Using real company data to enhance the student learning experience

CAAA Annual Conference 2017

Anna Czegledi

School of Business, Conestoga College, Kitchener, Canada, Aczegledi@conestogac.on.ca
Agenda

• Employer skills requirements for accounting graduates
• Real Data and Fidelity concepts
• Study on using real data with accounting students
• Roundtable discussion: “Your experience using real data in teaching”
• Examples of real data for in classroom use
Real Data

• Real data or “Real Companies Financial Data” – Internal or External information created by organization for internal or external users/stockholders.

• For example MDA, Financial Statements, Notes to Financial Statements for Manulife Financial published on company’s website.
Employer skills requirements for accounting graduates

- Hart Research Associates (2013) conducted a survey among over 300 employers of their new hires.
- Over 75% of surveyed employers recommended that educators place more emphasis on helping students develop *applied knowledge in a real world setting and complex problem solving*.

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Employer skills requirements for accounting graduates

- Finding accounting and finance professionals with business analytics skills is difficult.

- 90% of managers reported difficulties hiring staff with business analytics expertise.

Robert Half “Building a Team to Capitalize on the Promise of Big Data 2016”, 2016
High Demand Skills for Accounting Professionals

- Identifying key data trends
- Data mining and extraction
- Operational analysis
- Technological acumen
- Statistical modeling and data analysis

Question

In your opinion which other skills may be required by employers for accounting graduates?
Key learning outcomes for Accounting Graduates

- Critical Thinking
- Complex problem solving
- Written and oral communication
- Location, organization, evaluation of information from multiple sources
- Applied knowledge in real world setting

Surface Learning vs Deep Learning

Surface Learning
- Students focus on memorizing information

Deep Learning
- Change student's frame of reference
Surface Learning vs Deep Learning

Surface Learning
- Students focus on memorizing information
- Passive
- Anxiety and Dissatisfaction

Deep Learning
- Change student’s frame of reference
- Active Learning Using Real Data and Cases
- Achievement and Satisfaction

Using Real Data and Fidelity Concept

- Fidelity concept is consistent with the theory of Deep Learning
- Fidelity concept is not new and was used for many years for pilots, nurses and nuclear reactor operator trainings (Hertel & Millis, 2002).
- Fidelity is “the degree to which a simulation replicates reality” (Alessi, 2000, page 203)
Question

In your opinion, if we bring more real data to classroom how it will impact students?
For example using real company Financial Statements
Benefits of Using Real Data in Teaching

- Could bring more fidelity/realism to classroom
- Requirement from future employers - could help to close the gap between practice and school
- Increased Learning Engagement and Satisfaction

- Safe environment to practice without concern of damaging financial results
- Could help students to visualize business situations
- Increased Confidence and Decreased Anxiety
Question

What could prevent us from using real data in teaching?

What challenges may we face?
Challenges of Using Real Data in Teaching

Access to real data
- Companies websites
- Silqe database

Limited students experience with real data
- Include real data to teaching and assessment

Volume of information
- Help students to focus on relevant information

Real Data format vs textbook examples format
- Include real data to teaching and assessment
Using Real Data in Teaching - Our Study

Undergraduate Accounting students (fourth year) had used real companies’ financial information to complete their assignment.

- Review and Analyse real data
- Prepare forecast and competitors analysis
- Present results to the Board of Directors
- Students Survey
Sources of Real Data

- Website examples
Sources of Real Data

- Silqe Inc.
Comments from Students

“Real company data differs so greatly from textbook examples that it would be such a shock to see real info in the work place”

(Study participant – undergraduate accounting student)
Using real company financial data as a part of this assignment had increased my learning engagement.
Using real company financial information as a part of assignment increased my learning satisfaction

- Disagree: 4%
- Neutral: 15%
- Agree: 81%
Using real company financial information increased my confidence in moving from school to work/industry.
Comments from Students

• “Using real life data allows me to translate classroom material to real life situations”

• “It gives me more confidence. I felt like working on an office project”

• “I really enjoyed using real data and believe it will help me in my career more than fictional examples and cases would”

• “This approach is much more effective in facilitating learning”
Roundtable discussion

Your experience using real data in teaching

• Discuss in your group: “How you are using real data in teaching or may use it in the future “— 20 minutes

