Online Testing & Talent Management

Past • Present • Future

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Executive Summary

Precision Human Development (PHD) has completed a market investigation of global, North American and where possible, Canadian organizational practices on the use of talent management systems that include employee testing in particular. The methodology for gathering this information includes published corporate surveys, government statistics, internet articles, webinars, books and scholarly journals on selection and assessment. The research also includes a number of phone call interviews with thought leaders, practitioners and publishers in the field in both corporate and academic settings. Special emphasis was given to Canadian and local sources as most public documents are North American and based on US based findings.

Key Findings

- The testing industry is growing at a pace driven by massive competition after the internet revolution started in 1990's. The quality of hire (pre-hire) and development for retention (post-hire) are the key organizational drivers.
- The paper and pencil publishing business is waning but still exists with a reduced market share each year. It proved to be too cumbersome, costly, and slow to report in comparison to on-line tests.
- Since the digital era and the corporate implementation of HRMS systems, testing has been both commoditized and customized as examples of opposite trends that will continue. On one hand, the low price and availability of on-line applications has led to price competition while at the same time, tailor made solutions are on the rise to offer more personalized tools and systems.
- The integration of HRMS into ERP platforms has necessitated that testing be embedded or added into the solution for the on-going collecting of metrics for the lifetime of the employee.
- Testing publishers and vendors are changing their businesses from off-the-shelf tools and large libraries to talent management companies in attempts to provide HCM solutions, including consulting on strategy for an organizational-wide solution.
- During the economic downturn started in 2008 there has been provider amalgamation with large IT companies buying up both talent management and testing companies. This includes a number of new partnerships merging testing with large HR platforms.
- HR departments are starting to integrate recruitment, selection, and succession planning with overall business strategy more effectively with new HR analytic systems. The use of these systems and the growing influence of HR professionals in business decisions are still in its infancy. Early excitement of these applications has been tempered of late by complexity and changing corporate priorities during implementation.
- The talent shortage with the aging workforce and retiring boomers is real and proactive companies are gearing up for solutions at all levels. Best in class companies are already addressing this gap with improved selection and retention programs.
- Psychological and skill testing is proving to be the best predictor of performance and tenure at hiring compared to all other selection methods. Best in class are leveraging local validation studies to improve quality of hire and to customize their solutions.
- The future of testing is solidly entrenched with former obstacles and barriers being mitigated by improved instruments, customization and market competition. Further advances in job simulations hold promise as virtual applications and mobile devices are being integrated.
- Global expansion of international testing companies will lead to new translations and validity studies to fit new cultural norms. The contextualization of tests will be necessary to maintain predictive validity in the future.
- Paralleling large international growth of multinational companies will be a significant small business sector with less than 100 employees that will have special selection and retention needs that will need to be addressed. Companies with less than 20 employees are the largest new hire sector in the Canadian economy.

For over 15 years, the business lexicon has had to add a number of new words and phrases directly as a result of the revolution of ideas and technology that were being created to assist organizations to succeed in an ever changing landscape. This has included new entries related to Information Systems Technologies and Human Resource Management. These new words are related to recent research in both technology and the need for Human Capital Management (HCM) processes. The adage is now commonplace to quote many authors of the recent past who are saying, "people are not your most important asset…the RIGHT people are". Therefore, articles on people management use phases like talent management, people analytics, HR metrics, leadership bench strength, GAP analysis, competency profiling, and onboarding just to name a few.

Brief Background

This research report is going focus on the on-line testing vertical and its emergence as a part of the whole talent management enterprise.

The concept and title "talent management" was first coined by the CEO of Softscope, David Watkins in an article that was written in 1998. He was convinced that an organization's HR and IT systems needed to marry to provide for company-wide processes that represented the best hire for a workforce that would shrink and needed the internet revolution. As the head of a testing company with a consulting force that was able to customize solutions, he was ahead of the curve. Employment testing was ancient in comparison and on-line applications were just starting to emerge. Testing is the term of preference as "assessment" is now used as a synonym in marketing language. Having said that, the term "assessment" should be left for a more clinical testing situation with a specific referral question in mind. This is what the psychological community prefers in order to avoid confusion.

The merits of the computer-based and on-line applications include:

- Faster reporting from weeks to seconds.
- 24/7 availability in a number of indigenous languages as long as a computer is available.
- Dramatic price point reductions from an average of several hundred dollars per test to a range of $5 - $40.
- Ease of scalability with an increase in usage or distribution a click away.
- Software and cloud technologies allow for huge data storage and analysis in key metrics to drive business decisions on talent needs and process results.
- Tests can be more easily updated, corrected and revalidated to increase predictive validity and customization.
- Consultants now have a huge number of resources available to build custom talent management systems by partnerships, licensing agreements and vendor to vendor relationships.

