Deloitte Data Breach: An Evaluation of the Market’s Response

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**ABSTRACT:** On September 25, 2017, The Guardian reported that Deloitte U.K. had suffered a massive security breach, and emails of its clients had been compromised. Deloitte’s data breach represented a shocking lapse in security to safeguard and protect its clients’ data. In our study, we examine investors’ reactions to news of the data breach focusing on two research questions (1) Did investors’ perceptions of Deloitte’s ability to assess the effectiveness of internal controls over financial reporting change following the data breach? (2) Were investors in fear that hackers may be using the stolen insider information to manipulate the market? The results of our study suggest that Deloitte’s overall reputation was not damaged as a result of the data breach. However, Deloitte clients with high information asymmetry had significant negative abnormal returns in the days following the data breach. We interpret these results as evidence that investors feared that hackers may be manipulating stock prices at the investors’ expense and as a result closing positions in Deloitte clients that were hard to value. Our findings suggest the importance of data security at audit firms particularly for clients who are hard to value.
Jurors Liability Assessments after Cybersecurity Breaches: The Impact of Disclosure Timeliness and the Plausibility of Management Justifications

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**ABSTRACT:** This study examines the cost of litigation in connection with cybersecurity incidents. The purpose of this study is to determine how the characteristics and content of cybersecurity incidents’ disclosure affect jurors’ liability assessments. Specifically, this study explores how jurors react to management timeliness in disclosing the incident and the plausibility of the explanations provided to justify the disclosure strategy. The results suggest that timely disclosure of a cybersecurity breach reduces liability and that assessments of causal attribution mediate the relationship between disclosure timeliness and jurors' liability assessments. This study has relevant implications for regulators and other stakeholders and adds to the literature and theory documenting the link between disclosure timeliness and litigation risk.
An Integrative Review and Analysis of Cybersecurity Research: Current State and Future Directions

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ABSTRACT: Advances in information technology have greatly changed communications and business transactions between firms and their customers and suppliers. As a result, cybersecurity risk attracts ever increasing attention from the firms, regulators, customers, politicians, and academics. For instance, the Securities and Exchange Commission now requires firms to address cybersecurity risks and incidents, along with potential internal control solutions, in the managers’ discussion and analysis section of 10-K annual financial reports. Despite increasing interest in cybersecurity research, the literature lacks an integrative review of existing research identifying opportunities for future cybersecurity developments. In this study, we conduct an extensive analysis of cybersecurity-related papers in the accounting, information systems, computer science, and general business disciplines. Our review integrates and classifies 63 cybersecurity papers, develops a cybersecurity control framework, and identifies future research opportunities based on the current state of the literature.
Reaction of Rival Firms to the Information Security Breach of Focal Firms: Evidence from Market Activity and Information Asymmetry

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**ABSTRACT:** Using competitive dynamics theory and the theory of information transfer, this research examines whether there is a spillover effect from information security breaches of breached firms to those firms’ rivals. Market reaction from spillover effects is captured from market activity and information asymmetry. The results suggest that the market of rival firms react to the focal firm’s experience of a data breach. However, the overall effects of data breaches on rival firms are the opposite to those to focal firms, although in many cases rival firms also experience negative reactions in the financial markets. Specifically, the results suggest that the characteristics of data breach types and previous data breach histories of focal firms have implications for rivals. However, strong information technology governance capabilities of rivals play a shielding role in mitigating those negative effects.
Examing the Usability of the Comprehensive Annual Financial Report’s MD&A using Textual Analytics

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ABSTRACT: This research collected the Comprehensive Annual Financial Report (CAFR) of different municipalities within New York State, it analyzes the usability of the Management's Discussion and Analysis (MD&A) using textual analysis method. Considering the previous studies of the listed company MD&A section and the evaluation of the usability of financial information, this study measures the usability of the CAFRs from the timeliness, readability and usefulness perspectives. The results show that the usability of CAFR’s MD&A is very low, due to the length of issue period, hardness to understand to the public as well as high similarity of different years. We suggested the municipality to increase the usability by including a more further detailed discussion and depth analysis to the section. Most importantly, we suggest the municipality should provide machine-readable financial information to the public.
Management Self-Efficacy and Future Firm Performance

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**ABSTRACT**: In this paper, we investigate the relationship between the managements’ confidence level and its future performance. We present a new measure for managements’ confidence in their ability to succeed and name the management self-efficacy. Prior research of self-efficacy has been limited to the survey measurement and samples with venture companies. To measure the management self-efficacy, we apply textual analysis methodology with the company’s earnings conference call transcripts. More specifically, we implement a highly modified bag-of-words (words list) approach in which we combine word lists, sentence structures, parts of speech, and verb tense. Using this technique, we show how we can overcome the limitation of the survey type of measurements, limited sample sizes, and the bag-of-words methodology. Based on this new measurement, we find that the level of management self-efficacy is positively associated with the following year’s financial performance. In addition, this positive trend continues more than one year after the conference call. This paper can contribute to the literature by proposing a new textual analysis metric, providing empirical evidence of self-efficacy at the organizational level, and enriching the study of the earnings conference call.
New York City Street Cleanliness: Apply Text Mining Techniques to Social Media Information

