

# Identifying Business and Financial Risks in the Cannabis Industry

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## Abstract

Cannabis is federally illegal due to its classification as a schedule 1 drug. As states legalize cannabis at the state level, this creates significant issues for cannabis business owners. From banking to transportation, seed to sale, payroll, and paying bills, the industry's business challenges are unique. At this point, larger accounting firms are not heavily involved in the industry and smaller firms are expanding their knowledge and services to the industry. This case provides a hands-on experience for undergraduate and graduate students to critically apply audit risk assessment and planning concepts to a specific "sin" industry, cannabis. Students are presented with a fictitious publicly traded cannabis company whose business operations include the cultivation and selling cannabis, looking to expand into new markets. The case is structured to guide students through an open concept case where they perform risk assessment of the business, industry, operations, and financial reporting quality in this emerging industry to develop a written audit plan and then present their findings. Finally, this case provides an opportunity to research a specific industry and identify, analyze, and evaluate audit concepts in an industry public accounting firms are expanding their services.

**Keywords:** Audit, risk identification, analytical procedures, cannabis

## 1. The Case

### *Andy's Medicinal Chemicals and Botanicals*

In October 2018 the Cannabis Act was adopted in Canada and regulated by Health Canada, an oversight and regulatory body, under the authority of the Cannabis Regulations (CR). The legislation permits individuals over the age of 18 to purchase, possess, and cultivate limited amounts of cannabis.

Andy's Medicinal Chemicals and Botanicals (Andy's), one of the initial licensed dealers of cannabis in Canada, supplies high-quality cannabis products to adult consumers in twelve countries and Canada. Andy's is a U.S.-based corporation (Delaware) with principal executive offices in Vancouver, B.C.

Andy's has operations located in Canada, Australia, and Germany. Their operations comply with the CGMP (Current Good Manufacturing Process) regulations. The CGMP regulations for drugs contain minimum

requirements for the methods, facilities, and controls used in manufacturing, processing, and packaging of a drug product. The regulations make sure that the product is safe for use, along with the appropriate ingredients with the intended strength of the drug. Andy's has plans to expand into the United States market. Andy's initial plans include setting up cultivation and recreational dispensary facilities in the state of Massachusetts.

On April 15, 20X3, Andy's completed an Initial Public Offering (IPO) on the NASDAQ exchange and sold \$410 million of bonds in December. The primary purpose of the IPO and debt issuance was to increase liquidity and raise capital to further develop their cultivation and processing facilities and future acquisitions. With the legalization of cannabis in Canada and many parts of the United States, the cannabis industry is rapidly expanding. Andy's operations are currently indoors. The company has plans to expand cultivation outdoors to grow the business.

Andy's has experienced significant growth that they attribute to their global expansion strategy, their multinational supply chain and distribution network, and commitment to innovative research, product quality, and operational excellence. Andy's has developed a reputation for producing pure and predictable medical-grade products.

Despite this qualitative success, Andy's has not yet turned a profit. The company generated net losses over the past three years.

### ***Cannabis Industry***

While cannabis is legal in Canada, authorities still have regulators limiting the amount of medical marijuana inventory a medical marijuana center may cultivate and have on hand (typically based on reasonable factors including sales history and number of patients registered). First movers in this industry are visionary entrepreneurs with a high tolerance for risk. As the industry develops and consolidates, businesses are better capitalized, maintain better systems and operations, have more experienced personnel, and overall improved the legitimacy of the industry. While early ERP systems have been overwritten from other industries, there are current systems specifically built for the challenges of the cannabis industry. This has helped company's maintain internal controls around inventory, especially important in an environment where sales employee turnover is high.

In Germany, cannabis is medically legalized. In early 2018, Germany began importing medical marijuana from Canada as part of an extended program. Potential cultivators are vying for government licenses.

The legalization of marijuana for medicinal purposes is continually developing in the United States with laws and regulations varying greatly by state. In addition to legalization, agricultural and health regulations are still developing slowly in the U.S. as the business is currently illegal at the federal level. Auditors need to also review the "design and operation effectiveness of agriculture regulatory processes" (IIA, 2018). While U.S. federal banks refuse to work with the industry, local credit unions have embraced the industry. These banking issues are not relevant in internal businesses that have legalized cannabis for medical and/or recreational purposes.

### ***Management team and employees***

As of September 30, 20X3, Andy's employed 702 total employees, 638 are full-time employees located in Canada, United States, and Germany. Four hundred and seventy-five employees are engaged in research, product development (horticulture and culinary), engineering, and logistics, 80 employees in general and administrative, 135 employees in sales and marketing, and 12 employees in the accounting department.

The core leadership team consists of individuals with degrees in mathematics, international law, medicine, engineering, economics, and finance. The average age of the leadership team is 42 years old. The Board of Directors is comprised of four directors including Andy's CEO/President. See Exhibit A for the organizational chart and Board of Directors.

To determine the availability and relevance of audit evidence and identify risks we have performed the following planning procedures:

- Discussion with Jeff Gnomes (CEO/President) (October 3<sup>rd</sup>), Annie Rice, CFO (October 3<sup>rd</sup>), and Joanne Smith, Sales Manager (October 7<sup>th</sup>).
- Read minutes of quarterly board of director meetings, including quarterly financial statements, annual budget, and sales project reports.

***Understanding obtained from discussions with management.***

Based on management discussions and documents reviewed we have noted the following:

- Banking continues to be no concern at the time for international operations. The company can transact using all currencies including credit and debit cards.

Company management uses the following measures to monitor the Company's financial performance:

- Cash on hand, receivables, and payables. This gives management a quick assessment of liquidity.
- Sales, gross margins, inventory turnover. This is a typical measure of company performance.
- Inventory balances fluctuate with sales and regulations. Sales and inventory balances are monitored to estimate demands.

Other notable items include:

- A full physical inventory count is performed on the last day business day of the month at all locations.
- As an international company domiciled in the United States, each international subsidiary is set up to comply with international and U.S. tax standards so that no U.S. taxes are incurred on foreign operations. I.R.C. § 280E will become important when operations begin locally.
- Andy's U.S. expansion plans in Massachusetts is planned to commence in December, 20X3.

Recent industry developments in Canada have led to consolidations of businesses. While overall sales have been increasing, margins on average have been on the decline. The sales manager, noted the turnover is high, especially on the sales and marketing team.

***Financial Statements and Related Information***

See case Exhibit B for the Budget and Actual financial statement information.

Cash and cash equivalents: Cash and cash equivalents are comprised of cash and highly liquid investments that are readily convertible into cash with original maturities of three months or less.

Investments: Investments consist of equity securities. The equity securities represent ownership interests in entities, which do not have significant influence or controlling interests. The securities are recorded at fair value through net income.

Inventory: Inventory consists of raw materials, finished goods, and work-in-process. Work-in-process includes pre-harvested cannabis plants and by-products to be extracted. Labor, utilities, nutrition, and irrigation costs are capitalized into inventory until the time of harvest.

Inventory is stated at the lower of cost or net realizable value, determined using weighted-average cost. Costs include raw materials, packaging, direct labor, overhead, shipping and the depreciation of manufacturing equipment and production facilities determined at normal capacity. Manufacturing overhead and related expenses include salaries, wages, employee benefits, utilities, maintenance, and property taxes.

Recently, Andy's discovered a material misstatement of Inventory. Andy's process for inventory cost calculations is a manual process using complex spreadsheet-based models.

Property and equipment: Property and equipment are recorded at cost net of accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets. The estimated useful life of the building is 20 years, and the estimated useful life of property and equipment ranges from three to seven years.

**Bonds payable:** On October 1, 20X3 Andy's issued \$410M of bonds at an effective interest rate of 12% paid semi-annually to mature in 20 years.

**Revenue:** Revenue is generated from the following channels:

1. Sales to patients through the medical program under the Cannabis Regulations.
2. Wholesale of bulk and finished product to other Licensed Producers under the Cannabis Regulations.
3. Wholesale of finished product to provinces and provincially regulated distributors under the Cannabis Act and applicable provincial legislation.
4. Export sales to third-party distributors.