The history of employee testing and selection shows some ups and downs from its beginnings before World War I. The most recent iteration of on-line testing is a direct result of the obvious changes in the digital age and started in the early 90's. If one was to use an early search engine like Yahoo or Google and type in "psychological testing", a dozen or so entries and links would appear. In 2003, (10 years later), a search on Google yielded 796,000 entries and 837,000 on Yahoo. Today, a similar search would triple that number. The same is not to be said for talent management. However, it too is growing exponentially as a descriptor of many current processes and company brands. Both are firmly entrenched in our lexicon and language.

The on-line testing advances were numerous; it resulted in significant growth in the testing industry with new competitors entering the market every month. According to Dr. Charles Handler, a testing expert on rockethire.com, there are now hundreds of testing companies with over 15,000 tools in English and translations into over 50 languages worldwide.

Research now is building a strong case for the ROI of talent management solutions for the companies who regularly use tests correctly and take the time to evaluate their testing program. Yet, as it is the case in technological advances that happen quickly, practice outstrips evidence-based research as efforts to find "easy" solutions take precedence. User companies are woefully lagging behind what the evidence is supporting. Still, most organizations use testing in an uncoordinated and piecemeal basis to fight fires. The task of selecting the correct testing method can be daunting in today's market as there are hundreds of HRMS providers with talent management strategies including testing. It is so complicated to know what is out there and how to implement solutions successfully; about 10% of larger companies have either hired or developed their own Talent Management Manager, a position that did not exist 5 years ago. The selection and integration of an HRMS provider is now a full-time job.

As a result of the rapid proliferation of the testing vertical, the field has become for some, a commodity market with much confusion and ill-advised bets on what instrument will pay off. There are too many choices and consequently, rather than

focusing on accuracy, the availability, ease, and cost have dominated the selection process. This is reminiscent of the famous philosophical quote, "there are often simple solutions to complex problems….and invariably they are WRONG".

So, is it possible to make sense out of this vendor maze and market confusion in pursuit of the elusive "quality hire" in a time of shortage? Emphatically, the answer is "YES" and hopefully, this article will clear away some cobwebs and lower the Tower of Babel where everyone speaks a different language.

Past: 1950 – 2010

1950-1990 - Post-War Boom

The concept of talent management was unknown and not used following WWII and the post–war world-wide economic boom as countries put back the pieces of a shattered existence. Industry re-tooled from a war economy to make products and provide services in record numbers. Corporations in North America and Europe turned to consulting companies and the newly emerging field of Industrial Psychology. These services helped them hire and categorize positions or jobs based on personality and aptitudes tests that were developed during the war. This had originally started in World War I with Robert Yerkes' Alpha and Beta tests and continued to World War II. They were leveraging psychology's efforts to slot millions of soldiers into different military roles. This is where the human capital concept of "FIT" was born and jumpstarted testing to new heights. Test manufacturers profited and began to market their services to the needs in fast growing companies who needed to hire many new workers to keep up with demand. Testing in industry started to be recognized as a value-added selection method and was implemented in larger numbers in the 50's and 60's, particularly in large companies in the manufacturing and goods sectors. However, this was not without hiccups along the way. There were many poorly thought-out solutions for hiring that led to significant and successful legal action against companies who used tests that discriminated against select minority groups and violated the newly-passed human rights legislation in the US and later in Canada. The Employment Equity and Opportunity Commission (EEOC) was formed in 1961 and new regulations were put into place. With some egg on its face, testing companies, Industrial psychologists and HR Departments began to develop and use the correctly normed tests on a population of workers to measure individual differences.

During this stage, testing was controlled by behavioural scientists, Industrial Psychologists and a few well-trained HR consultants. It showed promise but was costly due to professional services fees and report writing usually delayed time-to-hire by days or even weeks. It was mainly used in executive and senior management selection and consisted of numerous tests under the control of a licensed professional. Slowly, the value of testing was demonstrated and companies began to ask for less expensive processes for entry-level and lower level positions. The response was the development of many skill-testing options and cognitive testing which had a long history in the IQ movement for half a century.

Probably the most well-known was a brief IQ test, the Wonderlic "personnel test" which had actually been around since the 1930s. This was followed a number of aptitude testing applications (an aptitude is a raw skill such as verbal and mechanical reasoning) based on large geographical samples. The two most well-known were the General Aptitude Test Batter (GATB) developed by the US Department of Labour and its Canadian counterpart, the Canadian Aptitude Test (CAT). Tests became more specific to job knowledge requirements with the caveat that they had to be fair and less costly for the masses. However, some of these tests still suffered from poor psychometric development (e.g. MBTI) and even the ill-advised use of clinical tests which were never intended for hiring. Tests like the MMPI I and II left managers scratching their heads as many applicants appeared to be "neurotic" and high-risk hires. Applicants also complained about the face validity of questions about their sex lives and potty training. However, the evidence was slowly growing that testing had held real predictive promise with scientific controls and implementation.