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**ABSTRACT:** New York City (NYC) government performs a cleanliness inspection every year by relying on inspectors’ subjective judgment during visual inspection. This method has not changed for nearly fifty years. The inspection is based on the ratings that are provided by inspectors, and the ratings are adjusted for street miles but not for population, housing density, or the nature of activity in the inspected area, such as residential, commercial or parks and recreation. Based on the current rating system, NYC government rates the majority of its streets as acceptably clean. However, NYC residents increasingly contact Department of Sanitation via 311 or use social media to complain about missing trash pickups, overflowing litter baskets, and dirty conditions. Social media information plays a critical role in today’s Big Data environment; research on social media has grown exponentially in the past decade. Therefore, the objective of this study is to examine social media information, particularly Twitter, to identify temporal trends and patterns of street cleanliness, and to analyze if these trends and patterns are consistent with NYC cleanliness ratings. This study applies text mining techniques to Twitter information and performs sentiment analysis to examine the user-generated contents. This study extends the research on accessing social media feeds such as Twitter to gain valuable insights.
regarding the performance of municipal services. This study should be of great interest to municipalities, regulators, and citizen constituents.
ABSTRACT: In accounting, researchers have often faced issues related to relatively small numbers of positive observations for the dependent variable, but these rare cases are interesting and important. For example, a going concern opinion in auditing is relatively rare, accounting for approximately 11% of the cases in most data samples. To overcome the limit of this issue, this study examines the impact of using a balancing approach on accounting data, specifically for going concern audit opinions. This study compares the impact of balancing on the results for logistic regression and decision trees. Using U.S. audit going concern opinion data, this study demonstrates the value and limitations of balancing data in the analysis. Furthermore, this study demonstrates that the performance of traditional logistic regression methods can be adjusted using balancing techniques. The balanced and unbalanced decision trees allow an insight into an auditors’ decision-making process. The improved data balancing method addresses the current demand for improved methods in accounting research, benefiting both researchers and practitioners alike.
ABSTRACT: Relationship-specific investments are beneficial for both customers and suppliers, but underinvestment exists widely between suppliers and customers because of the perceived business risks of relationship-specific investing. One important factor in overcoming the risk of relationship-specific investment is the customer firm’s IT environment. IT environment potentially improves the amount of supplier-specific investments and the duration of the customer-supplier relationship in two ways (1) by lowering supplier risk through improving the quality of customers’ internal information and (2) by developing capabilities that improve the customer firms’ performance. We investigate the relationship between customer firms’ IT environment and supplier firms’ relationship-specific investments and find that customers with superior IT environments enjoy significantly more relationship-specific supplier investment. Our findings indicate that customer firms which signal a superior IT environment through public evidence of short-term IT capability experience a modest gain in relationship-specific investment; while customer firms that are able to signal longer-term IT reputation experience significant increases in their suppliers’ relationship-specific investments. Overall, our findings confirm the importance of IT environment to a set of highly influential firm stakeholders, customers who make up more than 10 percent of a supplier’s customer base.
The Association between Human Resource Investment in IT Internal Control over Financial Reporting and Investment Efficiency

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ABSTRACT: This study investigates the effect of human resource investment in information technology (IT) internal control over financial reporting on the firm’s investment efficiency. To conduct the analysis, this study utilizes the unique hand-collected data on the number of IT internal control personnel. In particular, this study uses the ratio of the number of IT internal control personnel to the total number of employees to capture the effect of investment in IT internal control personnel on the level of abnormal investment of the firm. This study finds that the human resource investment in IT internal control over financial reporting is negatively associated with the level of abnormal investment of the firm, suggesting that investment in IT internal control personnel enhances the firm’s investment efficiency. Furthermore, this study document not only the quantitative but qualitative investment in IT internal control personnel improves investment efficiency. The results of this study provide useful implication for management, regulators, and market participants as it demonstrates a positive effect of investment in IT internal control personnel.
ABSTRACT: In this paper we analyze a sample of business model descriptions (BMDs). Our focus is on how business models are presented in integrated reports, what their elements are, and how understandable and informative they are. Based on our review of 30 reports from six continents and various industries, we find that geographic location, industry, size (ln total assets), change in cash flow from operations and change in net income are not associated with informativeness of BMDs. However, BMDs that are longer and include tabular presentations are more informative about entities’ value creation processes. In addition, BMDs that contain the disclosure elements suggested by the International Integrated Reporting Council (IIRC) (2013) are more informative. Additional research and guidance on business model descriptions could help improve the quality of information provided to stakeholders.
ABSTRACT: In 2013, the Securities and Exchange Commission (SEC) issued guidance regarding the suitability of social media platforms to disseminate information to shareholders. The SEC guidance, however, is silent regarding the use of non-alphanumeric content (e.g., emojis) in social media platforms. The pervasive use of emojis has been recognized by social media platforms as a way to enrich interactions and has also been documented to have profound implications in various settings. To examine the effects of emojis in social media disclosures on nonprofessional investors’ perceptions and subsequent investment decisions, we conduct a 2 x 2 between-participants experiment with 227 participants from Amazon Mechanical Turk (AMT). Consistent with emotion work theory, we find preliminary evidence that nonprofessional investors are less likely to invest when positive earnings releases are followed by a related tweet disclosure containing emojis. Our findings not only enhance our understanding of the unintended consequences of emojis but also make important contributions to the social media literature, as well as firms and regulators.
An Emerging Technologies Course for Accounting Students

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ABSTRACT: We propose a second accounting information systems (AIS) course for accounting students to take in their junior or senior year. This course includes data analytics and big data, machine learning, robotic process automation, blockchain technology, and Alteryx. The course can be offered either online or face-to-face, over an academic term of between ten and sixteen weeks.
ABSTRACT: Accounting academia and professional organizations alike emphasize the need for the integration of technology and information systems into the accounting curriculum. This case integrates taxation concepts (individual retirement savings), information systems, and technology skills (advanced Excel) via the joint presentation and facilitation by both a tax professor and a systems professor. The case requires students to use advanced Excel technical functionality to calculate the tax implications of retirement investing scenarios using two specific types of tax-deferred retirement accounts – a traditional IRA and a traditional 401(k). As a majority of the students who completed this case will go to work for public accounting firms which offer retirement plans, they will benefit personally, as well as academically and professionally, from the knowledge and skills learned in this case.
A Classroom Exercise on Building Auditors’ Interview Skills

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ABSTRACT: In this instructional resource, we describe a classroom exercise that enables the students to understand the importance of interviews for auditors and practice their interview skills in the context of business continuity. Students are assigned to groups of two and are randomly chosen to play the role of either an auditor or a Director of Information Technology. In this setting, the auditor needs to understand the company’s business continuity strategies and practices from the director’s perspective without being able to observe or obtain detailed information. This exercise contributes to the accounting and auditing education by showing how to teach students soft skills, interview in particular, in the classroom. In addition, this exercise can be administered in different levels of auditing-related or accounting information systems courses to bring more hands-on learning activities to the classroom.
ABSTRACT: The use of textual analysis methods in the accounting profession has grown markedly in recent years. Accounting professionals as well as business and accounting accreditors have called for accounting students to acquire an increased depth and breadth of knowledge of digital data analytics. This case enables accounting instructors, with no previous background or experience in textual analysis, to introduce students to the use of textual analysis in accounting and allows students to conduct simple analyses using freely available software and documents retrieved from publicly available SEC filings. This case is designed for auditing, accounting information systems, fraud examination, and financial statement analysis courses, but it can be used in any accounting course where the content of relevant documents is subject to examination.
Proprietary Costs of Financial Reporting, Country-Level Attributes, and Financial Statement Comparability