Revenue is recognized based on contractual agreement.

Andy's products include whole flower, ground flower, broad spectrum cannabis oils and capsules, and purified cannabis oils and capsules. Andy's plan is to launch beverage and edible products in the future.

**Performance-based Stock Compensation and Cash Awards:** Performance goals are based on company-wide performance. Stock-based compensation is comprised of non-cash costs for the fair value of compensation charges related to stock options and restricted stock units (RSUs) that are issued to employees and directors. The costs are amortized over the expected life of the options and RSUs. The weighted average expected life of the options and RSUs is 8.2 years.

### **1.1 Assignment**

Your firm recently retained Andy's Medicinal Chemicals and Botanicals (Andy's) as an audit client and as part of the audit strategy and planning process you have been tasked with writing an Audit Strategy Memorandum that will be included in the audit working papers.

**PART 1:** Business and operations risk assessment. Prepare an Audit Strategy memorandum to the audit files; you are to identify Andy's business and economic environment incorporating risks of material misstatement. At a minimum you should include in your memorandum –

- 1.1. Identify and document Andy's Medicinal Chemicals and Botanicals (Andy's) audit strategy along with an overview of the business and economic environmental risks of material misstatement due to:
  - a. External business factors (What is unique about the industry?)
  - b. Nature of the client (operations and organizational structure)
  - c. Business risks related to Andy's stated objectives and strategies
  - d. Management's financial performance measures
- 1.2. Identify the factors that affect Andy's control risk.
- 1.3. Differentiate an "emerging growth company" as defined in Section 2(a) of the Securities Act of 1933, modified by the Jumpstart Our Business Start-ups Act of 2012 (the "JOBS Act"), section 107 to a company that complies with public company effective dates for new or revised accounting standards.
- 1.4. Identify additional financial reporting risks an "emerging growth company" may encounter.
- 1.5. Identify risks an audit firm must consider when auditing a company with foreign operations.

**PART 2:** Understanding the risks of material misstatement due to either fraud or errors in the financial statements; materiality level for the financial statements overall and for specific accounts and disclosures. For part 2,

- 2.1 Apply substantive analytical procedures including trend analysis, ratio analysis, and analyzing common-size financial statements for the past three years. Ratio analysis should include the following ratios: current ratio, quick ratio, total asset turnover, receivable turnover, inventory turnover, days of inventory on hand, gross profit margin, return on assets, return on equity, and debt-to-equity.
- 2.2 Calculate and document appropriate materiality, performance materiality, and tolerable misstatement. Include potential benchmarks and calculations, benchmark chosen, dollar value chosen, and document why you chose the benchmark and value.

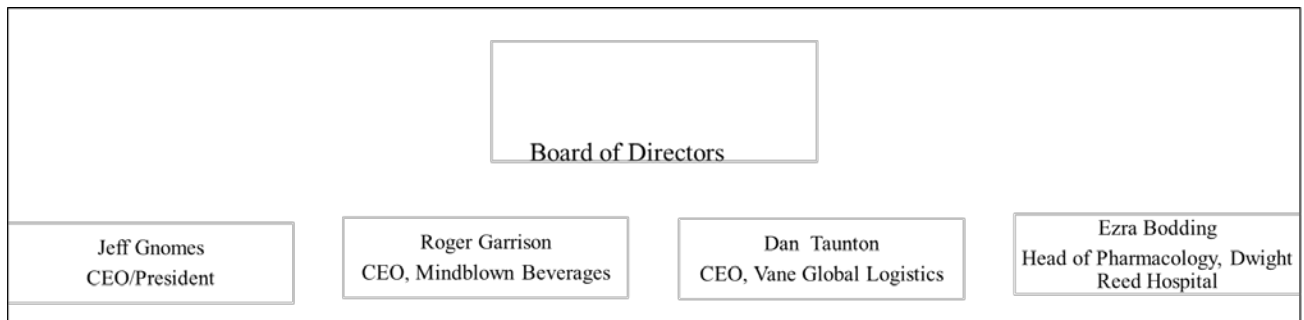
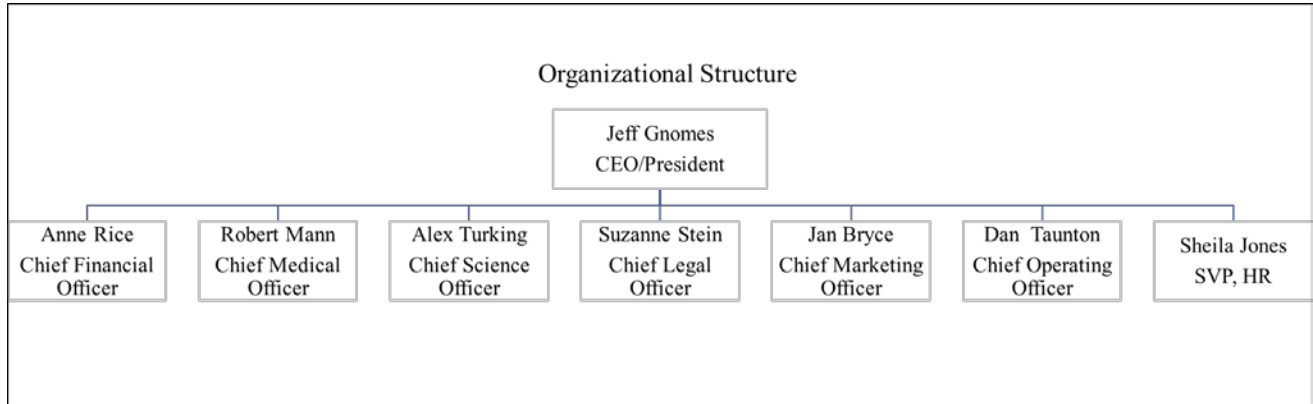
PLANNING MATERIALITY			
Potential Bases		Planning Materiality Calculation	
Account	\$ Amount	Percentage	Estimate
a.			
b.			
c.			
<b>Financial Statement Materiality</b>			
<b>Performance Materiality</b>			
<b>Tolerable Misstatement</b>			

2.3 Identify two to three (2-3) accounts with heightened risk of material misstatement that warrant further investigation, including why you think it represents a risk by identifying the audit implications and responses to this years' audit (for EACH risk factor identified be sure to include the risk type (fraud or financial statement), audit response, and possible effect(s) on audit).

**Summary of Written Deliverables – Write a memo** that is no more than four pages of written text (12-point Times New Roman Font, 1-inch margins all around), and an additional three pages of tables for part 2.3. Consolidate information into one Word document including all requirements from Parts 1 and 2. See sample format in case Exhibit C.

**PART 3:** Audit team presentation. As a team, present your findings to the audit engagement partner. The presentation should be in PowerPoint or some other professional presentation software.

