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Productivity in Accountancy

1. Overview of the Accountancy Sector in Singapore

The accountancy sector comprises two groups - the Accounting & Finance (A&F) function of organisations and the Public Accounting (PA) firms. Figure 1 shows the overall productivity for A&F functions and PA firms respectively.

Singapore's Accountancy Sector directly contributed an estimated 36% to the 2010 Gross Domestic Product (GDP). More than 1.3 billion was generated in annual operating receipts at a Compound Annual Growth Rate (CAGR) of 6%. Services exports accounted for 24% of the amount. National productivity is largely a result of efforts by the sector's main segments, Public Practice and Corporate.

The Public Practice segment, regulated by Accounting and Corporate Regulatory Authority (ACRA), has over 11,000 workers who provide services such as audit and assurance services, tax preparation, and basic accounting services. Most of the individuals hold professional skilled jobs.

Typical accountants in the corporate segment hold accounting and finance roles, such as internal auditors, Chief Financial Officers (CFOs), and tax professionals. Found in all industries, the estimated 37,000 workers promote growth while covering services and manufacturing.

The Committee to Develop the Accountancy Sector (CDAS) in Singapore submitted a final report in April 2010 outlining three strategic thrusts designed to make Singapore a leading Asia-Pacific region global accountancy hub by 2020. The first step envisions Singapore as a significant global centre for talent, in accountancy, thought leadership, education, and professional development. The next step, recognition as a leading centre for high value-adding professional accountancy services, is finalised by a focus on the nation's strong accountancy sector's infrastructure and institutions.

| A&F Functions – Performance Metrics | | Average | | | | Top 25% | |
|-------------------------------------|--|-------------------|-----------|------|------|-------------------|-----------|
| | | Global Peer Group | Singapore | | | Global Peer Group | Singapore |
| | | 2014 | 2014 | 2013 | 2012 | 2014 | 2014 |
| Business Efficiency | Average time taken to close Annual Books (days) | 18.5 | 24.0 | 27.9 | 20.1 | 8.0 | 10.0 |
| | Average time taken to close Quarterly Books (days) | 9.1 | 13.2 | 14.6 | 11.2 | 5.0 | 5.3 |
| Labour Efficiency | Revenue per Finance Full-Time Equivalent (\$'Ms) | 11.5 | 11.4 | 11.4 | 7.9 | 23.0 | 20.0 |
| | Total cost of the Finance team (% of revenue) | 0.93 | 0.94 | 0.96 | 0.80 | 0.45 | 0.35 |
| Working Capital Efficiency | Cash Conversion Cycle (days) | 54.2 | 78.0 | 72.7 | - | 19.2 | 25.2 |
| | Days in Inventory (days) | 62.8 | 55.6 | 56.7 | - | 29.5 | 14.7 |
| | Days Sales Outstanding (days) | 44.9 | 54.1 | 56.8 | 47.5 | 30.0 | 30.0 |
| | Days Payable Outstanding (days) | 42.9 | 51.2 | 52.0 | 45.2 | 59.0 | 60.0 |
| | Receivables Overdue (%) | 11.5 | 21.4 | 20.8 | 20.2 | 3.0 | 6.5 |

Ranking: ■ Significantly worse than Average ■ Average ■ Significantly better than Average ■ Top 25% (First quartile)

Figure 1: Overall Productivity for A&F Functions

Source: 3rd ISCA Productivity Scorecard and Benchmarking Survey Report for the Accountancy Sector in Singapore, May 2015

| Performance Metrics | | Average | | | | Top 25% | |
|---|--|-------------------|-----------|------|-------|-------------------|-----------|
| | | Global Peer Group | Singapore | | | Global Peer Group | Singapore |
| | | 2014 | 2014 | 2013 | 2012 | 2014 | 2014 |
| Revenue | Revenue per Employee (\$'000s) | 238.1 | 82.4 | 73.0 | 139.0 | 262.1 | 100.0 |
| Business Effectiveness | Operating Margin (%) | 19.8 | 19.4 | 19.3 | 19.7 | 24.9 | 28.3 |
| | Proposal Conversion Rate (%) | 56.3 | 62.5 | 62.6 | 58.5 | 80.0 | 80.0 |
| | Proposal Request to Delivery Cycle Time (days) | 32.1 | 23.6 | 33.2 | 38.2 | 5.0 | 5.5 |
| Labour Efficiency | Cost of Services (% of revenue) | 52.3 | 51.1 | 53.2 | 45.3 | 39.6 | 37.2 |
| | SG&A Expenses (% of revenue) | 24.1 | 27.8 | 26.6 | 29.6 | 10.2 | 12.0 |
| | Revenue per IT FTE (\$'M) | 7.6 | 4.8 | 4.8 | 2.6 | 17.0 | 8.5 |
| | Total Operating Expenses, including COS (% of revenue) | 81.7 | 63.8 | 64.9 | - | 76.6 | 48.7 |
| | Average Number of Training Hours per Employee | 51.4 | 41.4 | 30.3 | 31.1 | 60.0 | 48.0 |
| | Employee Turnover (%) | 33.3 | 23.3 | 24.4 | 31.9 | 20.0 | 10.0 |
| | Time to Hire (days) | 36.0 | 38.0 | 39.4 | 38.5 | 30.0 | 27.8 |
| Total Compensation (% of operating expense) | 57.7 | 57.7 | 55.6 | - | 42.6 | 48.0 | |