In response to litigation fears and limited testing choices (probably less than 200 tests existed in 1965), consulting companies who hired industrial and organizational psychologists began to re-tool their methods in order to to include sophisticated assessment centers, simulations, and better validated tests. The idea of replacing large normative groups like "sales personnel" or standardized cognitive measures that could discriminate on ethnic lines with customized tests developed for a company gained acceptance. Thus was born in 1981, Thomas International in Michigan and employment testing at Gallup, in the US and later in Canada. The relevance of doing these types of validity studies often escapes that general public but ensured that the testing stayed with the science to give relevancy of results to job performance criteria.

This was not totally new but was unknown to most client companies. The process was highly consultative with a team of psychologists and account managers becoming involved in developing a test or several tests for the client's sales or financial, secretarial positions, ad infinitum. This was a clear improvement for science; however, it was and still is costly as professionals must test current employee in their competencies, interests and values and then "benchmark" this position by the statistical results separating out "high" from "low" performers. A company committed to this process would likely pay large upfront development fees in the tens of thousands of dollars to get it right. The science was good particularly if the tests were re-validated every few years but the fees prevented most small and medium-sized companies from purchasing the technology. The bigger got bigger and profited from this high hit rate in hiring and the ROI reported good results even with the fees as they were. The market however, was limited. Something needed to develop to put this technology in a place where it was more affordable. AND IT DID…

Recent past - 1990-2010

Like a fire started in a barn, the computerization of everything and the internet in the early 90's so revolutionized employment testing that its adoption grew exponentially as it became easy to implement and was available 24/7 at a fraction of the cost. With 300,000 internet users in 1991, the electronic highway for services was born. Early adopters and tech savvy testing companies seized the day. In 1987, the development of HRMS systems such as PeopleSoft signaled a revolution which allowed companies to digitize data and collect, analyze, and integrate HR metrics in huge databases. Seeing value of such platforms, even larger IT companies like Oracle and ADP began to sniff around. 17 years later, Oracle purchased PeopleSoft for an unheard of amount of 10.3 billion dollars. Large IT platforms were no longer flirting or even dating each other; they simply got married.

Concurrently, psychological testing and selection companies began to see the windfall in on-line testing development in all of the areas mentioned earlier. Companies that could produce and integrate testing data with other HR metrics were at a huge advantage for filling the demand with less expensive tools for pre-hire screening, developing career development programs based on competency libraries and succession planning. In the middle of the last decade of the 20th Century, large test publishing companies like, Pearson, Psych Corp, PAR and IPAT began to convert all their tests into on-line versions. Some even began to re-validate their highly used tests for the internet and unproctored administration. Soon, many tests were available from these publishers along with data storage, scoring and quick reports as psychologists wrote interpretations of thousands of profiles using accumulated actuarial data and probability. The psychological report had been digitized and in many cases, it replaced the need for live eyes on the results. The probability of errors increased but this was off- set by the ease of dissemination and almost instant reporting. The stage was set for commoditization of the industry and giving the "live eyes" to the hiring expert to decide whether a candidate fit the job and would be a quality hire. HR experts at first liked this because they could administer and control the testing process and not pay for professional psychologists to interpret and report back. But as the profiles mounted without clear training or having to make "expert guesses ", this left some hesitation about the "truth" of these manufactured reports. Having said that, the price points were so seductive that this process has continued to this day. It is better than just resumes and interviews but far short of the science that is possible as discussed earlier.

The result of this new process for testing combined with the HRMS gave HR professionals more clout and on occasion, a seat at the executive table. There was a huge leap in test usage from the 80's to the turn of the century. For example, in 1997, the American Management Association reported that 35% of their member companies surveyed were using testing protocols. One year later, it increased to 45% with at least one test in constant use. A 10% jump in user rates within a year was unheard of in the testing industry. The word was out and many smaller internet-savvy companies began to offer testing with little or no psychological expertise or psychometric training. A few, however, who understood the process of validation and test development began to offer customization at far lower rates than offered in the previous decade. Thus, in 1999 Precision Human Development was founded with partners who had over 50 years of testing experience in addition to computer programming and on-line application for psychological services. There were few barriers to visionaries and those who could combine the testing vertical with the internet or software. Testing was going to become a commodity if something else was not added. AND IT WAS. The talent management industry came a courting.