**Exhibit A – Organizational Structure and Board of Directors**



## Exhibit B – Financial Statements

**Andy's Medicinal Chemicals and Botanicals (Andy's)**  
**Balance Sheets**  
**(in thousands)**

	Budgeted 20X3	YTD Q3 20X3	Years ended December 31		
			20X2	20X1	20X0
<b>Assets</b>					
<b>Current Assets</b>					
Cash and cash equivalents	409,630	311,371	14,047	28,617	28,837
Short-term investments	-	45,512	-	-	-
Accounts receivable	30,000	73,996	30,425	23,721	13,456
Inventory	23,000	<b>26,685</b>	20,347	3,018	2,753
Prepaid and other current assets	750	750	750	600	600
Total current assets	<u>463,380</u>	<u>458,314</u>	<u>65,569</u>	<u>55,956</u>	<u>45,646</u>
Property and equipment, net	108,000	111,350	32,900	34,450	36,000
Intangible assets, net	6,700	6,766	3,557	1,007	580
Investments	85,000	75,490	-	-	-
Other assets	492	492	492	472	310
Total assets	<u><u>663,572</u></u>	<u><u>652,412</u></u>	<u><u>102,518</u></u>	<u><u>91,885</u></u>	<u><u>82,536</u></u>
<b>Liabilities</b>					
<b>Current liabilities:</b>					
Accounts payable	70,000	73,051	44,417	18,108	5,000
Accrued expenses and other current liabilities	58,000	<b>42,312</b>	22,685	15,030	5,855
Accrued obligations under capital lease	1,000	1,000	1,000	1,000	-
Total current liabilities	<u>129,000</u>	<u>116,363</u>	<u>68,102</u>	<u>34,138</u>	<u>10,855</u>
Accrued obligations under capital lease	21,000	21,000	22,000	23,000	25,000
Deferred tax liability	-	-	-	-	-
Bonds payable	410,000	410,000	-	-	-
Total liabilities	<u>560,000</u>	<u>547,363</u>	<u>90,102</u>	<u>57,138</u>	<u>35,855</u>
<b>Stockholders' equity (deficit)</b>					
Common stock, par value \$0.001 (750,000,000 shares authorized, 195,000,000 issued and outstanding)	18	19			
Additional paid-in-capital	190,000	213,281	50,000	50,000	50,000
Accumulated deficit	(86,446)	(108,251)	(37,585)	(15,254)	(3,319)
Total liabilities and shareholders' equity (deficit)	<u><u>663,572</u></u>	<u><u>652,412</u></u>	<u><u>102,518</u></u>	<u><u>91,885</u></u>	<u><u>82,536</u></u>

**Andy's Medicinal Chemicals and Botanicals (Andy's)**  
**Statements of Net Loss and Comprehensive Loss**  
(in thousands)

	<b>Budgeted</b>	<b>YTD Q3</b>	<b>For the years ended</b>		
	<b>20X3</b>	<b>20X3</b>	<b>20X2</b>	<b>20X1</b>	<b>20X0</b>
Revenue	60,000	71,620	38,280	22,973	13,456
Cost of sales	43,200	53,124	27,893	<b>17,343</b>	10,016
Gross margin	16,800	18,496	10,387	<b>5,630</b>	3,440
Research and development expenses	5,600	5,790	4,714	1,896	1,105
Sales and marketing expenses	24,000	25,960	12,500	6,290	1,275
General and administrative expenses	20,000	30,260	15,810	9,340	4,580
Stock-based compensation expense	15,000	18,300	-	-	-
Operating loss	(47,800)	(61,814)	(22,637)	(11,896)	(3,520)
Foreign exchange loss (gain), net	(500)	7,290	(1,856)	(1,512)	(201)
Interest expense, net	11	12	-	-	-
Other (income) expense, net	1,550	1,550	1,550	1,550	-
Loss before income tax recovery	(48,861)	(70,666)	(22,331)	(11,934)	(3,319)
Current income tax expense	-	-	-	-	-
Net loss	(48,861)	(70,666)	(22,331)	(11,934)	(3,319)

**Andy's Medicinal Chemicals and Botanicals (Andy's)**  
**Statements of Cash Flows**  
**(in thousands)**

	<b>YTD Q3 20X3</b>	<b>Years ended December 31</b>	
		<b>20X2</b>	<b>20X1</b>
<b>Operating activities</b>			
Net loss	(70,666)	(22,331)	(11,934)
Non-cash adjustments			
Stock-based compensation	18,300		
Depreciation	1,550	1,550	1,550
Changes in working capital accounts			
Accounts receivable	(43,570)	(6,704)	(10,265)
Inventory	(6,339)	(17,329)	(265)
Prepaid and other current assets	-	(150)	-
Accounts payable	28,634	26,309	13,108
Accrued expenses and other current liabilities	19,627	7,655	9,175
Net cash used in operating activities	<u>(52,464)</u>	<u>(11,000)</u>	<u>1,369</u>
<b>Investing activities</b>			
Purchase of property and equipment	(80,000)	-	-
Purchase of intangible assets	(3,209)	(2,550)	(427)
Purchase of short-term and long-term Investments	(121,002)	-	-
Purchase other assets	-	(20)	(162)
Net cash used in investing activities	<u>(204,211)</u>	<u>(2,570)</u>	<u>(589)</u>
<b>Financing activities</b>			
Payments on capital lease	(1,000)	(1,000)	(1,000)
Proceeds from issuance of bonds	410,000	-	-
Proceeds from issuance of common stock	145,000	-	-
Net cash provided from financing activities	<u>554,000</u>	<u>(1,000)</u>	<u>(1,000)</u>
Increase (decrease) in cash	<u>297,324</u>	<u>(14,570)</u>	<u>(220)</u>
Beginning cash and cash equivalents	<u>14,047</u>	<u>28,617</u>	<u>28,837</u>
Ending cash and cash equivalents	<u><u>311,371</u></u>	<u><u>14,047</u></u>	<u><u>28,617</u></u>

**Exhibit C – Sample Memo Format with Required Componets****Memorandum – Overall Audit Strategy**

To: Audit Files 20X3

From: Your Name

RE: Andy's Medicinal Chemicals and Botanicals (Andy's) 2003 Audit Strategy

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- 1.1 Engagement Objectives (Operations, Structure, Industry, Stakeholders)
- 1.2 External Factors
- 1.3 Business Risk Factors (Objectives & Strategies)
- 1.4 Control Risk Factors
- 1.5 Emerging Growth Company Risk
- 2.1 Financial Performance & Measurement Risks
- 2.2 Planning Materiality
- 2.3 Analytical Reviews
  - 2.3.1 Ration Analysis (Embed Excel Table)
  - 2.3.2 Common-Size Financial Statements (Embed Excel Table 3 Years)
- 2.4 Significant Risks

## 2. Teaching Notes

### 2.1 Introduction to the cannabis industry

Current regulatory changes have made marijuana legal for recreational and/or medical use across various states. While some states are in the infancy stages of creating a regulatory framework, other states have more developed licensing and regulatory oversight requirements in place. An external audit market is emerging for cannabis companies that are more developed and have external stakeholders. Public accounting firms of all sizes are expanding their services into the cannabis market and need staff educated in industry specific complexities.

This case was developed to provide students a unique opportunity to apply audit risk assessment and planning concepts to the cannabis industry. This case involves a fictitious company whose business operations include the cultivation and selling of cannabis. Students are tasked with assessing business risks, operations risk, and financial reporting quality of the company and then develop an audit plan to assess accounts with a heightened risk of material misstatement. Students use critical thinking, research, and judgment to accomplish case objectives. Beyond an exercise in audit planning, students are exposed to an emerging industry and must consider the unique regulatory environment to inform their choices. Low (2004) found that auditors' industry knowledge improved risk assessments and perceived auditing planning decision quality.

Comprehensive audit cases (Agrawai and Hancock, 2012) and game-based learning techniques (Barnes and Enget, 2021) help students build experience, critical thinking, and problem-solving skills. While some currently available case studies cover the end-to-end audit process (Agrawai and Hancock, 2012), others take a more focused approach and cover specific components of the assessment process such as business risk identification (Cohen et al., 2008) or assertion-specific audit risks (Earley and Phillips, 2008). This case provides a unique opportunity for students to apply risk assessments to a developing industry not yet explored, the cannabis industry.

As part of developing this case, we visited various medical and recreational sales sites. We discussed with owners and staff regarding the initial organization and state licensing, internal controls, and staffing. We discussed with state regulators the implementation of state audits, internal controls, and state regulatory requirements, including inventory and accounting systems. After the development of the case, an audit partner from a large international firm familiar with the cannabis industry reviewed the case for accuracy and student expectations; the case was updated to incorporate the audit partner's feedback.