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ABSTRACT: This study investigates the impact of country-level attributes on the relationship between proprietary costs of financial reporting and financial statement comparability. Countries differ in a variety of ways such as in legal systems, regulation enforcement, social and organizational culture, and economic and social environments. Given that managers use discretion in financial reporting, proprietary costs of financial reporting and country-level attributes could play a role in shaping managers’ financial reporting behavior, which, in turn, could have an impact on financial statement comparability. For the international study, I use four country-level latent factors, suggested by Isidro et al. (2016), that categorize most country-level features that affect financial reporting practices. I find that the negative relationship between proprietary costs and comparability is stronger in countries with poor financial reporting environments. This result indicates that managers are more concerned about proprietary costs and enjoy more discretion allowed by poor financial reporting environments. Further, I find that, among the country-level attributes, Investor Protection variable has the largest impact on the relationship between proprietary costs and comparability. This finding shows that strong protection of investor rights and better developed capital markets are effective in restricting managers’ use of discretion in financial reporting. This study may provide implications for standard setters in countries with poor financial reporting environments that they should emphasize strong protection of investor rights and attempt to develop capital markets in order to enhance firms’ financial reporting quality.
The Effect of Adopting IFRS in Saudi Arabia on the Comparability and Relevance of Financial Reporting

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ABSTRACT: We examine whether adoption of International Financial Reporting Standards (IFRS) by companies reporting under Islamic accounting framework is associated with greater comparability and relevance of financial reporting. The Saudi Organization for Certified Public Accountants (SOCPA) requires that IFRS, as endorsed in Saudi Arabia, be applied by all listed and unlisted companies. Using a sample of Saudi Arabian companies listed on Tadawul, the Saudi stock market, we compare accounting numbers reported under Islamic accounting (SOCPA GAAP) and IFRS, and document how IFRS adoption changes key financial measures and the value relevance of financial information. While Islamic accounting is more stakeholder-oriented, IFRS is shareholder-oriented and generally perceived as a fair value accounting model. Significant accounting standard differences between two accounting frameworks having direct impact on financial measures in transition to IFRS are analyzed. The empirical results show that the adoption of IFRS in Saudi Arabia improves the relevancy of financial reporting, as gauged by the association between book value of equity and net income with the market value of company shares in the post-adoption periods, for most industry sectors. Also, we document that the financial reports which are available in the English language, as well as those reports which are audited by the Big 4 instead of other audit firms, reveal higher value relevance. The study should be of interest to regulators, standard setters and listed companies in all countries worldwide that are in transition to IFRS.
Early Adoption of Topic 606 Revenue Recognition from Contracts with Customers

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ABSTRACT: How do companies make decisions on when and how to transition into newly issued accounting requirements? The two-year window for adopting Topic 606 Revenue Recognition from Contracts with Customers offers an opportunity to observe companies, using their financial statement notes from 2014 to 2017, in order to provide investors with information about changes in revenue recognition methods. Among the Standard & Poors (S&P) 1,500 companies, only ten companies were identified as early adopters, making this study a deep exploration into the transition paths chosen by these ten unusual companies, rather than a statistical comparison of early versus late adopters. By examining these ten companies, this study can identify evidence of the motivations that the accounting literature has documented in the study of other early adoption decisions.
ABSTRACT: This study examines the effect of corporate accounting personnel’s educational level on financial reporting quality. We show that auditors are less likely to make audit adjustments and charge lower audit fees for companies with better-educated accounting personnel. These findings suggest that better-educated accounting personnel improve the quality of pre-audited financial data, which lowers auditors’ assessment of audit risk and the need for auditors to make adjustments. We show that post-audited financial statements for companies with less-educated accounting personnel contain higher levels of discretionary accruals and are more likely to be restated subsequently, even though auditors exercise greater effort and make more audit adjustments. Our findings should be of interest to auditors who need to assess client risk and to regulators who are concerned about improving overall accounting quality.
ASSOCIATIONS AND NETWORKS OF INTERNATIONAL ACCOUNTING FIRMS

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ABSTRACT: Small accounting firms join accounting associations and networks (AANs) to gain access to technical resources and accounting personnel in other industries and geographic locations. Bills et al. (2016) find that AANs allow small accounting firms operating in the United States (U.S.) to improve audit quality but Mao et al. (2017) find that similar benefits do not extend to small accounting firms that join AANs in China. Thus, it remains an empirical question whether AAN membership provides benefits to small international accounting firms operating outside of the U.S. Using a difference-in-differences design, we find that, across 24 countries, audit quality improves on average after small international accounting firms join an AAN. We further find that AAN audit quality is not significantly different from Big 4 audit quality for similarly sized clients. These findings have important implications for accounting firms, audit committees, regulators, and investors in international markets.
**ABSTRACT:** We examine auditor affiliated offshore entities (AOEs) and the conditional disclosure of Sarbanes-Oxley Act of 2002 (SOX) Section 404 internal control material weaknesses (ICMWs). We find that AOEs less frequently conditionally disclose ICMWs compared to U.S. audit firms auditing U.S. company clients. We do not find significant differences in conditional ICMW disclosure between AOEs and U.S. auditors auditing foreign companies. Importantly, we model ICMW disclosure conditioned on ICMW existence and detection using a bivariate probit model that corrects for partial observability. Our results indicate that AOEs do not exercise the same disclosure practices as U.S. auditors, which may be attributable to differences in auditors’ assessment of materiality or may reflect less auditor independence. Our findings reinforce the PCAOB’s concerns over ICMW reporting among foreign auditors and suggest that recent regulatory efforts to provide insight into the use of AOEs provides useful information to financial statement users.
The Impact of Anti-Corruption Laws: Evidence from the U.K. Bribery Act’s Extraterritorial Reach