• Each group will be asked to share your best ideas with other participants.
Roundtable discussion

Your experience using real data in teaching

• Think about how you can use Real Data in your teaching
• Write down your ideas
• 5 minutes
Roundtable discussion

Your experience using real data in teaching

- Pass your paper to the person on your right
- Review ideas how to use Real Data in teaching
- Add how to improve/make this idea better.
- 3 minutes
Roundtable discussion

Your experience using real data in teaching

• Repeat
• Pass your paper to the person on your right
• Review ideas how to use Real Data in teaching
• Add how to improve/make this idea better.
• 3 minutes
Roundtable discussion

Your experience using real data in teaching

• Summarize your ideas as a group
• Take your ideas on board/paper, group them and prioritize them
• 7 minutes
Roundtable discussion

Your experience using real data in teaching

• Each group – please share your best idea with other participants
• 10 minutes
Examples of real data for in classroom use

**Financial Accounting**
- Application of new IFRS standards

*Note 2 Accounting and Reporting Changes*

(a) Changes in accounting policy

(I) Amendments to IAS 16 "Property, Plant and Equipment" and IAS 38 "Intangible Assets"
Effective January 1, 2016, the Company adopted the amendments issued in May 2014 to IAS 16 "Property, Plant and Equipment" and IAS 38 "Intangible Assets". These amendments were applied prospectively. The amendments clarified that depreciation or amortization of assets accounted for under these two standards should reflect a pattern of consumption of the assets rather than reflect economic benefits expected to be generated from the assets. Adoption of these amendments did not have a significant impact on the Company’s Consolidated Financial Statements.

(II) Amendments to IAS 41 "Agriculture" and IAS 16 "Property, Plant and Equipment"
Effective January 1, 2016, the Company adopted the amendments issued in June 2014 to IAS 41 "Agriculture" and IAS 16 "Property, Plant and Equipment". These amendments require that "bearer plants" (that is, plants used in the production of agricultural produce and not intended to be sold as a living plant except for incidental scrap sales) should be considered as property, plant and equipment in the scope of IAS 16 and should be measured either at amortized cost or revalued amount with changes recognized in OCI. Previously these plants were in the scope of IAS 41 and were measured at fair value less cost to sell. These amendments only apply to the accounting requirements of a bearer plant and not agricultural land properties. The Company chose to carry bearer plants at amortized cost. Adoption of these amendments did not have a significant impact on the Company’s Consolidated Financial Statements.

(III) Amendments to IFRS 10 “Consolidated Financial Statements”, IFRS 12 “Disclosure of Interests in Other Entities”, and IAS 28 “Investments in Associates and Joint Ventures”
Examples of real data for in classroom use

Financial Accounting/Audit/Finance

- Financial Results (ratios calculations/analysis)
Examples of real data for in classroom use

**Financial Accounting/Audit/Finance**
- Financial Results (Supplemental Information) - Excel format

![Excel spreadsheet showing shareholder value and financial results](image-url)
Examples of real data for in classroom use

**Financial Accounting**
- Segmentation reporting - Earning/Analyst call
Examples of real data for in classroom use

Financial Accounting

- Segmentation reporting - Earning/ Analyst call

Sun Life Financial
Q4 BUSINESS GROUP PERFORMANCE
Q4 2016

UNDERLYING NET INCOME
(C$ millions)

- CAN: 269, 243
- US: 158, 87
- AM: 163, 188
- ASIA: 52, 62

Strong sales in Individual Insurance and Wealth and GRS driving new business gains
Continued investment in Individual Wealth

OPERATING NET INCOME
(C$ millions)

- CAN: 200, 390
- US: 163, 121
- AM: 163, 168
- ASIA: 73, 59

MFS earnings were higher driven by an increase in average net assets partially offset by the impact of foreign exchange
Net outflows of US$9.5 billion at MFS
Net inflows of $2.3 billion at Sun Life Investment Management

Favourable investing activity and credit experience
Unfavourable morbidity experience in Group and mortality experience in In-force Management

Business growth across the region
Higher levels of investment in projects and initiatives
Examples of real data for in classroom use

