, as productivity factors can arise from any or several of the System Model elements.



[11] http://www.workplacechallenge.co.za

There are sources of information and training on productivity available to HR practitioners. Productivity SA, which is a fully government funded institution, has an Information Centre with a range of information resources available.

www.productivitysa.co.za

The SABPP has two accredited NQF qualifications in productivity: National Diploma: Productivity ID: 49794 NQF Level 5 (Provider: BMT College); and National Certificate: Productivity ID: 49793 NQF Level 5 Credits 124 (Providers: KLM Empowered Human Resource Solutions and Organisation Development International). HR practitioners are encouraged to equip themselves to work on productivity improvement in partnership with line management.

This Fact Sheet was written by Penny Abbott of the SABPP, drawing partly on material of Productivity SA.

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April	3	**NATIONAL DEVELOPMENT PLAN**
May	4	**BARGAINING COUNCILS**
June	5	**EMPLOYMENT EQUITY**
July	6	**HR COMPETENCIES**
August	7	**HR MANAGEMENT STANDARDS**
September	8	**PAY EQUITY**
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2014		
February	1	**EMPLOYING FIRST-TIME JOB MARKET ENTRANTS**
March	2	**PROTECTION OF PERSONAL INFORMATION ACT**
April	3	**QUALITY COUNCIL FOR TRADES AND OCCUPATIONS**
May	4	**WORK-INTEGRATED LEARNING**
June	5	**RECRUITMENT – SCREENING OF CANDIDATES**
July	6	**HR RISK MANAGEMENT**
August	7	**BASIC HR REPORTING (1)**
September	8	**BASIC HR REPORTING (2)**
October	9	**EMPLOYEE ENGAGEMENT**
November	10	**SEXUAL HARASSMENT**

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March	2	**THE REVISED BROAD-BASED BLACK ECONOMIC EMPOWERMENT CODES OF GOOD PRACTICE**
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May	4	**EMPLOYEE WELLNESS SCREENING**
June	5	**CHANGING THE EMPLOYMENT EQUITY LANDSCAPE**
July	6	**EMPLOYEE VOLUNTEERING**
August	7	**DEPRESSION IN THE WORKPLACE**
September	8	**EMPLOYEE WELLNESS**
October	9	**EQUAL PAY AUDITS**
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2016		
February	1	**PRODUCTIVITY BASICS**

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