### 2.2 Case Learning Objectives

The learning objectives for this case are broken up into two categories: Business risks and Financial Reporting Quality. Students will demonstrate mastery of the learning objectives by creating an audit-planning memo that touches on all related elements. The objectives are as follows:

#### ***Business Risk (BR) Objectives:***

- BR1. Identify business and economic environmental risks of material misstatement due to external factors, client factors, and business risks. (Assignment 1.1)
- BR2. Identify business control factors (Assignment 1.2)
- BR3. Differentiate between an "emerging growth company" as defined by the SEC and a public company. (Assignment 1.3)
- BR4. Identify additional financial reporting risks encountered by an "emerging growth company". (Assignment 1.4)
- BR5. Explain the risks that audit firm encounters when it audits a company with foreign operations. (Assignment 1.5)

#### ***Financial Reporting Quality (FRQ) Objectives:***

- FRQ1. Develop an audit plan to assess financial reporting quality (Assignment 2.1-2.3, 3)

- FRQ2. Calculate materiality and risk of tolerable misstatement (Assignment 2.1-2.2)
- FRQ3. Apply substantive analytical procedures including ratio analysis and common-size financials analysis to a set of financial statements (Assignment 2.1)
- FRQ4. Identify financial accounts with a heightened risk of material misstatement and accounts that warrant further investigation. (Assignment 2.3)

The first set of learning objectives involves identifying business risks, with a unique focus on financial reporting and audit risks related to “emerging growth companies”. Students must read the case, research industry information, and then apply their knowledge to the specific company outlined in the case. Specifically, students are encouraged to think about the business and the risks associated with the cannabis business within a legal environment. This challenges them to think about an industry from a new perspective and to perform some industry research to inform their choices. The highlights of this specific industry include a simple product to sell with a strong regulatory presence over inventory and sales. The goal is to strengthen students’ understanding of business and industry risks, including internal controls. The case will help them to be better prepared for the responsibilities in public accounting, where you need to understand and identify specific inherent and control risks. This is consistent with the National Association of State Boards of Accountancy (NASBA) curriculum guidance to provide projects that require critical thinking learning experiences.

The second set of learning objectives for this case involves financial reporting quality risk assessment procedures. Students calculate the typical common-size financial statements and ratio analysis and then calculate various materiality levels to identify specific risks of material misstatement at the financial statement and account-balance level. These are part of the standard audit planning steps (PCAOB AS 2100), and samples are included in most audit publisher textbooks.

### **2.3 Case Implementation**

The case was implemented in five undergraduate audit classes with two instructors (129 students enrolled) and two graduate audit classes with one instructor (27 students enrolled) at an AACSB Accredited Business School located in the northeastern United States. The instructors introduced the case after covering audit risk, audit documentation, audit planning, and internal control units, but before covering the accounting cycle chapters. The instructors referred back to the case as the semester progressed allowing students to apply case knowledge to new materials.

The initial deliverable of the case was an individual memo assignment. Students were then grouped together in teams of three to present their case findings to the class. The instructor used the method of individual completion then coming together in groups for the presentation (Think-Pair-Share) to ensure all students completed the assignment and to embrace collaborative learning, where collaboration results in the process of improving on the individual work where you work together to improve upon everyone’s work to submit one collaborative presentation. Individual feedback, but no grade was provided before team collaboration began

For the presentation, students were asked to identify three key risk areas for the audit, and why/how they identified these risks. They also shared one interesting fact they discovered about the cannabis industry. Presentations were a 15-minute maximum with a maximum of six slides. For presentations in the online course (one undergraduate section per term), students were instructed to use the “tool of your choice,” and were given a link to Screencast-O-Matic as a potential option (<https://screencast-o-matic.com/>).

Student time for completion is presented in Table 1. Student time was based on the post-case survey after the case was completed but before grades were given. Instructor’s time to introduce the case was like other audit planning assignments except for the specific industry context of this case. Instructors unfamiliar with the industry specifics, can see Teaching Notes for further information or read *Auditing marijuana approaching a new and complex risk area* (IIA, 2018). In class time includes approximately 60 minutes to introduce the case and answer questions and 30 minutes to wrap-up the case after presentations were completed.

### **2.4 Student Performance and Learning Validation.**

Pre- and post-case surveys were Institutional Review Board (IRB) approved. The pre- and post-case survey questions were formatted similarly to previous case surveys (Worrell, 2010; Dow, et al., 2013; and Hess and Andiola 2018). The pre-test was administered at the beginning of the semester before assigning the case. Students were told that the survey evaluated their knowledge and comfort level with particular course related topics. Following completion of the case, students completed the post-case survey that included the same questions in the pre-case survey and additional perception-based questions. Although encouraged to participate, the students were informed that surveys were voluntary, responses were anonymous, and had no impact on their grade.

One hundred twenty-two of the 134 undergraduate students (91.0 percent) completed the pre-case survey, while 107 of the 134 undergraduate students (79.9 percent) completed the post-case survey. A portion of the drop off was attributed to students who had dropped the course and were no longer in the course when the post-case survey was disseminated. Fifteen of 26 graduate students (57.7 percent) completed the pre-case survey, while 24 of the 26 graduate students (92.3 percent) completed the post-case survey. Table 2, Panel A presents the results of nine questions related to students' knowledge and comfort level of identifying and evaluating business risks and financial reporting quality assessment. The pre-test and post-test means and significance levels, are presented in Table 2. Panel B presents the results of additional questions asked after completion of the case to measure students' perceptions. These questions were only included in the post-case survey.

The combined survey results in Table 2 indicate the case effectively achieved the desired learning objectives. Responses in Panel A were provided on a seven-point Likert scale where 1 represented "no knowledge / not comfortable" and 7 represented "extreme knowledge/ highly comfortable". Results indicate that both undergraduate and graduate students' knowledge and comfort level significantly increased between the pre-case and post-case surveys for all learning objectives presented. More specifically, the learning objectives with the highest increase were student knowledge related to audit plan development to assess financial reporting quality (Q7 total mean change of 1.761), applying substantive analytical procedures to financial statements (Q8 total mean change of 1.629) and identifying financial statement accounts with heightened risk of material misstatement (Q9 total mean change of 1.598). These are fundamental skills for all accountants, especially auditors, to have and can be applied to all companies of all sizes.

Responses in Panel B were provided on a seven-point Likert scale where 1 represented "strongly disagree" and 7 represented "strongly agree". Survey results indicate that both undergraduate and graduate students thought the case was realistic (Q1 total mean of 5.801), encouraged critical thinking (Q2 total mean of 5.977), provided knowledge on how to identify and assess risk (Q3 total mean of 5.778), and encouraged professional skepticism (Q4 total mean of 5.725). Equally important, students found the case interesting (Q5 total mean of 5.587) and were an overall positive learning experience (Q6 total mean of 5.523). The mean values for each of the six questions are significantly different (p-value, 0.001) from the scale's mid-point value of 4 using one-sample t-tests, as noted in Table 2. Student learning was also assessed by the instructors, utilizing the grading rubric provided in the teaching notes (Appendix A). The average score for the graduate classes and undergraduate classes were 88% and 85% respectively.

Finally, qualitative responses from students also suggest this case achieved the learning objectives. Students noted they enjoyed real-world aspects of the case and the topics' timeliness. Several positive comments were received, including but not limited to items below:

"The case allowed me to fully take on the role of an auditor fully and put myself in the position of someone in the planning stage of an audit. The case was also extremely interesting since the topic was up to date with what is currently happening in the world. The cannabis industry is still a relatively new industry in the U.S and I would be interested in learning more about it, such as how well auditors have been able to work with these high-risk companies."

"I also developed a far greater understanding of the influence of the industry and the impact of corporate governance. The case put a "real world" face on the course material which I find vastly important. ... In simple terms, I learned quite a bit."

“the hands-on activities really have enhanced my critical thinking skills. It is one thing to learn basic auditing concepts in a textbook, but it is another thing to incorporate these auditing concepts in different applications.”

Developing a case in an emerging market was intentional, as many firms are now committing personnel to the cannabis industry within the US. We understand this market is new in terms of legality and this varies from state to state, but this is the value in the case as critical components of industry regulation, and the organizational structure of the market are developing and changing.