**Corporate Finance**

- Dividends policy
Examples of real data for in classroom use

Cost/Financial Accounting
• Compensation - City of Kitchener

<table>
<thead>
<tr>
<th>Position</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Administrator</td>
<td>$102,228.00</td>
</tr>
<tr>
<td>1st Class Fire Fighter</td>
<td>$100,962.64</td>
</tr>
<tr>
<td>YN Manager, Service Coordination &amp; Improvement (Finance &amp; Corporate Service)</td>
<td>$102,679.37</td>
</tr>
<tr>
<td>Manager, Arts &amp; Culture</td>
<td>$101,678.10</td>
</tr>
<tr>
<td>Supervisor, Golf Grounds</td>
<td>$106,415.27</td>
</tr>
<tr>
<td>Captain</td>
<td>$125,162.96</td>
</tr>
<tr>
<td>1st Class Fire Fighter</td>
<td>$100,962.62</td>
</tr>
<tr>
<td>Supervisor, Operations (Sewers)</td>
<td>$108,137.13</td>
</tr>
<tr>
<td>Supervisor, Operations (Technical)</td>
<td>$105,772.75</td>
</tr>
<tr>
<td>Utilities Engineer</td>
<td>$117,760.20</td>
</tr>
<tr>
<td>EI Manager, Cemeteries</td>
<td>$102,693.66</td>
</tr>
<tr>
<td>1st Class Fire Fighter</td>
<td>$108,982.40</td>
</tr>
<tr>
<td>Interim Director, Facilities Management</td>
<td>$110,254.77</td>
</tr>
<tr>
<td>Supervisor, Corporate Security</td>
<td>$100,838.36</td>
</tr>
<tr>
<td>Director, Revenue &amp; Deputy City Treasurer</td>
<td>$139,717.94</td>
</tr>
<tr>
<td>Interim Executive Director, Infrastructure Services</td>
<td>$103,601.11</td>
</tr>
<tr>
<td>Manager, Kitchener Market</td>
<td>$102,286.86</td>
</tr>
<tr>
<td>Manager, Financial Planning</td>
<td><strong>$117,267.67</strong></td>
</tr>
<tr>
<td>Manager, Waterloo Region Small Business Centre</td>
<td>$103,601.11</td>
</tr>
<tr>
<td>Manager, Kitchener Market</td>
<td>$102,286.86</td>
</tr>
<tr>
<td>Interim Executive Director, Infrastructure Services</td>
<td>$139,553.13</td>
</tr>
</tbody>
</table>

*Manager, Financial Planning* highlighted to indicate the focus on financial data.
Examples of real data for in classroom use

Cost/Financial Accounting

- Compensation - Robert Half “Finance and Accounting” recruitment agency
Examples of real data for classroom use

## Financial Accounting

**GRAND RIVER HOSPITAL CORPORATION**

Statement of Financial Position  
(Expressed in Thousands of Dollars)  
March 31, 2015, with comparative information for 2014

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current assets:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash (note 2)</td>
<td>$36,871</td>
<td>$36,334</td>
</tr>
<tr>
<td>Accounts receivable (note 3)</td>
<td>23,128</td>
<td>24,620</td>
</tr>
<tr>
<td>Inventories</td>
<td>3,584</td>
<td>2,734</td>
</tr>
<tr>
<td>Prepaid expenses</td>
<td>3,698</td>
<td>2,670</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>67,281</td>
<td>66,358</td>
</tr>
<tr>
<td>Capital assets (note 4)</td>
<td>188,017</td>
<td>180,635</td>
</tr>
<tr>
<td>Accrued pension benefit asset (note 5)</td>
<td>31,933</td>
<td>29,054</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>$287,231</td>
<td>$276,047</td>
</tr>
</tbody>
</table>

Examples of real data for in classroom use

Cost/Managerial Accounting

- Scorecard – City of Kitchener Scorecard

MONTHLY FINANCIAL INDICATOR DASHBOARD
As at December 31, 2016

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Comparison to Benchmark</th>
<th>Trend from Prior Month*</th>
</tr>
</thead>
<tbody>
<tr>
<td>By-law Tickets Issued</td>
<td>Green</td>
<td>↓</td>
</tr>
<tr>
<td>Sportfield Hours Booked</td>
<td>Green</td>
<td>↓</td>
</tr>
<tr>
<td>Average Interest Rate</td>
<td>Green</td>
<td>↑</td>
</tr>
<tr>
<td>Average Investment Balances</td>
<td>Green</td>
<td>↑</td>
</tr>
<tr>
<td>Fuel Price</td>
<td>Green</td>
<td>↓</td>
</tr>
<tr>
<td>Fuel Consumption</td>
<td>Yellow</td>
<td>↓</td>
</tr>
</tbody>
</table>
Examples of real data for in classroom use