Ranking: ■ Significantly worse than Average ■ Average ■ Significantly better than Average ■ Top 25% (First quartile)

Figure 2: Overall Productivity for PA Firms

Source: 3rd ISCA Productivity Scorecard and Benchmarking Survey Report for the Accountancy Sector in Singapore, May 2015

Accounting and Finance (A&F) functions grow stronger by using the following practices. Responses from 171 representatives of respective A&F functions of their organisations indicate the percentage of companies using each practice.






| Best Practice | Adoption | For those that practise this, they enjoyed benefits of... |
|--|--|--|
| Availability of comprehensive audit trail information to ensure compliance | 73% of Singapore organisations practise this |  9.2% - 12.1% Lower Days to Close Annual Books |
| The A/R system is fully integrated to the billing system so that the appropriate open item is immediately generated and at the same point in time as the customer bill | 65% of Singapore organisations practise this |  6.1% - 33.0% Lower Receivables Overdue |
| Budgeting and forecasting is a continuous loop process of planning, measuring and simulation that relies on up-to-date insight from multiple functions and regions | 59% of Singapore organisations practise this |  22.3% - 29.9% Lower SG&A Expenses |
| Finance leadership has access to a financial cockpit and/ or dashboard that provides a timely view into pre-defined set of key metrics (such as sales information on a daily basis) | 50% of Singapore organisations practise this |  7.6% - 35.6% Higher Revenue per Employee |
| The report generation is automated for standardised reports and can be accessed by employees outside of the finance function | 30% of Singapore organisations practise this |  12.2% - 26.5% Lower Days to Close Quarterly Books |

Figure 3: A&F function – Best Practices in Technology Adoption

Source: 3rd ISCA Productivity Scorecard and Benchmarking Survey Report for the Accountancy Sector in Singapore, May 2015

Fully integrated accounts receivable system to billing system (65%). The applicable open item is generated at the same time as the customer's bill, resulting in 6.1% - 33% fewer overdue receivables. Comprehensive audit trail information is available, ensuring compliance (73%). This practice saves between 9.2 – 12.1 days to close annual books.

Continuous loop process of measuring, planning, simulation, budgeting and forecasting is another practice. The process depends on current insight from many regions and functions (59%). This practice results in lower selling, general & administrative (SG&A) expenses of 22.3% - 29.9%. Access to a financial cockpit and/or dashboard is provided to finance leadership (50%). The timely view of pre-defined sets of key metrics, such as daily sales data, results in higher revenue per employee of 7.6% - 35.6%.

Automated standardised report generation (30%). Accessibility to the reports by employees outside of the finance function resulted in 12.2% - 26.5% less days to close quarterly books.

2. Challenges of the Accountancy Sector

Based on the survey conducted by Singapore Accountancy Commission (SAC), Association of Chartered Certified Accountants (ACCA) and Institute of Singapore Chartered Accountants (ISCA) in 2013, three challenging areas of implementing accounting and finance productivity were noted in firm of difference sizes: **readiness at the firm and management level, staff-level readiness, and development and training.**



The accountancy sector voiced concern about salaries insufficient for required duties and knowledge and limited positions ensuring career progression. Suggestions to improve productivity included a better balance between work and life, such as flexible work schedules, more recognition in the form of financial rewards, and beneficial on-the-job training.

Three additional top concerns at a higher level of accountancy included issues affecting organisational strategy, competency of finance staff, and the ability to attract and retain talent. Suggestions offered to increase productivity included staff continuity, structured external training courses for staff, and the adoption of better technology to reduce or eliminate data input duplication.