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**ABSTRACT:** To combat the global corruption problem, many countries have recently adopted tougher anti-corruption laws. Empirical identification challenges, however, often preclude robust causal inferences as to whether such laws curb foreign bribery. I introduce a novel within-country setting that exploits US multinational firms’ differential exposure to adoption of the United Kingdom Bribery Act (UKBA), which is stricter than the US Foreign Corrupt Practices Act (FCPA) in several key respects. I show that the 2010 adoption of the UKBA induced US firms with material UK business (i.e., treatment firms) to curb their exposure to corrupt countries, relative to a control sample of US peer firms without material UK business. The effect is more pronounced for firms with higher enforcement risk and ex ante bribery risk. A falsification test based on material business in Germany rather than the UK shows no effect. Additionally, consistent with some firms evading the UKBA’s jurisdiction, I find that certain treatment firms with relatively small pre-2010 UK business, but a high exposure to corrupt countries, ostensibly downsize their post-adoption UK business. Overall, my findings suggest that foreign anti-corruption laws increase the cost of foreign bribery for US multinationals, thereby driving changes in their international operations. As extraterritorial provisions become increasingly common, my approach has relevance for future research examining the causal impact of laws and regulations.
Trouble Across the Pond: Insights and Research Implications from PCAOB Non-U.S. Firm Enforcement Actions

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**ABSTRACT:** The Public Company Accounting Oversight Board (“PCAOB”) executes its regulatory oversight using standard-setting, inspections, and enforcement. The PCAOB’s role extends to non-U.S. audit firms that perform issuer audits or have substantial involvement in the audit. Overall, the academic and practitioner literature is limited on the enforcement process and its related outcomes. Specifically, as it relates to non-U.S. enforcement actions, the evidence is virtually non-existent. Since 2010, the PCAOB has issued 68 non-U.S. enforcement actions against 90 audit firms (39) and individuals (51) totaling over $13 million in fines. With the increasing trend in non-U.S. audit enforcement actions, this study provides initial evidence on the non-U.S. enforcement process and the disciplinary actions generated. As there is limited research on the non-U.S. enforcement process and its implications, this study also offers a research agenda for further exploration of the implications of non-U.S. enforcement actions on audit firm operations and audit firm quality.
ABSTRACT: Using a sample of 4.3 million federal government contract actions amounting to $2.47 trillion over 16 years, we find that bureaucrats award more, larger, and less risky contracts to politically connected firms when they have greater discretion over contracting outcomes. Our results vary predictably across contract and agency characteristics, over time, and in placebo tests, and are robust to a comprehensive fixed effect structure and several alternate measures of political connectedness. Our evidence illustrates the role of the bureaucrat in facilitating government wealth transfers to politically connected firms.
ABSTRACT: Some time ago, a call to action in the accounting profession was sounded: become a profession founded on data analytics or become a profession bound for the history books. Accounting firms and corporations are investing significant resources to the development of data analytics capabilities, but it is not clear whether accounting professionals are leading or are following the charge. Some practitioner press indicates the latter, as accountants appear to resist the move away from simple tools such as Excel and organizations redefine positions toward data scientists rather than accountants. In this paper, we examine the resistance to new and emerging data analytics technology by some accounting and finance professionals. We conducted a survey based on Status Quo Bias Theory with a diverse sample of 192 accounting and finance professionals. Deviating from the predications of the theory, the results indicate the perceived value of a new technology does not mediate the effect of switching benefits and costs on resistance. Rather, switching benefits and perceived value are aligned as a single factor to reduce resistance, while switching costs directly increase resistance. Results on colleague opinion, organizational support, and self-efficacy are inconclusive. This calls for a deeper investigation into the way these professionals apply cost-benefit analyses and other intangible factors when resisting or accepting a change in technology. Researchers have focused substantial effort toward data analytics in education and business, but have not documented whether accounting professionals have actually adapted to the new reality. We suggest that a troubling number have not, and contribute to the literature by exploring why some continue to resist.
Perceptions of Robotic Process Automation in Public Accounting

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ABSTRACT: We examine how the adoption and use of Robotic Process Automation (RPA) is affecting the work experience of employees in the public accounting industry. Specifically, we compare how top and bottom-level employees perceive RPA. To do so, we interview 14 RPA leaders and survey 139 lower-level employees from Big 4 accounting firms. Unlike other situations where an expectations gap exists between executives and lower-level employees, we find that the two groups generally agree that RPA is having a positive influence on the profession. Specifically, both groups believe that RPA is positively changing the work employees perform and improves employee career prospects. However, although firm leaders believe RPA will improve work satisfaction, lower-level employees report no such improvements. These insights will assist the profession as it increases the use of RPA and provide direction for future research studies examining related issues.
ABSTRACT: Data classification is the foundation for information security as it provides a structure for the rules that govern what employees can do with organizational data (Everett, 2011). To investigate how organizations classify data, we conducted interviews with 27 high-level information security professionals (primarily Chief Information Security Officers (CISOs)), in 23 companies across ten industries. We used a qualitative analysis of the interviews to create a data classification model, including drivers, processes, challenges, and outcomes. We find that data classification is typically a collaborative process between the CISO and data owners across the company. Together, they classify data into categories, with three categories being the most predominant (i.e. public, internal, and confidential). Common drivers of data classification are risk management (e.g., reputational, financial, and legal liability) and industry-specific regulatory compliance. Primary challenges include user non-compliance with data classification policies, complexity of the IT landscape, issues with obtaining an accurate data inventory, lack of resources, and an absence of mature automated data classification technologies. Positive outcomes include increased organizational awareness of information security and privacy and improved IT controls and data hygiene. Information security professionals can use our results as they develop or improve their data classification policies and look to the future as to what challenges they may encounter and outcomes to expect. Academic researchers may test our model focusing on relationships among factors and choices that lead to improved outcomes.
Predicting Earnings Management through Private Subsidiaries: A Data Engineering Approach of Earnings Management in Private Subsidiaries of UK Publicly Traded Companies