The Birth of Human Capital Management

This new partnership between talent management consulting, testing and computerized solutions had been foreseen as early as 1992 by Messers Kaplan and Norton in their now famous article in Harvard Business Review. As keen observers

of business trends, they saw that HR data could be collected and used for business decisions, just like the operational and financial data used for centuries by companies. The accountant finally had a rival and it became known as a Human Capital Management Specialist. People became stuff to be measured. The principle of every statistician and accountant or financial person is "if it can be measured, it can be changed" and this was knowledge and expert power. HR metrics was the tool that leveled the playing field and gave more voice to the soft people sciences. HR could now change its function to a capital decision maker. The ability to collect and use data throughout the life of an employee was on equal footing with cost, maintenance and depreciation numbers of equipment to use a crude analogy. Testing tied to performance, gap analysis, development and leadership bench strength entered the arena and lexicon.

However, early forays into these uncharted seas particularly with techies who doubted the veracity of HR numbers and tried to implement large enterprise-wide HRMS platforms caused early sea-sickness that exists even to this day. 15 years later, in 2007, after attempted trips down the software channel, SaaS, and cloud technologies, only 5% of companies surveyed by Bersin and Associates had a coordinated and highly functional Talent Management system in place. This has been echoed to some extent by more recent studies conducted by the Aberdeen Group on the use of Talent Analytics. Acceptance has grown and more companies will begin to implement better systems. However, less than 50% of those companies will tie their metrics to performance and only 30% of them to measurable business outcomes. The promise to have a fully-integrated life cycle of an employee which was an HRIS promise in the marketing document in PeopleSoft 25 years ago has had its struggles. The technology is there but the implementation is complex and at times, very frustrating.

Changes in the Recruitment Process

Concurrent with the above developments, the recruiting arena began to have a number of useful applications. In 1994, Monster launched its huge job board and in 1998/99, Brassring, RecruitSoft, and Workpolis in Toronto, Canada followed suit. By 1999, almost 70-80% of all job recruiting was done on-line and this rapid growth caused some challenges. This led to a number of Applicant Tracking Systems (ATS) that were available for clients and some of which could be linked to the job boards. Paper resumes are still used but this practice is quickly dwindling. This has produced challenges for the older generation and immigrants who are unfamiliar with computers. Recently, a school custodian in the Prairies won a lawsuit against a school district that would not interview him after working for many years at another school in a similar capacity. He finally marched his paper copy to the HR office where he was excluded. The screening process had discriminated against him in an area that was not relevant to the job duties of a janitor. Despite potential issues, the ATS process is here to stay and has many advantages like sorting by experience and key words. The task of short-listing hundreds of applicants resumes has been simplified. In 2008, Bersin once again reported that over 60% of companies use ATS and integrate the system into their HRMS platform. That number is now closer to 70% among larger companies.

The Canadian Landscape

Earlier, it was mentioned that most studies and surveys on our topic are done on "North American" samples of which Canada has a very small number. Many liken the Canadian scene as so similar to the US or England that research is generalizable. This may be true but there also are some real differences. For example, Canada has 1/10th the business GNP and many fewer medium to large-sized companies than the US. The majority of vendors particularly testing manufacturers and vendors are located in US home offices with the larger ones having offices across Canada in our major cities. The testing vertical is much more saturated in the East, in both Canada and the US, particularly in the major manufacturing states. Toronto and Quebec have 58% of all Canadian corporate locations with the West 38%. This distribution difference geographically is even larger in the US. Fewer numbers of Canadian companies are multinational with only .03% of our companies having larger than 500 employees. This size in the US is a medium size company. There are also differences in corporate culture and governance laws. For example, we have no complimentary regulation like Sarbanes-Oxley in Canada with all of it requirements for reporting. We have different laws that try to do the same thing but the US government has been stung twice, in 9/11 and the mortgage market meltdown. Privacy is under attack in the US as is many personal freedoms taken for granted by Canadians. This has resulted in many Canadian public organizations (e.g. provincial governments and universities) wanting to keep their data within our Canadian electronic borders.

Fortunately, we have one very large study reported in 2011 that is available to the public in a scholarly journal. The authors are faculty at Canadian universities, Dr. Sarah Mann at U. of Guelph, and Dr. James Chowhan, from De Groote Business School at McMaster. Since most testing surveys are under auspices of large vendor companies like SHL or

Profiles International, the sample is often their clients, which introduces a bias. Others are a sample of volunteering HR personnel or an executive who fill out on-line forms in return receive a copy of the report. They are often measured against benchmarks in the study which can cause a more positive response set than other studies. This Canadian study used a very different methodology and is based upon seven years of StatsCan's Workforce Surveys from 1999-2006. So it occurred after the internet revolution and in the beginning to middle of the Talent Management movement. It collated responses from individual workers as opposed to companies. These are two distinct perspectives and sources.