Small and Medium-sized Practice (SMP) survey respondents suggested external structured staff training, as well as better continuity of staff resources and an increase in guidance regarding the best practices for staff.

Additional suggestions for overcoming the challenges facing today's accounting companies, firms, and individuals include a greater adoption of technology, support from the government, and support from upper level management.

3. Enablers & Disruptive Technologies

3.1 Making and Measuring Accounting Productivity

Even though accountancy measures business value, honesty and productivity, there are few established steps to measure accounting itself. Firms have the task of creating guidelines to measure their own worth so they can recognise areas in which they excel or need improvement.

Themis Suwardy, Associate Professor of Accounting (Practice) and Master of Professional Accounting Programme Director, Singapore Management University School of Accountancy, stated that Singapore is looking at benchmarks used by other businesses around the world, including the comparison of “cost to sales”. It uses the percentage of total finance costs (internal staffing costs and any cost from outsourcing) over a business’s total revenue or sales. The accounting function global benchmark is slightly less than 1%.

A recent study by the PWC-ACCA (Price Waterhouse-Association of Chartered Certified Accountants) showed 41% of Singapore businesses were within the benchmark. The tendency to measure more factors than necessary to discover how to justify, reduce, or increase costs and/or services must be stopped before it results in confusion and endless discussion and studies of things that really have no effect on accounting practices.

It is more practical for each business to list what, why, when and how a step is measured. Once the steps are determined, they should be weighed for value and importance. What factors, such as updated and/or new software programs or changes in procedures, would benefit the client and the reporting process? The performance metrics used for their clients can be adapted to establish parameters for their own measurement of and place in the global benchmark.

3.2 Cloud Computing

An adequate internal system and established methods of evaluation lets CFOs access each department’s data and compare it to information received from external sources. The market data allows preparation for disruptive competition and helps accounting firms work more effectively using cloud computing, practice management software, and mobile working. Outsourcing and a minimised paper trail also cut costs.

Cloud computing increases the efficiency of work processes and allows work to be performed from any area with internet access. Data analytics improves audit quality. Accountants add value to the work done for their clients and their effectiveness at work.

3.3 Use of Technology Tools for Auditing

Norman Marks, retired Chief Audit Executives (CAEs) and author of World-Class Internal Audit and World-Class Risk Management noted that more internal audit departments are making productive use of analytics, including forms of continuous auditing and risk monitoring, to enhance the value and efficiency of their work. A comparison of survey responses from Global Internal Audit Common Body of Knowledge CBOK 2006 and CBOK 2015 shows increases in the use of technology tools for nearly all measures, particularly in the use of data mining (increased by 14%). Figure 4 shows the increase in the use of technology tools by internal audit.

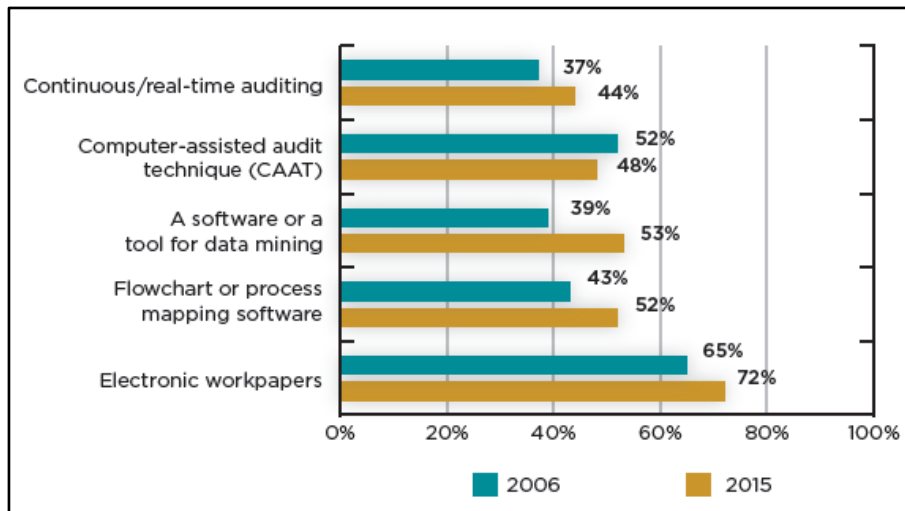


Figure 4: Increase in Internal Audit Use of Technology Tools

Source: www.theiia.org/goto/CBOK

3.4 Advances in tax software

According to the Institute of Chartered Accountants of Scotland (ICAS), tax software can help accountants find new business and improve efficiency. The use of software improves efficiency such as letting accountants set custom alerts, for example, for when a client's distributable reserves drop below a particular amount. Tax software can also be used to identify anomalies in data which require further investigation and reporting errors as they occur. The idea is to help users correct errors before they submit tax returns. Tax software also provides a "what if" function to help accountants imagine different tax scenarios for tax planning.