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**Table 1**  
**Time Required for Students (In Hours)**

	<b>Business Risks</b>	<b>Financial Reporting Assessment</b>			<b>Total</b>
Undergraduate	5.9	4.9			10.8
Graduate	4.8	3.5			8.3

	Pre case Mean (Std. Dev.)			Post case Mean (Std. Dev.)			Mean Difference		
	Undergrad (n = 122)	Graduate (n = 15)	Total (n = 137)	Undergrad (n = 107)	Graduate (n = 24)	Total (n = 131)	Undergrad	Graduate	Total
Q1: Rate your level of business knowledge and economic environment incorporating risks of material misstatement due to external factors, nature of the client, business risks. (BR1)	3.405 (1.469)	4.467 (1.245)	3.522 (1.480)	4.420 (1.332)	5.291 (.5500)	4.580 (1.270)	1.015***	0.824***	1.058***
Q2: Rate your level of knowledge identifying business control factors. (BR2)	3.688 (1.420)	4.200 (1.207)	3.744 (1.403)	4.458 (1.268)	5.375 (.494)	4.626 (1.217)	0.77***	1.175***	0.882***
Q3: Rate your level knowledge of the differences between an 'emerging growth company' as defined by the SEC and a public company. (BR3)	2.801 (1.469)	3.466 (1.641)	2.875 (1.497)	4.224 (1.500)	5.000 (1.021)	4.366 (1.452)	1.423***	1.534***	1.491***
Q4:	2.851	2.933	2.860	4.217	4.750	4.315	1.366***	1.817***	1.455***

**Table 2**  
**Student Feedback**

**Panel A: Pre- and Post-Case Questions**  
**Linked to related case objectives**

		Pre case			Post case			Mean Difference		
		Undergrad (n = 122)	Graduate (n = 15)	Total (n = 137)	Undergrad (n = 107)	Graduate (n = 24)	Total (n = 131)	Undergrad	Graduate	Total
Q1:	Rate your level of business knowledge and economic environment incorporating risks of material misstatement due to external factors, nature of the client, business risks. (BR1)	3.405 (1.469)	4.467 (1.245)	3.522 (1.480)	4.420 (1.332)	5.291 (.5500)	4.580 (1.270)	1.015***	0.824***	1.058***
Q2:	Rate your level of knowledge identifying business control factors. (BR2)	3.688 (1.420)	4.200 (1.207)	3.744 (1.403)	4.458 (1.268)	5.375 (.494)	4.626 (1.217)	0.77***	1.175***	0.882***
Q3:	Rate your level knowledge of the differences between an 'emerging growth company' as defined by the SEC and a public company. (BR3)	2.801 (1.469)	3.466 (1.641)	2.875 (1.497)	4.224 (1.500)	5.000 (1.021)	4.366 (1.452)	1.423***	1.534***	1.491***

Q4:	Rate your level of knowledge of additional financial reporting risks encountered by an 'emerging growth company.' (BR4)	2.851 (1.525)	2.933 (1.533)	2.860 (1.521)	4.217 (1.511)	4.750 (1.073)	4.315 (1.452)	1.366***	1.817***	1.455***
Q5:	Rate your level of knowledge on calculating appropriate materiality, performance materiality, and tolerable misstatement. (FR2)	2.565 (1.569)	3.400 (1.404)	2.656 (1.569)	3.886 (1.462)	5.167 (.564)	4.123 (1.430)	1.321***	1.766***	1.467***
Q6:	Rate your knowledge on the risks that an audit firm encounters when it audits a company with foreign operations. (BR5)	2.754 (1.632)	3.400 (1.843)	2.824 (1.662)	4.159 (1.367)	5.458 (.883)	4.396 (1.384)	1.405***	2.058***	1.572***
Q7:	Rate your level of knowledge on developing an audit plan to assess financial reporting quality. (FR1-4)	2.553 (1.548)	4.200 (1.207)	2.735 (1.597)	4.327 (1.392)	5.250 (.846)	4.496 (1.355)	1.774***	1.05***	1.761***
Q8:		2.959	4.333	3.109	4.598	5.391	4.738	1.639***	1.058***	1.629***

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	Rate your level of knowledge on applying substantive analytical procedures to a set of financial statements. (FR1)	(1.512)	(1.290)	(1.546)	(1.413)	(.656)	(1.344)			
Q9:	Rate your level of knowledge on identifying financial accounts with heightened risk of material misstatement. (FR4)	2.926 (1.570)	4.466 (1.125)	3.094 (1.599)	4.490 (1.382)	5.583 (.928)	4.692 (1.374)	1.564***	1.117***	1.598***

**Panel B: Post-Case Questions Only**

	Mean (Std. Dev.)		
	Undergrad (n = 107)	Graduate (n = 24)	Total (n = 131)
Q1: The case represents a realistic scenario.	5.635*** (1.276)	6.542*** (0.509)	5.801*** (1.224)
Q2: The case encouraged me to think critically about the factors that contribute to business risks.	5.831*** (1.306)	6.625*** (0.494)	5.977*** (1.237)
Q3: I learned additional knowledge about identifying and assessing risks.	5.626*** (1.538)	6.458*** (0.509)	5.778*** (1.443)
Q4: The case encouraged me to apply professional skepticism.	5.551*** (1.445)	6.5*** (0.589)	5.725*** (1.387)
Q5: I found the case interesting.	5.345*** (1.578)	6.667*** (0.564)	5.587*** (1.533)
Q6: The case was a positive learning experience	5.264*** (1.745)	6.625*** (0.494)	5.523*** (1.672)

## APPENDIX A – TEACHING NOTES AND RECOMMENDED SOLUTIONS (For Instructors Only)

In this assignment, students will demonstrate mastery of two categories of learning objectives: Business risk and Financial reporting quality. Mastery of the learning objectives will be demonstrated by creating an audit-planning memo on all related elements. The following outlines the key tasks and recommended solution for each of the objectives outlined in the case. Items are numbered to correspond with the case assignment.

It is up to the instructor whether to assign the case as an individual or a group assignment. A hybrid approach, like the one taken by the researchers, allows the students to work on their own but then collaborate with their peers.

### ***PART 1: Business and Operations Risk Assessment.***

This section of the projects tasks student(s) with creating an audit memorandum and assessing Andy's business and economic environment. Each of the five subheadings in this task are presented with recommended solutions. The instructor can choose what level of guidance they decide to give to their students. For example, in a graduate class it might be reasonable to have the students research the industry on their own without many hints. Each key task is presented with recommended solutions.

#### ***1.1. Risk Identification***

**Key Task:** Identify and document Andy's Medicinal Chemicals and Botanicals (Andy's) audit strategy along with an overview of the business and economic environmental risks of material misstatement due to:

- a. External business factors (What is unique about the industry?)
- b. Nature of the client (operations and organizational structure)
- c. Business risks related to Andy's stated objectives and strategies
- d. Management's financial performance measures

**Solution:** Many of these risk factors are evolving as the industry develops and federal and state regulations change. It is very important for the auditor to understand the industry and any changes in the current year of the audit to develop their audit plan around the current year. While globally (Canada, Australia, and Germany) the industry is further developed than the U.S., in the U.S. state regulations are still developing. Therefore, the cannabis industry is still emerging. As the industry develops the barriers of entry are decreasing. This lends itself to more competition. In addition, the consolidation of small cannabis companies is of concern, as economies of scale and skilled and experienced key players in the industry will threaten smaller companies. Andy's was an early entrant and has experienced growth, but there is an inherent risk of competition.

The following listings are considerations that instructors may choose to discuss with their students. Instructors may choose to have their students research the cannabis industry on their own and offer some of these topics as hints or direction. The students can then share what they found with class.