Among the 23,639 employees in 6,693 Canadian firms (average size 482 employees), the following results were reported on selection strategies:

- 10% of the respondents had been given a test related to job knowledge and 9% a personality test.
- 79% either had a structured or unstructured interview.
- The predictors statistically analyzed by the authors found that companies who had an HR department (regardless of size) would most likely use tests.
- Unionized companies were more likely to use job knowledge testing and not personality-based evaluation.
- The largest group using personality instruments were the for-profit sector (80% of the sample).
- The for-profit sector was likely to have in-house HR professionals and use all three modalities (skill, personality testing and interviews).
- Non-profit organizations and associations were more likely to just interview due to restricted budgets.

The authors concluded that given the low numbers using testing and the majority only interviewing candidates, many Canadian organizations were lagging behind their US counterparts and not using the evidence-based technologies available to them. Competency testing has been shown to have the highest predictability for performance and personality testing for tenure - 2 to 3X greater than just interviewing or skill testing. In fact, many best in class companies in other surveys were hiring "quality people" and teaching skills later if necessary. Many believed that character and values cannot be trained but skills can. These utilization numbers were far below US rates reported by Handler in 2010 of 40-50% of US companies using testing. 30% were solely using on-line instruments while 55% used both. Given the different dates of the two studies, even if Canadian numbers doubled between 2006-2009, the 20% and 18% would be half of US usage. This finding is not surprising as most marketing efforts were targeting US companies. Except for a few testing companies in Canada, testing on-line is a more recent purchase in this country. It would be interesting to see how much of the Canadian market has been captured by US-based companies but no studies were available as much of this is proprietary business intelligence.

Present - 2010 - 2013

A crescendo of HCM strategies, applications and testing technologies are still on the rise in North America and globally. This has been labeled by some observers as the "Golden Age of Assessment Testing". The technological developments, the shortage of talent and the slowly building optimism in the world economic recovery has continued to fuel the overall market potential. At its peak in 2006, the testing industry was probably a 3-4 billion dollar industry. However, in this day and age, the market is slowly increasing a few percentage points each year. There is still plenty of market penetration and saturation in some sectors with commodity type, off the shelf instruments. In March 2012, background checking had its hands slapped by the EEOC, with new disparate impact warnings against using criminal, credit and driving record background checks. This will finally require the on-line data companies to do the hard work in order to prove a real, relevant connection between background data and job performance. This will certainly bring some curtailment and wisdom to a sector largely unregulated. Companies will no longer be able to eliminate anyone with a poor or a minor criminal or credit rating. The whole scale concern for employee safety will take a back seat to lowering discrimination. This is a result of high unemployment in minority groups following the economic recession. Getting work for marginalized groups is the priority for the Obama administration. There have been recent advances including some online applications such as those developed by Chequed.com and others.

Relevant testing tied to performance will again come to the surface as the choice of many companies who started to rely heavily on the background check to "hire in" or "hire out". Combined background checking and testing along with a well-

thought out behavioural interview produces incremental validity co-efficients that each individual application cannot achieve in isolation.

So what does the current landscape look like at present for Talent Management and on-line testing?

In 2010, a North American and European sampled survey conducted by Aberdeen shows that 63% of the companies use some tests with 55% using them for both pre and post hiring decisions. 29% only use for pre-hiring, 16% solely for post-hire. However, their best in class (BIC) companies report a 91% rate of testing applications for both recruiting, hiring and development.

BIC was determined by a high level of goal attainment by these companies, measured by profit, performance reviews and overall business objectives reached the previous year. These companies describe their talent management testing as 1) comprehensive, 2) accurate, 3) high trust by users, and, 4) transparent for all user groups including applicants. 44% of these BIC companies have integrated their testing into their HRMS platform and use the metrics regularly for onboarding and career development. And finally, a high percentage link back recruitment sources and test results to performance metrics. Most of the other companies surveyed do not do this, summarily called "average" and "laggards".

Additional surveys reviewed on North American sample companies show that earlier obstacles to testing are being mitigated by the Talent Management process and on-line tests, including cost, time-to-hire and legal concerns. A very favorable finding is now surfacing; it indicates that new cloud technologies are presenting very efficient and cost-benefit results using customized norms and local validity studies. Costs have reduced from the multiple thousands to hundreds and a "few thousand" dollars upfront costs for instrument development and linking performance to test results. This will allow usage by smaller companies and more attractive options even for large companies who want to upgrade from off-the-shelf or "expert" reports or profiles to choose new employees. The science is now very affordable to most companies and the ROI studies have been exceptional. This hopefully will compete favorable with the "illusion" of real science by profiling companies who let companies choose the competencies "off the top of their heads". Such a process is less valid than real data-based competencies that are gathered from current employees and existing performance records. It also can favorably compete with the actuarial or probability statement reports that has all the colors of the rainbow and many pages of description but are only a rough approximation of what the company really needs in order to find a "high quality hire". Hopefully, this will take a lot of the guess work out of profiling. These studies are demonstrating the pitfall of sacrificing accuracy for speed and lowest cost. The BIC companies listed cost as only a middle determinant for vendor choice where laggards indicated it was the top concern. ROI should continue to reveal where the real cost actually is - selection errors.