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**ABSTRACT:** This study examines whether public companies use their private company subsidiaries to manage earnings. Specifically, we examine UK public companies and their use of domestic private subsidiaries to materially manage earnings and whether the behavior is more likely when the business group’s consolidated net income is close to one or more consequential thresholds. We apply three current techniques in ML to analyze the data: Linear Models (LM), Support Vector Machines (SVM) and Random Forests (RF) – current practices in machine learning (i.e., non-traditional) methods (at least in accounting) – to analyze the data and to formulate our predictive model. This data engineering approach is better suited for this type of data and produces a significant improvement in the error rate of the final predictive model, yielding better insights and lower error rates than traditional methods.
ABSTRACT: Governments around the world - from Brazil and Mexico over Hungary and Italia and all the way to China - are increasingly enforcing more and more rigor attempting to monitor and control the transactions between companies to ensure that they comply with the current regulations. But could technology be used in a more decentralized manner for these processes? In this paper, the author studies, engages, and co-creates with the Danish Business Authority and develops a prototype for a blockchain-enabled platform for financial reporting and VAT settlement following a Design Science Research approach. The theoretical contribution of this paper is five distinct design principles on how to design a distributed ledger technology-based platform for invoice sharing. For practitioners within the field of accounting information systems, this paper demonstrates the technical feasibility of how VAT can be settled in near real time by using distributed ledger technology, but also that government agencies should lead their respective ecosystems in a new power direction. Furthermore, this paper provides a use case for governments around the world who want to use digitalization for distribution of power while still ensuring tax revenue.
Applications of Blockchain in Government Open Checkbook

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**ABSTRACT:** Technological advances in the assurance profession aim to improve transparency quality, effectiveness, and efficiency. One such technology is Blockchain, which documents transactions in units of blocks, thus continuously increasing the list of records. Blockchain can secure the solidity and irreversibility of published data and makes it almost improbable for an individual or malicious party to manipulate the nodes which contain the blockchain's records. Numerous studies in the accounting and auditing literature proposed and implemented this technology, emphasizing its potential to remodel the business environment. However, the extant literature focused mainly on the private sector, and it is crucial for governmental accounting not to lag behind. Government auditors can use blockchain to enhance auditing procedures because it raises investigative powers, encourages added professional qualification, and supports transparency. This paper discusses how the application of blockchain to government open checkbook has the potential to provide citizens with a higher level of transparency. Furthermore, this study argues that this technology, coupled with the application of smart contracts to the government procurement cycle, can enable real-time and continuous auditing through integrated data. Our approach consists of three steps. First, we describe the core concepts and features of Blockchain. Second, we discuss the implications for the process of payments extracting payments from government database to open checkbooks. Third, we propose a blockchain-based framework to store and publish government open checkbook data. This research contributes to the government accounting literature by applying and combining distributed ledger technology and smart contracts to continuous auditing in order to meet public demands of improved transparency and accountability. From a practical perspective, the implications are
manifold. The proposed methodology improves audit quality, effectiveness, and efficiency using technological advances such as blockchain and continuous auditing. The proposed model can be applied to several activities in the auditing process, such as transaction tests, ratio analysis, sampling, confirmations, performance. Future research can extend this study by exploring the possibility of generalization of this model and its application to other types of assurance services.
ABSTRACT: With many businesses either adopting Distributed Ledger Technology (DLT) applications or considering their implementation for those enterprise processes which potentially could materially impact financial statements, auditors will soon be asked to reasonably assure DLTs. We propose a generalizable framework which an auditor can follow to provide reasonable assurance of a DLT, and which considers its risks to the enterprise. The framework is developed with a Design Science Research (DSR) approach and entails risk assessment, controls identifications, controls procedures evaluations, and controls weaknesses analysis. It discusses the generic distributed ledger technology space but uses examples specific to blockchains. This paper contributes to the evolving research in the DLT domain and appears to be the first to propose a risk assessment-based reasonable assurance framework for DLT systems. It is anticipated that this research will be of great interest and value to auditors, accountants, regulators, business owners, and academics. An ability to understand and evaluate these complex DLTs and their potential risks will benefit an auditor. Business owners will benefit from obtaining a holistic understanding of the risk and controls dimensions of DLT systems.
A New Paradigm of the System of Accounting Records: A Comparison between Hyperledger, Multi-Chain and Ethereum

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ABSTRACT: This study attempts to explore the approach to configure blockchain platforms that can meet the need of financial accounting. To address our research question, a design science approach is used. Specifically, we propose a common blockchain-based conceptual framework for financial accounting. Then we develop prototypes on three platforms using a hypothetical scenario. The proposed platforms are evaluated based on the Multidimensional Weighted Attribute Framework (MWAF). The paper can be an outline for future studies to further develop the specifications and to construct a blockchain to meet financial accounting purposes.
An Introduction and Tutorial on Neural Networks for Accounting Research and Practice

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**ABSTRACT:** We apply textual analysis using neural networks, extending machine learning methods commonly used in accounting research and practice. We first outline the potential strengths of using neural networks to classify text into topics. Specifically, we outline how a neural network approach, using paragraph vectors, can extend textual analysis in the accounting literature by incorporating word usage contexts. Empirically, we find that using this approach provides classifications that align more closely with human expert classifications than traditional unsupervised machine learning approaches. We contribute by providing an accessible tutorial of neural networks with an accounting focus and an example of improved text classification using neural networks that can be implemented by researchers and practitioners.
Auditing in the Data Analytics ERA: The Impact of Auditors’ Abilities and Feedback Type on Anomaly Identification