Tax software can also help accountancy firms find new business through the use of data mining to target clients, for example, those over a certain age in a certain area and with property income over a certain amount.

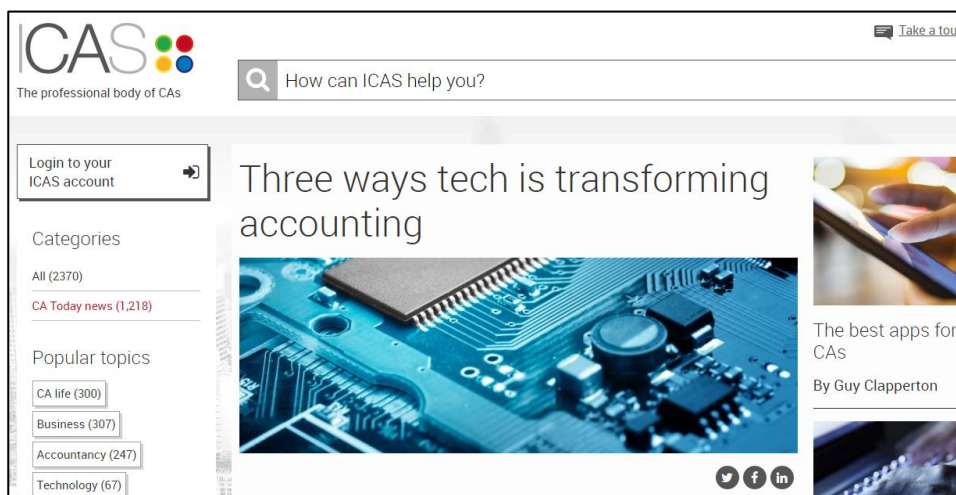


Figure 5: Transforming accounting through Cloud Computing, Tax Software and Mobile Working

Source: <https://www.icas.com/ca-today-news/three-ways-technology-is-changing-accounting>

3.5 Mobile Working

There is a growing trend to access tax and accounting data via mobile working. It is useful to access tax and accounting data remotely. Small business clients are able to record expenses on the go, check their financial data and manage their accounts from their mobile device. This facilitates communication with their client.

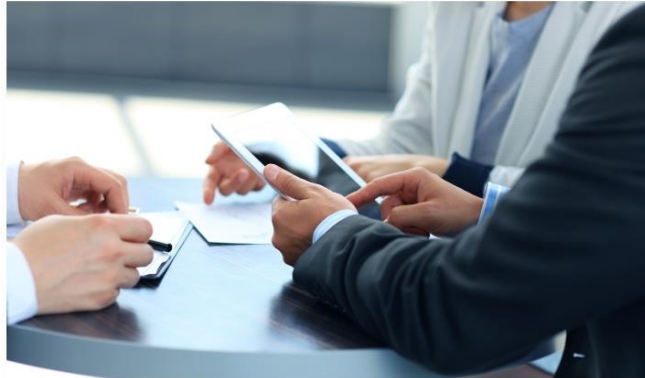


Figure 6: Mobile Working

Source: <https://www.icas.com/ca-today-news/three-ways-technology-is-changing-accounting>

Case Study

4.1 Case Study: Singapore - Case Study Local (Singapore): CA Trust Pac More Efficiency through the Use of Cloud Computing

CA Trust PAC is an independent member of TGS Global Network Limited, an international network of professional business advisors. The government encourages different sectors of Singapore businesses to implement improvements in business practices.