Selection Errors

New studies by the US Dept. of Labor on turnover rates indicate that 46% "poor fit" hires leave in less than 18 months either voluntarily or through an exiting process. In addition, the cost of replacement can range from very unskilled workers at a low of 1500/employee to 2 times the salary of a skilled employee. The average salary in Canada is about $46,000, so the upfront costs for accuracy seem to be well spent when turnover is high. Added to this, is a new study indicating a poor hire consumes 1 hour per day of a manager trying to "fix", train or cover up the poor performance. Added to replacement costs, the turnover figures are staggering. It all starts on hiring and continues through the exposure to retention strategies.

A ROI study done by Precision Human Development across 4 years evaluated improved tenure practices for a call center population. Using a very predictive equation based on tenure that separated out short and long staying employees. The results show the new testing had cut in half the number of employees leaving early and saved the company $600 for every $1 spent on the hiring system. These types of studies are appearing regularly now when the science of selection is applied through local validation studies and benchmarking.

Increase in Test Usage

Recent research by one of the selection gurus of our age, Dr. Charles Handler, indicates that usage has grown from up to 1 million administrations between 1950-2000 to 25 million in the first decade of the this century. Projection for this "Golden Age" are usage rates up about 3-4 million per year and up to 50 million by 2015 for the US. These data exclude in-house test developers whose instruments never go retail. The most popular tests still remain measurements of skill, job

knowledge and personality. Of lesser popularity are interest, situational judgment, values and matching tools. A breakdown of who uses what for whom indicate that Skills is preferred for entry level, Behavioral/Personality for mid- level positions and managers and Motivational, Value, and Simulations for executive selection. The primary applications are as follows: Pre-hiring, onboarding, Development/training, Succession planning/leadership readiness.

So who is likely to come calling with a testing strategy for your company?

The range of size and applications are very different from single test vendors, to a company like SHL which has over 1,000 tests. As mentioned earlier, there are over 15,000 tests in English now. The types of vendors fall into one of the following six categories:

1. Matching Companies - used by recruiters at the job search level.
2. Test Publishers - usually sell off the shelf instruments paper and pencil and on-line.
3. Profilers - usually competency based for a specific positions or departments.
4. Consulting Firms - sell customized solutions and sell test developed by others.
5. Solution Providers - Sell a number of technologies for HCM strategies which may include tests embedded in their other products or produced by vendors they use.
6. Talent Management Firms - Overlap with Solution providers but offer testing as an add on service or maybe a testing company now offering consulting services.

Recently, there has been some consolidation in the testing, Talent Management and major SaaS providers. For example, SAP recently purchased Successfactors for 3.4 billion dollars. Oracle just purchased Taleo for 1.9 billion. SHL has merged with one largest on-line predictive analytics companies, Previsor, to marry the old and new in the testing vertical. They had previously purchased Brainbench to become the world's largest testing company. The oldest company doing a range of talent and selection solutions in Canada is Predictive Index (53 years and counting) however, their head office is in Boston. They are a profiler but require the manager to be trained in the PI and select the competencies. Kenexa has also grown to a very large testing company through acquisition and now are an IBM company.

So finally, who buys the testing solutions? Who are the corporate players that make the call for a provider and do the "due diligence" leading to a decision?

The research indicates a range of decision makers and processes. As the process no longer involves just buying a test but often a system, things have changed along with pricing. A SHL survey of this highly proprietary information says that world-wide, the average cost of a test is with a range of $5 - $40 dollars. Professional and executive on-line testing usually involve a one-off battery and runs into the several hundred dollar range. However, this is a far cry from the $2,000 - $5,000 fees charged by Psychologists in the past. The products are not equal in defense of my profession but on-line testing has changed things. There is still a small market for very individualized testing for executives which is done face-to-face with personalized reporting. This is the way all testing reports started and still is in use for limited hiring.

Back to the purchaser's list, 35% of the decisions are finalized by HR specialists, 15% by functional/line executives, 14% by recruitment companies, and 15% by outside consultants. The process to select now involves many stakeholders making up small teams of decision makers. Only a few public sector companies request formal RFPs and have a vendor or consultant partnership.