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ABSTRACT: Public accounting firms continue to make strides in developing data analytic tools to help auditors identify high-risk areas where they should focus their efforts. Ideally, auditors should use these tools to visually display data and uncover otherwise unknown anomalies (Brown-Liburd, Issa, and Lombardi 2015). However, prior research suggests that there is a shortage of individuals with data analytic skills and the ability to interpret data analytic results (Huerta and Jensen 2017). I utilize a quasi-experiment to examine whether individuals’ spatial and analytical abilities, and type of feedback influence anomaly identification performance. Assuming my hypotheses are supported, the results would suggest that spatial and analytical abilities are positively associated with anomaly identification performance. Also, significant results would indicate that individuals who receive task performance feedback will subsequently outperform individuals who receive either outcome feedback or no feedback when using data analytic tools. My findings suggest accounting firms should hire auditors with spatial and analytical abilities and incorporate task performance feedback into analytics training to prepare for the data analytics auditing era.
ABSTRACT: One issue that continues to plague researchers in the development of a comprehensive business ontology, concerns the specification of normative business event (sometimes referred to as tasks) models for business processes. These business events are aggregated into business processes and can be mapped to state changes within these business processes. There are two types of review for these business event models. First, are the models designed appropriately, and second are they operating as designed. These two types of reviews are the basis for evaluating an organization’s system of internal controls. Thus, a quality internal control system will result not only in a perfect design of the business event models, but will also ensure availability of sufficient information about the actual functioning of these event models. Despite this relatively straightforward conceptual foundation for a system of internal controls, to date there are still only descriptions of sufficient results as opposed to necessary conditions for a quality internal control system. In addition these sufficient results are not of internal controls, but concern the quality financial statements created from the corporate information system. This results in a subjective evaluation of internal controls; are they good enough to provide quality financial statements? This subjective review may not be consistent from one reviewer to the next. The purpose of this paper is to examine some possible philosophical issues that may offer some insight into the nature of business events, their impact on internal controls, and the evaluation of internal control systems.
Using Supervised Learning Algorithms to Predict Non-Profits Discontinued Operations

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ABSTRACT: IRS Form 990 provides various detailed financial and non-financial information about nonprofit organizations in the United States. This form is required to be filed annually by the IRS for most nonprofits. One question on IRS Form 990 asks if the organization liquidated, terminated, or dissolved and ceased operations during the year. Anticipation of ceased operations should assist stakeholders when allocating their economic resources. This research uses supervised machine learning methods to predict the discontinued operations in non-profit organizations. This study compares the prediction performance of K Nearest Neighbor, Decision Tree, Neural Network and Support Vector Machine as well as Logistic Regression. The overall effectiveness of different prediction performance will be assessed.
ABSTRACT: Due to the technological development, the automation of individual process steps or entire processes has become a common way of improving efficiency and effectiveness in companies. Against this background, Robotic Process Automation (RPA) is often the means of choice. Even if the advantages from the company's point of view are manifold, from a control and monitoring point of view it must be questioned which special features RPA entails as a tool in audit engagements and in the internal audit function (IAF). Thus, this article presents how RPA can be implemented in an IAF and what opportunities and risks arise from this automation. Therefore, we present different use cases and discuss a potential framework for the implementation.
The Impact of Mandatory IFRS Adoption on Cross-Listing Audit Fee Premiums

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ABSTRACT: This study examines the following research question: How does mandatory IFRS adoption affect the audit fees of client firms that are cross-listed in the U.S.? Using data from 14 EU countries from year 2002 to 2006, I find that audit fees increased less for cross-listed firms than for non-cross-listed firms from pre-IFRS to post-IFRS period. Further analyses show that the difference is mainly driven by countries with strong legal environments and investor protections. I also document that the increase in audit fees is positively associated with the pre-adoption difference between local GAAPs and IFRS.
The Role of Audit in World-Wide Access to Credit: Evidence from the World Bank Enterprise Surveys

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**ABSTRACT:** We investigate the importance of external audit in explaining access to credit for two types of constrained firms — those denied credit and those too discouraged to apply for credit. We use a unique cross-country sample of private firms for which the choice to commission an audit is voluntary. We document that the availability of audited financial statements reduces both the probability of credit denial and the probability of discouragement from applying for credit. We further document that the importance of audited financial statements in reducing financial illiteracy and information asymmetry, and thereby increasing access to credit, is greater in developing than in developed countries. These findings have important implications for policymakers seeking to improve access to credit by small-and-medium enterprises.
Voluntary Audits of Nonfinancial Disclosure and Earnings Quality: The Assurance of Corporate Social Responsibility Reports

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Elizabeth Gordon
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Carlos Zambrana
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ABSTRACT: Abstract: We investigate the association between voluntary assurance of a firm’s corporate social responsibility (CSR) report and earnings management. CSR reporting is believed benefit a firm by increasing understanding of risks and opportunities, highlighting links between financial and non-financial performance, improving corporate transparency and improving a company’s reputation with stakeholders. A concern, however, is that managers use CSR reports to promote a socially responsible image without a meaningful commitment to actual CSR activities, referred to as “green-washing.” To negate this concern and signal a credible commitment to CSR activities and transparency, a company can obtain assurance on its CSR report. Using a global sample of CSR reporters, we find that issuing a CSR report in itself is not associated with lower accrual-based earnings management nor real activities manipulation. CSR assurance is associated with less accrual-based when the assurance is provided by either a Big or Non-Big auditor. Firms with CSR reports assured by Non-Big auditors are more likely to engage in real activities manipulation. The interaction of assurance by Non-Big auditors and governance mitigates real activities manipulation.
ABSTRACT: In this study, we examine whether private information improves macroeconomic forecast accuracy. Macroeconomic forecast accuracy has key consequences at corporate level as economic agents use macroeconomic forecasts as signals of future macroeconomic trends in their decision-making process. Theoretical models argue that private information improves macroeconomic forecast accuracy. We contend that private information is not always beneficial for macroeconomic forecast accuracy as its benefits vary depending on the level of policy uncertainty. Using a sample of US Gross Domestic Product (GDP) monthly forecasts for the period 2001-2016, we find that access to private information improves macroeconomic forecast accuracy when policy uncertainty is low. When policy uncertainty is higher, private information leads to a greater estimation error that hinders corporate profitability by inducing sub-optimal business decisions. The negative effect of private information on macroeconomic forecast accuracy is stronger in face of rare and unexpected events, drop in the value of private information and low ability of forecasters.
**ABSTRACT:** We examine whether transparency in government disclosures about country-level economic and business conditions helps improve the efficiency of operating and investment decisions made by firms in those countries. We argue and find that transparency in such aggregate economic information is positively associated with firm-level measures of operational and investment efficiency, including capacity utilization and total factor productivity. We further report a negative relationship between government transparency and external financing obstacles faced by firms, suggesting that government transparency helps external capital providers to better assess their investment opportunities. Several cross-sectional analyses corroborate our main findings. We find that the role of government transparency is muted for firms with reliable firm-level information (i.e., audited firms), in countries with well-developed public markets that serve as an alternative and presumably more timely source of business information, and in countries with well-developed credit markets where competition and search for yield may result in misallocation of capital to less efficient investment opportunities. Overall, our paper sheds light on the important role played by governments in aggregating and disseminating economic information.
Do Analysts Predict Target Prices More Accurately when They Disclose Cash Flow Forecasts with Earnings Forecasts? Global Evidence