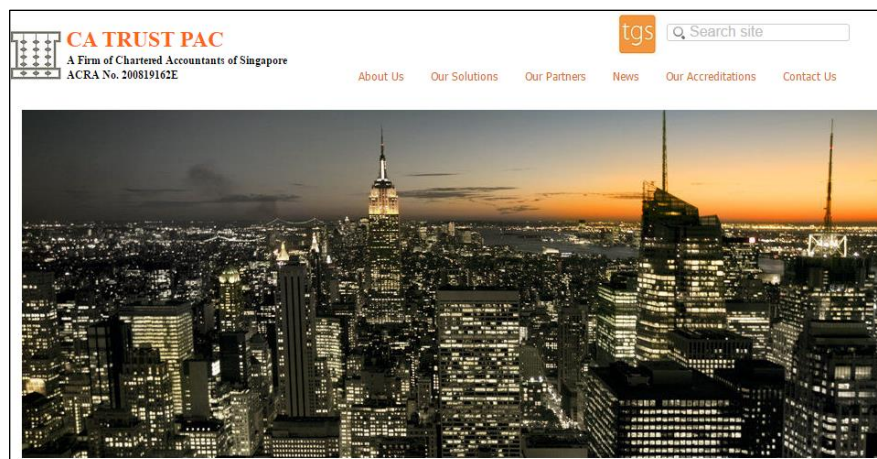


Figure 8: CA Trust PAC

Source: <http://www.casingapore.org>

Mr. Paul Tan, a founding member of CA Trust Pac, recognised the need to streamline manual work processes so his staff had more time to address client needs. The adoption of iFirm, a cloud based practice management software, has produced better tracking of profitability and resource allocation. The government is subsidizing the platform's implementation through Infocomm Development Authority's (IDA) Software-as-a-Service (SaaS) Solutions Call-for-Collaboration (CFC) initiative.

Mr. Tan became aware of the software through seminars organised by the Institute of Singapore Chartered Accountants. It offered improved productivity for accountancy and other sectors. The cloud-based iFirm practice management software demonstrated the ability to effectively track time spent on engagements and profitability. The software provides a centralised client database and assists in the preparation of responses to clients.

The cloud-based iFirm software benefits the company's mobile auditors. They can access records and forms away from the office. Automated work processes include automatic email notifications to designated staff and partners regarding manpower utilisation and capacity planning. Early assessment of faster notice to supervisors and managers indicates they can take steps to handle issues or problems caused by changes. The program handles much of the work of a full-time accountancy staff, permitting the technical staff to concentrate on technical rather than administrative work.

4.2 Case Study Global (United States) - The New Bookkeeper Is a Robot

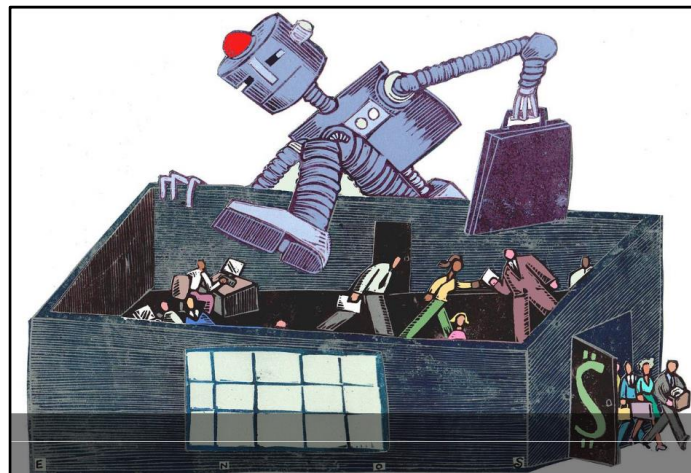


Figure 9: The new bookkeeper is a robot

Source: <http://www.wsj.com/articles/the-new-bookkeeper-is-a-robot-1430776272>

Big companies in the United States have been trimming full-time finance department employees since 2004. The consulting firm Hackett Group reports the numbers have dropped from 119 for every billion dollars of revenue to approximately 71 employees. The 40% decrease lowers staffing costs and saves time. At one time the jobs were sent to less costly employees in other countries. Now software has made it less expensive to let robots replace humans in blue collar and white collar jobs.

Robots can be programmed to do the work of accounts-payable and accounts-receivable clerks at a faster rate than humans. They do not require a break, lunch-hour, or vacation. A robot takes, tracks, and processes payment for tens of thousands of orders at Pilot Travel Centers. The work previously required 80 people to get the job done, now requires just 10 individuals to pay goods and services suppliers.