The major factor in purchase decision is still listed as ROI by the majority of buyers but few companies have done evaluations of their selection processes and have real data. Typical responses for rejecting a vendor are like, "my profile was off" or "I hired someone who was perfect that the testing didn't support". These are examples of typical decision-making biases of human nature but result in less than accurate selection and shortcuts. Frequently, the HR manager is under the gun and needs an emergency fix. In these situations, speed is prioritized above accuracy. For the hiring manager, it is very observable to not have filled a position in the time allotted, where if the candidate is hired in a hurry but is less than best, it may be months or years to observe these deficits.

Future - 2013 and beyond

So, shall we attempt to predict the future? If only we had an equation to look into the future from what we have measured in the past. If only we had a "super, supercruncher" to help us see what will happen to Talent Management in the future. Experts however, seem to agree on a few things. These trends are based on:

- 35 years of applying psychology in the workplace,
- surveys conducted by research companies on what organizations have planned for their future Talent Management priorities,
- literature available on future applications in trade and academic publications, and
- current trends in business and economics.

Global Trends

Given the well-established phenomena of globalization, sovereign debt plus shortage of talent due to the aging workforce, continued retirement of "Boomers", and the skepticism young business types have of large companies, there following are worthy of mention.

1. The center of international business growth is moving to China, India, Brazil, and Russia to a lesser extent. There will be real competition from these relatively new democracies and collectivistic- post communistic cultures. Older democracies in the North America and Europe will have to face up to the entitlement of its citizens and produce goods more efficiently. This is going to place real pressure of unions and workers to work competitively. The effect on the talent management/testing industry is to help find the cream of the crop to lead this competition challenge with a real global perspective. A recent study by IBM found the top competency of emerging leaders world-wide was "innovation under pressure". Adjust or die.

2. Immigration and foreign employment will increase across global borders as movement of groups to a better life will become commonplace. More North Americans will take solace in other locations to protect their assets and move their highly taxed business to safer places. This will mean testing will have to adapt both at home and abroad in order to produce culturally-relevant instruments with new validation of culture free tests done in the natural context. This may lead to more naturalistic testing done with practical objectives not theoretical or analytical skills that assume intelligence as a trait that is stable and the same for all people. For example, normative data on visual reasoning in collectivistic cultures (e.g. Asian countries) is different when compared to individualistic cultures (e.g. North America).

3. SHL survey of global companies who they service indicates that of the respondents, 21% employed less than 100 people. This is going to require testing/Talent Management companies to learn more about the needs of smaller companies and develop tools that serve this specialty market.

4. Testing globally will require remote technologies that can measure applicant skills etc. using actual work samples e.g. video or simulated role plays, work games and in-box strategies. These will need to be in different languages and over the internet or remote recording devices that can be sent electronically back to a company. This will require re-validating many North American standardized instruments to test other populations. Remote observation will replace face-to-face assessment centers.

North American Trends

1. The promise that HR metrics now have a bigger role in decision-making will grow. However, these technologies need to be integrated more seamlessly into business strategies. HR firefighting will always exist but the tools are here to prevent many hiring emergencies with gap analysis and projections into the future of what the company needs.

2. HR analytics will grow and will require specialized training for many HR professionals who chose this very field to escape numbers. The Big Data has entered many HR decision-making strategies.

3. Companies facing talent shortages will not only want good hires and excellent retention programs (easier to keep them than find them) will start analyzing the sources of talent both external, e.g. universities, job fairs, job board overseas etc. and internal, e.g. what competency did we hire for and how can it be turned into potential for promotion? Performance may take a second seat in some industries trumped by tenure. "They aren't great but loyal". This may lead to identifying only real "bad apples" in the hiring sample rather than top performers who are hard to find and can be recruited away by competitors with more money.

4. Software will be developed to provide local validation studies of testing processes that can be done seamlessly through statistical packages that automatically match performance indices with hiring results. Benchmarks can be configured from the HR metrics already available but not linked. This type of software can be updated annually.

5. The use of social network applications for hiring such as Facebook and Twitter in order to gain applicant data will be short-lived as a hiring strategy as it will show poor predictability and have several serious legal challenges. These networks have not been designed for relevancy to job performance, are merely descriptive inferences, and have a penalizing bias toward users who are overly transparent. However, the use of mobile devices to deliver testing applications will grow as cell phones and tablets replace the computer. 19% of applicants today are requesting such applications. It will grow and be validated by progressive developers.

6. Off-the-shelf testing and hard copy evaluations will become a dinosaur in the digitized world and be continually replaced by on-line applications and remote simulations in a natural context. Applicants will increasingly be asked "to do" and not describe what they think they are capable of doing. This will expand gamification as the replacement for traditional testing both for selection and development purposes.