#### **a. External Factors**

- Ongoing regulatory approvals
- Competition/market share – more and more companies getting involved
- Ability to continue to operate overseas
- Changes in laws and/or regulations
- Long-term effects of the use of cannabis
- Over production could result in decreased prices and loss of revenue
- Illegal distribution of cannabis
- Limited operating history/history of net losses
- Cyber attacks
- Changes in tax and accounting requirements

- Foreign currency exchange risks
- Risks related to the production and enforcement of Intellectual Property Rights (licenses, proprietary information, patents, trademarks)
- Banking industry (US and international)

**b. Nature of Client Factors**

- Changes in laws and/or regulations (US and abroad)
- Ability to continue to operate overseas
- No financial person on the Board of Directors
- Two members of the Board of Directors, Jeff Gnomes, CEO/President, and Dan Taunton, Chief Operating Officer, are involved with the company's management
- Meet market demand
- State/Country regulations on the limits of inventory and cultivation
- IPO on the NASDAQ on April 15, 20X3 and sold \$410m of bonds
- Experienced consistent growth since 20x0 in revenue but continued net loss
- Expansion of growing facilities planned – bring cultivation outdoors.
- Inventory turnover is decreasing and days in inventory have increased.
- Recent developments in consolidation have seen declining returns although sales are increasing.
- Higher employment turnover.

**c. Business Risk & Financial Performance Risk Factors**

- Changes in tax and accounting requirements
- Foreign currency exchange risks
- Inventory turnover is decreasing and days in inventory has increased
- Consistent and rapid growth
- Performance goals are based on company-wide performance
- IPO April 15, 20X3 – PCAOB standards
- Stock based compensation comprised of noncash costs for the FV of compensations and are issued to employees and directors.
- Valuations of plants with yield expectations are subjective.
- Budget projections, include the expectation of product yield, which is subject to environmental or cultivation variances.
- Expenses to cultivate plants are capitalized until harvested. This leads to a risk of early or late expense recognition that may alter the profitability on the income statement.

**1.2. Control Risk Identification**

**Key Task:** Identify factors that affect Andy's control risk.

**Solution:** Control risk factors can change based on country/state regulations. Some states, like MA, have specific inventory ERP systems while other states do not. Control risk varies from client to client and may depend on if centralized or decentralized reporting is utilized. Be sure to note the identification of a control error that resulted in a material misstatement. The following are factors that could have an impact on control risk:

- Highly regulated industry state/country.
  - Agricultural regulatory processes
- Legalization in state/country – US.
- Agricultural and health regulations in the US are slow to develop.
- IPO April 15, 20X3 – PCAOB standards.
- Newly emerging industry specific ERP systems.
- Manual inventory system creates an environment of manual entries utilizing multiple spreadsheets creating a heightened risk of misstatement.

- Material misstatement discovered with respect to inventory valuation.
- Management reviews appropriate measurements of financial performance on a regular basis.
- Inventory is performed monthly.
- No Internal Audit committee.
- High employee turnover.

### ***1.3. Emerging Growth Co. Accounting Standards***

**Key Task:** Differentiate an “emerging growth company” as defined in Section 2(a) of the Securities Act of 1933, modified by the Jumpstart Our Business Start-ups Act of 2012 (the “JOBS Act”), section 107 to a company that complies with public company effective dates for new or revised accounting standards.

**Solution:** Andy’s is an emerging growth company (EGC) as defined in Section 2(a)(19) of the Securities Act. As stated by the SEC, a company qualifies as an EGC if it has total annual gross revenues of less than \$1.07 billion during its most recently completed fiscal year and, as of December 8, 2011, had not sold common equity securities under a registration statement. A company continues as an EGC for five fiscal years after it completes an IPO unless a disqualifying event occurs. EGCs may issue more limited disclosures, especially in executive compensation, may provide audited financial statements for only two rather than three fiscal years, need not provide auditor attestation of internal control over financial reporting, may defer compliance with specific changes in accounting standards, and may use the test-the-waters communications with qualified institutional buyers and institutional accredited investors.

### ***1.4. Emerging Growth Co. Financial Reporting Risks***

**Key Task:** Identify additional financial reporting risks an “emerging growth company” encounters.

**Solution:** In the current fiscal year end, Andy’s total annual gross revenues was less than \$1.07 billion and they did not sell any common equity securities under a registration statement. Thus, they meet the Securities Act of 1933’s requirements to be considered an “Emerging Growth Company” (EGC). An EGC receives certain benefits per the SEC, for example:

- They are permitted to include fewer extensive narrative disclosures.
- They are not required to provide auditor attestation of their internal controls over financial reporting.
- They do not need to comply with certain changes to accounting standards.

Public companies that do not meet the requirements to be considered an EGC have stricter standards to follow, such as complying with any new or revised accounting standards. If they do not follow these regulations, their auditors can give them an adverse opinion, effectively stating that their financial statements are not in compliance with GAAP. An EGC receives less harsh restrictions than a typical public company to help them reach past the “growing” stage.

There is a chance that investors may view Andy’s stock as less attractive due to the reduced disclosure requirements and other differences for EGCs. There is also the risk that when Andy’s internal controls are assessed by the independent auditors (after it loses the EGC classification) they will issue a report that is adverse.

### ***1.5. Foreign Operation Risk***

**Key Task:** Identify risks an audit firm must consider when auditing a company with foreign operations.

**Solution:** Some potential risks to identify with a company that has foreign options include the following:

- Changes in laws and/or regulations
- Changes in tax and accounting requirements
- Foreign currency exchange risks
- Risks related to the production and enforcement of Intellectual Property Rights (licenses, proprietary information, patents, trademarks)
- Banking industry (US and international)
- Financial statement valuation and disclosures of foreign currencies
- Agricultural regulatory processes in all jurisdictions

***PART 2: Financial Reporting Assessment Quality***

This section of the projects tasks student(s) with applying substantive procedures and perform various types of analytical analyses. Students then assess materiality and identify accounts with a heightened risk of material misstatement. While certain ratios and trend analysis were required in the case, instructors have the ability to pick and choose what is right for their students based on their knowledge and time available to complete the case. This also applies to materiality calculations and account identification. The case is extremely flexible and can adapted easily. Each key task is presented with recommended solutions.

***2.1. Substantive Analytical Procedures***

**Key Task:** Apply substantive analytical procedures including trend analysis, ratio analysis, and analyzing common-size financial statements for the past three years. Ratio analysis should include the following ratios: current ratio, quick ratio, total asset turnover, receivable turnover, inventory turnover, days of inventory on hand, gross profit margin, return on assets, return on equity, and debt-to-equity.

**Solution:** As part of preliminary audit procedures common size financial statements and ratio analysis are prepared. Instructors may use this case as a way for students to perform common analyses developing the students' Excel skills. Should the instructors want to add visualization they can here, using the financial statements, common-size calculations, and/or ratio calculations. Visualizations can also be incorporated into Part 2.3 risk identification. The solutions are presented next.

	<u>20X3</u>	<u>20X2</u>	<u>20X1</u>
<u>Current Ratio</u>	4.21	1.24	1.79
<u>Quick Ratio</u>	3.98	0.95	1.69
<u>Total Asset Turnover</u>	0.23	0.44	0.32
<u>Receivable Turnover</u>	1.08	1.13	1.14
<u>Inventory Turnover</u>	2.26	2.39	6.01
<u>Day of inventory on hand</u>	162	153	61
<u>Gross profit margin</u>	0.44	0.45	0.43
<u>Return on assets</u>	-0.12	-0.09	-0.05
<u>Return on equity</u>	-0.33	-0.31	-0.11
<u>Debt-to-equity</u>	3.73	2.89	1.42