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Minna Yu
Monmouth University

ABSTRACT: With a large global sample, our paper examines whether the provisions and the accuracy of analysts’ cash flow forecasts are associated with more accurate target price predictions. Examining the impact of cash flow forecasts on target price forecast accuracy in a global setting is interesting because, despite that analysts’ flow forecasts are more pervasive outside U.S., we have limited evidence on the usefulness of these forecasts in other countries. Using a global sample composed of 36 countries, we find that the provisions of cash flow forecasts do not necessarily enhance analysts’ target price forecasting performance, even for firms that are challenging to value. However, analysts’ target price forecast accuracy does increase in their cash flow forecast accuracy. Furthermore, the positive association between target price forecast accuracy and cash flow forecast accuracy is stronger for challenging-to-value firms. We also find that the effect of cash flow forecast accuracy on target price accuracy is more pronounced in countries with higher-level investor protection and higher-level disclosures and earnings quality.
Do Audit Findings Have Informational Value? Evidence from Insider Trading in the Era of the Expanded Audit Report in the UK

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Adriana Korczak
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Maria Ivanova Vulcheva
Florida International University

ABSTRACT: By using information from the expanded audit report in the United Kingdom, we test what part of the audit process and conclusions are of value to insiders. First, we establish that the introduction of the expanded audit report format increases both the probability and the magnitude of buy transactions. However, it does not affect the timing of sale transactions or the profits realized by insiders. These findings suggest that insiders may find the information included in the extended audit report useful for their decision to buy into their firm shares. Focusing on the content of the audit report, we document a non-linear relationship between risks of material misstatements and both the overall probability of buy transactions and the magnitude of net purchases. Our results also suggest that materiality levels affect the timing of insider trading by increasing the average probability of sale transaction after the filing of the financial statements. Finally, the profitability of insider trading is greater in firms with higher materiality levels.
Key Audit Matters Reports in China: Their Descriptions and Implications of Audit Quality

Joseph Zhang
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ABSTRACT: Analyzing textual and archival data related to the Chinese regulation of key audit matters (KAM) reports, we examine what information the KAM reports disclose and how the KAM reports relate to audit quality. Our main findings show that: 1) auditors report both industry-generic and firm-specific KAMs, and the wordings to a large extent are firm specific and differ in KAM reporting components; 2) auditors’ accountability and independence are strengthened when auditors initiate KAM reporting; and 3) the characteristics of KAM reports comprehend audit quality in that the number of KAMs and disclosure characteristics in terms of specificity, similarity, readability and length reflect auditors’ concerns about clients’ financial statement quality. Overall, our study suggests the substance of manifold audit report features in studying the usefulness of the communication and implementation of KAMs.
The Interplay between IFRS 7 Risk Disclosures and the Expanded Audit Report: Evidence from Syndicated Loan Contracting

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ABSTRACT: Lenders have an asymmetrical preference for negative information and assign important resources to assess borrowers’ downside risk. The risk disclosures regarding financial instruments required under IFRS 7 likely cater to the informational needs of banks, with significant implications for the design of syndicated loan contracts. This paper draws on hand-collected data to address an important gap in the literature concerning the importance of IFRS 7 disclosures for private lending. We find that loan contracting terms, specifically the cost of lending, are shaped by management’s risk disclosures and that this effect is mostly attributable to disclosures relating to unsystematic risk. Additional tests indicate that the effect becomes stronger for disclosures with a higher level of novelty and that relationship lending between banks and borrowers has no detectable effect on the relevance of the risk disclosures. Further, we aim to assess the impact of (1) the adoption of the expanded audit report and (2) the entity-specific risks of material misstatements (RMMs) on the debt-market relevance of the IFRS 7 risk disclosures. Our results indicate that, while the IFRS 7 disclosures information is incorporated less in loan contracts in the post-adoption period, its significance increases with the disclosure of entity-specific RMMs. Overall, our study documents that auditors’ and managers’ risk disclosures are largely complementary in shaping loan contracting terms.
ABSTRACT: We exploit the Foreign Investment and National Security Act (FINSA) to examine the effect of an important managerial disciplining mechanism, the takeover market, on the quality of non-GAAP reporting. FINSA significantly reduced the likelihood of takeover for a large fraction of the CRSP-Compustat universe. We draw inferences using a difference-in-differences research design by contrasting non-GAAP disclosures by FINSA-affected firms with those of unaffected firms, before and after FINSA. We find that FINSA-affected firms more often exclude recurring expenses, more often exclude expenses incremental to those excluded by analysts, and more often use non-GAAP earnings to convert a GAAP-based miss of an earnings forecast to a beat, after FINSA. This effect accentuates predictably with the extent to which FINSA-affected firms are susceptible to the takeover market in the pre-FINSA period, and with the extent to which non-GAAP earnings determine manager compensation. We conclude by documenting a decline in non-GAAP earnings persistence and the value-relevance of non-GAAP earnings after FINSA. Our evidence demonstrates the role of the takeover market in curbing opportunistic non-GAAP reporting.
ABSTRACT: Using a proprietary dataset collected by the National Bureau of Statistics of the People’s Republic of China (NBS), we are able to compare earnings reported to the NBS in the pre-IPO (initial public offerings) period with earnings for the same firm and the same year reported in firms’ IPO prospectus. While Ball and Shivakumar (2008) find that in the U.K., financials reported at IPOs tend to be more conservative than the original reports, we find the opposite: income reported by Chinese firms in their IPO prospectus tend to be higher than those reported to the NBS. In the year immediately preceding the IPO, the discrepancy is mostly driven by firms inflating earnings in the IPO prospectus to increase issue prices. In earlier years, firms in provinces with weak law enforcement report lower earnings to the NBS to avoid taxes, which also contributes to the discrepancy between the IPO and NBS data. These findings suggest that firms tell different lies to different audiences. The discrepancy between the IPO and NBS earnings is positively correlated with the IPO issue price, indicating that firms are able to increase their IPO proceeds by raising earnings in the IPO prospectus from the original NBS reports. Furthermore, firms with the highest discrepancies experience the most significant declines in return on assets (ROA) and the most negative abnormal returns after the IPOs. Our paper complements the existent literature on earnings quality at IPOs, sheds light on firms’ tax avoidance behaviors, and is of practical value to investors and regulators.
The Effect of Legal and Regulatory Environment on Voluntary Disclosure: Evidence from Disaggregated Earnings Forecasts