**Cost/Managerial Accounting**

- Budget City of Kitchener

<table>
<thead>
<tr>
<th>EXPENSES</th>
<th>2015 Budget</th>
<th>2016 Budget</th>
<th>$ Variance</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries</td>
<td>72,884,927</td>
<td>74,422,657</td>
<td>1,737,730</td>
<td>2.39%</td>
</tr>
<tr>
<td>Wages</td>
<td>29,479,485</td>
<td>31,084,781</td>
<td>1,605,296</td>
<td>5.45%</td>
</tr>
<tr>
<td>Administrative Expenses</td>
<td>6,873,928</td>
<td>6,016,492</td>
<td>(857,436)</td>
<td>-12.47%</td>
</tr>
<tr>
<td>Equipment Reserve Charges</td>
<td>7,863,660</td>
<td>7,960,316</td>
<td>96,656</td>
<td>1.23%</td>
</tr>
<tr>
<td>Boards</td>
<td>11,669,505</td>
<td>12,173,548</td>
<td>504,043</td>
<td>4.32%</td>
</tr>
<tr>
<td>Debt Expense</td>
<td>4,619,506</td>
<td>4,700,309</td>
<td>80,803</td>
<td>1.75%</td>
</tr>
<tr>
<td>Materials &amp; Supplies</td>
<td>5,320,105</td>
<td>5,340,532</td>
<td>20,427</td>
<td>0.38%</td>
</tr>
<tr>
<td>Professional &amp; Contract Services</td>
<td>3,138,961</td>
<td>3,102,929</td>
<td>(36,032)</td>
<td>-1.15%</td>
</tr>
<tr>
<td>Rentals &amp; Leases</td>
<td>1,814,240</td>
<td>1,951,705</td>
<td>137,465</td>
<td>7.58%</td>
</tr>
<tr>
<td>Grants Paid</td>
<td>3,063,119</td>
<td>3,210,544</td>
<td>147,425</td>
<td>4.81%</td>
</tr>
<tr>
<td>Promotional Costs</td>
<td>482,814</td>
<td>460,704</td>
<td>(22,110)</td>
<td>-4.58%</td>
</tr>
<tr>
<td>Purchases of Gas/Water/Sewer</td>
<td>15,000</td>
<td>15,000</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Repairs &amp; Maintenance</td>
<td>1,156,138</td>
<td>1,283,698</td>
<td>127,560</td>
<td>11.03%</td>
</tr>
</tbody>
</table>

*City of Kitchener Consolidated Summary by Object Excluding Enterprises*
Using Real Data in Teaching

Using Real Data is employers requirement for accounting graduates

Students would like to see more real data in all courses

Students need more experience working with large data sets
Questions
References

References

Below you can find some examples of where to find “Real data” which you can use in teaching Financial and Cost Accounting and Corporate Finance courses.

- **Cost Accounting - Scorecard/Dashboard**
  City of Kitchener Scorecard/Dashboard
  https://www.kitchener.ca/en/insidecityhall/BudgetsAndFinanceReports.asp

- **Cost Accounting / Finance - Budget**
  City of Kitchener Consolidated Budget Book
  https://www.kitchener.ca/en/insidecityhall/BudgetsAndFinanceReports.asp

- **Corporate Finance - Dividends policy**
  Sun Life Financial

- **Financial Accounting**
  Grand River Hospital Home › About GRH › Reports and disclosures › Audited financial statements
  http://www.grhosp.on.ca/about/reports/audited-financial-statements
Below you can find some examples of where to find “Real data” which you can use in teaching Financial and Cost Accounting and Corporate Finance courses.

- **Financial Accounting** - Segmentation reporting - Earning/Analyst call
  
  Sun Life Financial  

- Financial Accounting/Audit/Finance - Financial Results (ratios calculations/analysis)


- Financial Accounting - Application of new IFRS standards

  Manulife Financial reports [http://www.manulife.com/Reports](http://www.manulife.com/Reports)

- Cost/Financial Accounting - Compensation