**Solution:** See next page for completed common sized financials.

## Common Size Financial Statements

	Vertical Analysis										Horizontal Analysis					
	Budgeted 20X3		YTD Q3 20X3		20X2		20X1		20X0		Budgeted X3 to X2		X2 to X1		X1 to X0	
	\$	%	\$	%	\$	%	\$	%	\$	%	\$ Change	%	\$ Change	%	\$ Change	%
Cash and cash equivalents	409,630	62%	311,371	48%	14,047	14%	28,617	31%	28,837	35%	395,583	2816%	(14,570)	-51%	(220)	-1%
Short-term investments	-	0%	45,512	7%	-	0%	-	0%	-	0%	-	(a)	-	(a)	-	(a)
Accounts receivable	30,000	5%	73,996	11%	30,425	30%	23,721	26%	13,456	16%	(425)	-1%	6,705	28%	10,265	76%
Inventory	23,000	3%	26,685	4%	20,347	20%	3,018	3%	2,753	3%	2,653	13%	17,329	574%	265	10%
Prepaid and other current assets	750	0%	750	0%	750	1%	600	1%	600	1%	-	0%	150	25%	-	0%
Total current assets	463,380	70%	458,314	70%	65,569	64%	55,956	61%	45,646	55%	397,812	607%	9,613	17%	10,310	23%
Property and equipment, net	108,000	16%	111,350	17%	32,900	32%	34,450	37%	36,000	44%	75,100	228%	(1,550)	-4%	(1,550)	-4%
Intangible assets, net	6,700	1%	6,766	1%	3,557	3%	1,007	1%	580	1%	3,143	88%	2,550	253%	427	74%
Investments	85,000	13%	75,490	12%	-	0%	-	0%	-	0%	85,000	(a)	-	(a)	-	(a)
Other assets	492	0%	492	0%	492	0%	472	1%	310	0%	-	0%	20	4%	162	52%
Total assets	663,572	100%	652,412	100%	102,518	100%	91,885	100%	82,536	100%	561,055	547%	10,633	12%	9,349	11%
Accounts payable	70,000	11%	73,051	11%	44,417	43%	18,108	20%	5,000	6%	25,583	58%	26,309	145%	13,108	262%
Accrued expenses and other current liabilities	58,000	9%	42,312	6%	22,685	22%	15,030	16%	5,855	7%	35,315	156%	7,655	51%	9,175	157%
Accrued obligations under capital lease	1,000	0%	1,000	0%	1,000	1%	1,000	1%	-	0%	-	0%	-	0%	1,000	(a)
Total current liabilities	129,000	19%	116,363	18%	68,102	66%	34,138	37%	10,855	13%	60,898	89%	33,964	99%	23,283	214%
Accrued obligations under capital lease	21,000	3%	21,000	3%	22,000	21%	23,000	25%	25,000	30%	(1,000)	-5%	(1,000)	-4%	(2,000)	-8%
Deferred tax liability	-	0%	-	0%	-	0%	-	0%	-	0%	-	(a)	-	(a)	-	(a)
Bonds payable	410,000	62%	410,000	63%	-	0%	-	0%	-	0%	410,000	(a)	-	(a)	-	(a)
Total liabilities	560,000	84%	547,363	84%	90,102	88%	57,138	62%	35,855	43%	469,898	522%	32,964	58%	21,283	59%
Common stock, par value \$0.001	-	-	-	-	-	-	-	-	-	-	-	(a)	-	(a)	-	(a)
Additional paid-in-capital	190,000	29%	213,281	33%	50,000	49%	50,000	54%	50,000	61%	140,000	280%	-	0%	-	0%
Accumulated deficit	(86,446)	-13%	(108,251)	-17%	(37,585)	-37%	(15,254)	-17%	(3,319)	-4%	(48,861)	130%	(22,331)	146%	(11,934)	360%
Total liabilities and shareholders' equity (deficit)	663,572	100%	652,412	100%	102,518	100%	91,885	100%	82,536	100%	561,055	547%	10,633	12%	9,349	11%
Revenue	60,000	100%	71,620	100%	38,280	100%	22,973	100%	13,456	100%	21,720	57%	15,307	67%	9,517	71%
Cost of sales	43,200	72%	53,124	74%	27,893	73%	17,343	75%	10,016	74%	15,307	55%	10,550	61%	7,327	73%
Gross margin	16,800	28%	18,496	26%	10,387	27%	5,630	25%	3,440	26%	6,413	62%	4,757	85%	2,190	64%
Research and development expenses	5,600	9%	5,790	8%	4,714	12%	1,896	8%	1,105	8%	886	19%	2,818	149%	791	72%
Sales and marketing expenses	24,000	40%	25,960	36%	12,500	33%	6,290	27%	1,275	9%	11,500	92%	6,210	99%	5,015	393%
General and administrative expenses	20,000	33%	30,260	42%	15,810	41%	9,340	41%	4,580	34%	4,190	27%	6,470	69%	4,760	104%
Stock-based compensation expense	15,000	25%	18,300	26%	-	0%	-	0%	-	0%	15,000	(a)	-	(a)	-	(a)
Operating loss	(47,800)	-80%	(61,814)	-86%	(22,637)	-59%	(11,896)	-52%	(3,520)	-26%	(25,163)	111%	(10,741)	90%	(8,376)	238%
Foreign exchange loss (gain), net	(500)	-1%	7,290	10%	(1,856)	-5%	(1,512)	-7%	(201)	-1%	1,356	-73%	(344)	23%	(1,311)	652%
Interest expense, net	11	0%	12	0%	-	0%	-	0%	-	0%	11	(a)	-	(a)	-	(a)
Other (income) expense, net	1,550	3%	1,550	2%	1,550	4%	1,550	7%	-	0%	-	0%	-	0%	1,550	(a)
Loss before income tax recovery	(48,861)	-81%	(70,666)	-99%	(22,331)	-58%	(11,934)	-52%	(3,319)	-25%	(26,530)	119%	(10,397)	87%	(8,615)	260%
Current income tax expense	-	0%	-	0%	-	0%	-	0%	-	0%	-	(a)	-	(a)	-	(a)
Net loss	(48,861)	-81%	(70,666)	-99%	(22,331)	-58%	(11,934)	-52%	(3,319)	-25%	(26,530)	119%	(10,397)	87%	(8,615)	260%

(a) Percentage not computed because denominator is 0.

## 2.2. Materiality Calculation

**Key Task:** Calculate and document appropriate materiality, performance materiality, and tolerable misstatement. Include potential benchmarks and calculations, benchmark chosen, dollar value chosen, and document why.

**Solution:** Showing students potential materiality calculations and discussing how each firm has their own materiality calculations can open them up to the “grey” areas of auditing. Also discussing how the firms have a standardized calculation but the partner may come to the client to review and discuss other potential materiality bases and the impact of unadjusted entries on the overall financial statements. The typical materiality ranges are presented in the table below. Also included is the cash and inventory balance ranges due to their importance in the industry. Students can calculate any of these ranges, but most important is that they choose one value and state why they chose the value. In addition, factors like the IPO; Andy’s is a continuing audit client, and the material misstatement/break down in controls.

PLANNING MATERIALITY				
Potential Bases			Planning Materiality Calculation	
	Account	\$ Amount	Percentage Range*	Estimate
a.	Income before Taxes**	(48,861,000)	5% - 10%	2,443,050 - 4,886,100
b.	Total Assets	663,572,342	1/2% - 1%	3,317,862–6,635,723
c.	Revenues	60,000,000	1/2% - 1%	300,000 - 600,000
d.	Total Equity	103,554	1%	1,036
e.	Inventory	23,000,000	5% - 10%	1,150,000 - 2,300,000
f.	Cash	409,630,342	1/2% - 1%	2,048,152 - 4,096,303
	Financial Statement Materiality	Choose 1 value between \$1,036 - 4,886,100		
	Performance Materiality	50% - 75% of Financial Statement Materiality*		
	Tolerable Misstatement	PM or Lower*		

**NOTE:** Financial Statements rounded to thousands, make sure students make note of this or incorporate into calculations.

\*Ranges from Whittington & Pany, 2019

\*\* Absolute Value

## 2.3 Heightened Risk of Material Misstatement

**Key Task:** Identify two to three (2-3) accounts with heightened risk of material misstatement that warrant further investigation, include support for account selection and describe it into two complete sentences represents a risk by identifying the audit implications and responses to current year audit. For EACH identified risk factor identified be sure to include the risk type i.e., fraud or financial statement, the audit response, and the possible effect(s) on audit.