7. Evidence-based Talent Management strategies will dominate as studies become more public and the cost of hiring mistakes increase in a shrinking talent pool. Companies will be forced to "keep up" to avoid early adopters of Best in Class companies getting all the top talent. Retention analytics will be born to discover why employees choose to stay.

8. Testing will have to develop individualized learning platforms to accommodate the different learning styles of employees who decide to stay. Less academic formal classroom learning will be replaced by e-libraries, internet based training tools and self-paced learning that are tied to competencies and skills.

Canadian Trends

1. The future of US normed tests in Canada will slowly be changed to new Canadian norms by consumer demand. Canadian test manufacturers will emerge with tests to address our cultural differences. Cross-cultural studies show a widening gap in behavior between Americans and Canadians. The US has experienced two culture-changing events in form of 9/11 and the mortgage meltdown. US citizens are slowly being asked to relinquish hard fought rights to privacy, incarceration without a trial and a growing distrust of the governmental process to solve its problems. Canadians are generally different- accepting and less entrepreneurial at work; Canadians are more accepting of our social structure and obligations. A number of tests that have crossed the border will be called into question as using foreign norms will produce errors. The need for local validation studies will increase.

2. The largest growing sector in the Canadian economy will be small businesses that have less than 20 employees. They are starting to hire more people than their larger counterparts. Many younger workers prefer this work-setting and testing/Talent Management companies need to address these needs. Small numbers may require transporting validation studies between similar companies after their overlap has been rigorously measured. The latest poll by StatsCan indicates that 98% of all Canadians businesses have 100 employees or less. This has been an overlooked market to date but will grow.

3. Large providers of HRMS and Talent Management "one stop shopping " services and products will need to become more flexible and adjust to changing corporate priorities and staff users. This may require unbundling their offerings and including more options for users who are afraid of being locked into a system that has an uncontrollable domino effect. This complaint has started to surface with platforms that try to do it all and surround

a company with a solution that is too inflexible. They need to be more inclusive to other vendors and applications that are more advanced or cost-effective.

4. The Canadian economy is stabilizing and in British Columbia, a recent survey by BC HRMA in 2012 indicates the most important areas to HR people for the next few years are: 1) Leadership capability, 2) Employee engagement, 3) Attraction and retention of new staff and, 4) Succession Planning. Half of the surveyed companies plan increases its staff and a 30% budget increase. The largest single area to increase will be recruitment and selection costs. 16% reported this as their top priority with the majority ranking it in their top 3. This forecasts a market increase in buying to replenish staff after 3 years of decrease or plateauing. Many have added strategic workforce planning to their scope.

Conclusions

Testing and Talent Management strategies have had a slow down for a few years after a mad rush to implement hundreds of new products and services following the computer/internet revolution. The history of the last few years has led to a commoditization of tests or the opposite, customized solutions, which is not unusual as markets grow and competition increases. These are opposite directions and have produced many choices and options for a company and have resulted in much complexity and confusion. Processes that once where the domain of Ph.D level Industrial Psychologists are now available to many HR professionals and consultants. For some, the original science was of little importance as long as it was inexpensive and gave the appearance of rigor and doing something more than interviewing and reading resumes. A little knowledge did not go too far in the long run as profiles begin to stack up for hiring managers who have little time and training to make accurate hiring decisions.

HR professionals are very busy people and change positions frequently in their career movement. This has led to a preference for speed to hire instead of accuracy. Sometimes, this leads to poor follow-up on solutions that were started but not fully integrated. There are and have always been other alternatives that are better at predicting performance but in the early days, they were expensive with significant up front development fees. All this has changed as this same service can now be provided for a fraction of what it cost in the 80's and even the 90's. However, there has been consolidation in the HR world with test companies being gobbled up by large ERP/HRMS companies with budgets to promote their selection technologies (regardless of whether they have good science behind it or not). They are trying to be a "one stop provider" and can hook clients into new technologies as a captive audience.

Companies are going to start hiring again and will be facing talent shortages and a very competitive landscape from overseas companies with lower labor costs. Each hire must count now with little room for error or wasted effort. The Best in Class companies who are reaching their goals even in a tough economy are buying the 4 C's which include, Customization, Competency benchmarking, Consistently measuring and evaluating at each step, and Continually updating their processes. These solutions need to be adapted for small businesses as well as multinational corporations. This is a next generation talent management prescription including testing as the best predictor of performance and identifying internal and external talent to fill future needs. The talent pool is shrinking so some will succeed and attract, select quality hires and retain them. Others will fall even farther behind. That is the challenge ahead.

If adding more selection science, improving your quality of hire and succession planning are part of your strategic planning, contact us today to speak to Martin or Jason at 1-877 Hire PHD (447-3743) or e-mail info@phdassessments.com.