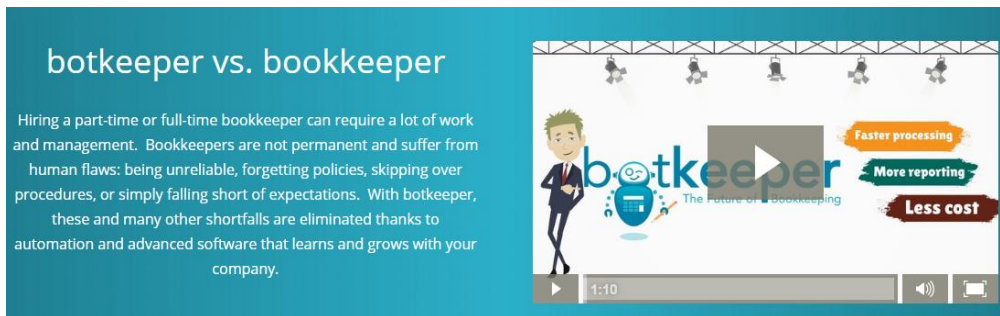


Figure 10: Botkeeper - automation and advanced software

Source: <https://www.botkeeper.com/>

Companies continue to justify costs as they compete for customers, even in the area of accountancy. Humans will never compute as swiftly as robots, but they do have one feature that software and robots will never achieve – humanity. Customer service is a high concern for any business seeking success in today's economy, regardless of their global location. Clients want to deal with an actual person with attributes like kindness, compassion, and concern. Until that desire goes away, there will be room in the accounting field for this type of skill.

5. Possible Immediate Actions

5.1 Prepare Your Business for Digital Disruption

Digitally disruptive technologies and processes are challenges for the accounting industry, which must be prepared to take advantage of the good things it provides. Success depends on leadership with the forethought to demand changes in thinking, diversification, and client engagement. Each firm must determine its ability to survive ongoing change before calculated moves are set into place. Harnessing technology's power and adapting it to keep accountancy methods ahead of client needs and demands is a boon for forward-thinking companies.

Clients are aware of and using technology more every day. Failure to meet or exceed their expectations will send them elsewhere. Think of services your company can offer for needs clients are still unaware they have. Evaluate them carefully before offering them to others.

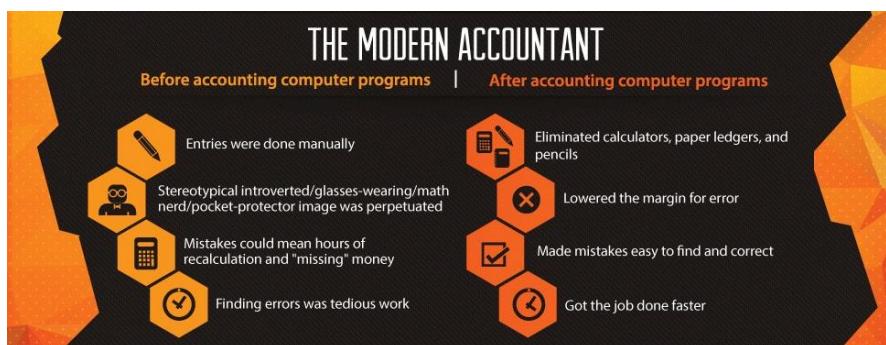


Figure 7: The Modern Accountant

Source: <http://www.accounting-degree.org/technology/>

5.2 The following are eight important steps for digital disruption:

1. Discover what type of change works best for your business. There is no need to imitate competitors.
2. Calculate the return on technology decisions. A fairly accurate estimate should be provided by company that developed and is selling the software.
3. Get the best use of implemented solutions by holding the software providers accountable for training and support.
4. Actively search for relevant software and technology providers who offer the most value for your clients and your business.
5. Explain the changes in technology and the decisions for implementation to clients. Outline the things that will benefit them.
6. Enact steps to help your company succeed. Do not rely on your competition to show you the path to future achievement.
7. Think about future steps by using what you've learned as other businesses fail or succeed.
8. Put clients first by making sure the technology you use is for their ultimate benefit, not yours. Digital disruption should create a better customer

Productivity in the accounting industry is subject to digital disruption and can be used to make a huge, positive difference in accountancy's future. Fear and future phobia must first be eliminated. Leaders can disrupt themselves by stepping away from current practices and questioning their future effectiveness. Diversity and differentiation are ways to move beyond the competition while changing the future of operations.

Recommended Readings

| | |
|--------------|---|
| Title | News Technology |
| Published by | CFO Innovation |
| Website | http://www.cfoinnovation.com/topics/technology |

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| Title | Accounting Technology |
| Publish by | Accounting Today |
| Website | http://www.accountingtoday.com/accounting-technology/ |

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|---------------------|---|
| Title | The robots are coming? Implications for financial shared services |
| Published by | The Association of Chartered Certified Accountants (ACCA). |
| Year of Publication | 2015, September 9 |
| Website | http://www.accaglobal.com/uk/en/technical-activities/technical-resources-search/2015/september/robots-and-the-future-of-finance.html |

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