**Solution:** Again, there are a wide variety of answers here. It is important is to choose specific accounts that can be audited. Answers such as net income/(loss) are too broad. In an instance where the answer is too broad, explain net income is made up of all revenue and expense accounts. Students need to document specific accounts and specific risks as these financial statements are already condensed. In addition to choosing accounts, the support/evidence for the identified risks needs to come from the work done in parts 1 and 2. Some potential answers are outlined below for select income statement and balance sheet accounts.

Revenue: Revenue recognition is required to be an increased audit risk unless the auditor can explicitly state why it is not an increased risk. In addition to the audit standard requirement some reasons for this case are:

Specific Risks:

- Consistent increases over past three years, doubling from prior year, significantly larger than budget.
- High volume of transactional processing
- Performance-Based Stock Compensation and cash rewards which is based upon how well the company is doing overall gives increased risk
- Foreign currency exchange risks
- Intellectual Property Rights (licenses, proprietary information, patents, trademarks)
- Bonuses based on revenue increase the risk of material overstatement.
- Sales through three different channels—medical patient sales, wholesale sales to licensed distributors, export sales to third party distributors
- Purchasing and consumption laws – such as age minimums.

Potential audit plan actions:

- Transactional existence and the accuracy and valuation of the account.
- Tests of occurrences for the sources of revenues and confirm the transactions.
- Ensure that revenue transactions are complete, occurring, are valued at appropriate amounts and are recorded in the appropriate periods, accuracy.
- Verify classification of sales.
- Increased professional skepticism due to fraud risks based on performance-based stock options and cash rewards.
- Meeting with Anne Rice, the CFO, and Jan Bryce, the CMO

Inventory: Inventory has a wide variety of risks but one mitigating internal control in the U.S. is the regulatory and reporting requirement regarding inventory production. This is a particularly interesting area as plants over 1 inch (or 2 inches) in size are required to have control tags typically issued by state regulators.

Specific Risks:

Management considers inventory to be a key performance indicator for the success of Andy's.

- Compliance with local and federal laws and regulations, varies on geographical location.
  - Seed to sale processing regulatory compliance
  - Jurisdictional compliance with growing regulations
  - Jurisdictional processes for
  - Agricultural and health regulations
- Regulated supply is just now catching up to high demand; the threat of misappropriation is a very real concern.
- Past discovery of a material misstatement in this account's balance due to errors from complicated spreadsheets.
- Newly implemented ERP system, the auditors have not tested this system to ensure controls are working properly
- Slowing inventory turnover.
- Risk of misappropriation by employees
- Sales and marketing staff, who come into direct contact with inventory, have a high rate of employee turnover.

Potential audit plan actions:

- Test internal controls of newly implemented ERP system.
- Inventory is subject to a complex spreadsheet entry model requiring large amounts of human inputs, there is a need to gain understanding and verification of these balances.
- Tests include inventory counts and surprise inventory observations at key locations.
- Testing management estimates.

Cash: Marijuana is a cash business primarily in the U.S. With cash-based business comes many risks as 80% of frauds involve cash.

Specific Risks:

- Banking regulations/credit unions and local banks vs. large banks
- Payroll
- Cash controls – Cash receipts, disbursements, cash handling, cash storage
- Use of legal business as a front for organized crime and money laundering.
- Failure to withhold and report proper taxes (payroll, federal, state)
- Sales and marketing staff, who come into direct contact with Inventory, have a high rate of employee turnover.
- High volume of transactional processing
- Foreign currency exchange risks
- Valuation/Existence/Accuracy of cash
- Risk of misappropriation by employees

Potential audit plan actions:

- Test internal controls of around all cash processes.
- Meeting with Anne Rice, the CFO, and Jan Bryce, the CMO
- Verify foreign exchange rates.
- Verify existence and accuracy of cash not in financial instructions.
- Confirm cash balances in financial institution. Verify legitimacy of financial instructions, any potential FDIC insurance, long-term viability of financial institution.
- Bonding/Background checks on employees.

Other areas (IIA, 2018):

- Application and licensing scrutiny
- Compliance with agriculture and health regulations.
- Diversion of inventory from legal producing jurisdictions to illegal jurisdictions.
- Tax compliance and processing – this is a big one and a tax class can go deep here, potentially combining the project between the two courses.

***PART 3: Audit Team Presentation***

The final task of the project is presenting results. During case implementation students were grouped in teams of three for this final task. The instructor randomized group assignment within the LMS. The following guidance is best for group presentations but can be easily modified to be an individual assignment.

**Key Task:** Students will be placed in groups and will present their findings to the audit engagement partner. The presentation should be in PowerPoint or some other professional presentation software.

**Guidance:** Students should be assigned presentation time slots for in-person presentations. If the instructor opts for recorded presentations, students should be encouraged to utilize a tool they are comfortable with. One suggestion might be Screencast-O-Matic. <https://screencast-o-matic.com/>. Instructors should share expectations with the students regarding the content required. During case implementation, students were required to present three key risks identified in part 2.3 of the case. They were also required to present one interesting fact they identified while researching for the project. This turned out to be one of the most interesting part of the presentations as each group highlighted different key areas.

**Sample Grading Rubric**

The following is a sample grading rubric that can be used to measure student performance. The rubric was made available to the students before and after the case in the learning management system. Instructors can modify the rubric criteria and weights as needed (Blackboard).

	<b>Needs</b>				
<b>Not Evident</b>	<b>Not Evident</b>	<b>Improvement</b>	<b>Proficient</b>	<b>Above Average</b>	<b>Exemplary</b>
<b>Formatting - Well organized, followed directions</b>	Points: <b>0 (0.00%)</b>	Points: <b>3 (3.00%)</b>	Points: <b>4 (4.00%)</b>	Points: <b>4.5 (4.50%)</b>	Points: <b>5 (5.00%)</b>
<b>Professional Document</b>	Points: <b>0 (0.00%)</b>	Points: <b>3 (3.00%)</b>	Points: <b>4 (4.00%)</b>	Points: <b>4.5 (4.50%)</b>	Points: <b>5 (5.00%)</b>
<b>Bus Risk ID</b>	Points: <b>0 (0.00%)</b>	Points: <b>9 (9.00%)</b>	Points: <b>12 (12.00%)</b>	Points: <b>13.5 (13.50%)</b>	Points: <b>15 (15.00%)</b>
<b>Control Risk ID</b>	Points: <b>0 (0.00%)</b>	Points: <b>6 (6.00%)</b>	Points: <b>8 (8.00%)</b>	Points: <b>9 (9.00%)</b>	Points: <b>10 (10.00%)</b>
<b>Emerging Growth Acct &amp; FR</b>	Points: <b>0 (0.00%)</b>	Points: <b>3 (3.00%)</b>	Points: <b>4 (4.00%)</b>	Points: <b>4.5 (4.50%)</b>	Points: <b>5 (5.00%)</b>
<b>Foreign Ops Risks</b>	Points: <b>0 (0.00%)</b>	Points: <b>3 (3.00%)</b>	Points: <b>4 (4.00%)</b>	Points: <b>4.5 (4.50%)</b>	Points: <b>5 (5.00%)</b>
<b>Materiality</b>	Points: <b>0 (0.00%)</b>	Points: <b>6 (6.00%)</b>	Points: <b>8 (8.00%)</b>	Points: <b>9 (9.00%)</b>	Points: <b>10 (10.00%)</b>
<b>Trend Analysis</b>	Points: <b>0 (0.00%)</b>	Points: <b>6 (6.00%)</b>	Points: <b>8 (8.00%)</b>	Points: <b>9 (9.00%)</b>	Points: <b>10 (10.00%)</b>
<b>RMM Accounts</b>	Points: <b>0 (0.00%)</b>	Points: <b>12 (12.00%)</b>	Points: <b>16 (16.00%)</b>	Points: <b>18 (18.00%)</b>	Points: <b>20 (20.00%)</b>
<b>Presentation</b>	Points: <b>0 (0.00%)</b>	Points: <b>9 (9.00%)</b>	Points: <b>12 (12.00%)</b>	Points: <b>13.5 (13.50%)</b>	Points: <b>15 (15.00%)</b>
<b>TOTAL Points</b>					<b>100 Points</b>