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ABSTRACT: Using a comprehensive sample hand-collected from the original texts of management earnings forecasts from 28 countries, we examine the effect of country-level legal institution on the likelihood of and stock market reactions associated with management earnings forecast disaggregation (i.e., management earnings forecasts that contain projections of the bottom-line net income number as well as forecasts of other key earnings performance measure). We find that disaggregated earnings forecasts are perceived to be more informative especially in countries with a strong legal and regulatory environment. However, we find that managers are less inclined to issue disaggregated earnings forecasts in countries with a strong legal and regulatory environment. Additional analyses reveal that disaggregated earnings forecasts are associated with lower level of earnings management in the future period, especially in countries with more stringent legal and regulatory environment. Together, our results suggest that the cost associated with constrained earnings manipulation activities outweighs the positive credibility-enhancing effects of disaggregated earnings forecasts in countries with stronger institutional characteristics, thereby reducing managers’ disclosure incentives of disaggregated earnings forecasts.
Politically Motivated Corporate Budgeting

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**ABSTRACT:** We investigate whether and how politician turnovers in China are associated with corporate budgeting processes and outcomes. Using manually collected annual sales budget data and politician turnover data from 2007 to 2017, we find that companies with headquarters located in areas experiencing local politician turnovers are more likely to miss their budgeted sales in the year immediately following the politician turnovers. The increased likelihood of missing sales budgets is attributable to inflated sales targets rather than worsened performance. We further find that budget-inflating firms receive more government subsidies and better access to short-term loan financing, whereas their CEOs do not experience an increase in turnover when these firms miss their budgeted sales. This study provides initial archival evidence on how political factors influence corporate budgeting practices.
Welcome Back? Economic Consequences of CEO Reappointments

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ABSTRACT: We analyze reappointments of former CEOs of U.S. listed firms over the period 1992 – 2013. For a sample of 117 CEO reappointments, we find that shareholders of these firms experience statistically significant negative stock valuation consequences. Our findings are robust to multiple return measurement windows and alternative definitions of abnormal returns. We also document that market reactions depend on certain executive-specific attributes, such as whether she is the founder of the firm or whether she is also appointed as chairman of the board of directors. Finally, we show that firm performance deteriorates after a former CEO is appointed relative to appointing a non-former CEO. Our results provide evidence that the market considers reappointed CEOs as “leaders of last resort” and highlights the importance of CEO succession planning.
The Impact of XBRL Content on Stock Return Synchronicity

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**ABSTRACT:** This paper examines the relation between XBRL content — both official elements and customized extensions — and stock return synchronicity. We focus on the changes in synchronicity around mandated XBRL 10-K filings. We show that synchronicity increases as the number of official (standard taxonomy) XBRL tags increase but decreases as the percentage of extension (customized) tags increase. More official tags result in more market-wide information in firm’s stock returns and reduced information asymmetry. More extensions reflect increased information asymmetry. We further show that these relationships are primarily driven by the tagging of the footnotes rather than the body of the financial statements. Additionally, we show that the relation between XBRL content and synchronicity is affected by firm size, analyst coverage, and accounting conservatism.
A Quantifiable Complexity Measure to Evaluate Transparency in Government Financial Data

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**ABSTRACT:** There has been a significant increase in demand from many sectors of society for improved transparency in government financial performance. However, the complexity of converting available data into useful knowledge diminishes transparency, because the average citizen lacks the expertise to handle the complexities involved in this task. This paper calls on the seminal work of McCabe (1976) to measure the complexity of the process required to gain understanding of open governmental financial data. We collect data from over 5,000 Brazilian municipalities from 2014-2016, and document each step in collecting, cleansing, preparing, combining, analyzing, and interpreting the data. Results suggest that these processes are very complex, which impairs transparency of financial performance. Our study extends the body of literature by quantitatively measuring the complexity of government financial reports in Brazil, consequently arriving at a transparency measure independent of qualitative and judgment-based analysis. Moreover, such measurement has important practical implications to society at large and municipalities, specifically those who seek greater open governmental data transparency.
ABSTRACT: Emotional intelligence (EI) is as a set of interrelated emotional abilities (i.e., accurately perceiving emotions, using emotions to facilitate thinking, understanding the emotions of others, and managing emotions to attain goals). The available literature indicates that Emotional intelligence (EI) is a key to being recruited by a top CPA firm but also the key to individual and organizational performance, good teamwork, and successful judgement. It is highly valued by global CPA firms and is thought be a skill in the success of audit and risk judgement (Gupta, Lewis and Salter 2019). Very little has been written about the impact of national culture on EI Huynh, Oakes & Grossmann (2018) but was has been written tends to support that more individualistic countries have higher levels of EI. More recently, Huynh, Oakes & Grossmann (2018) have raised the issue Socioeconomic Status (class) affects EI levels and resultant success. In their model class advantage is both created and maintained by attending high end and costly tertiary institutions. We examine both class and cultural issues. The cultural impact is captured through the collection of data from graduate students at state supported institutions in in the individualist US and collectivist Chile. We find as hypothesized that the US students have statistically higher EI scores, but the difference in scores is smaller than in previous Asian comparisons. Issues of trade and immigration are discussed as part of the explanation. We then introduce a separate sample of elite Chileans. Chile is relatively unique among OECD countries having one of the highest GINI scores indicating significant income inequalities and class differential. These students are found to have substantially higher EI than the students attending Chilean state supported schools. They also have almost identical scores to US students.
The Impact of Customer’s Reported Cybersecurity Breaches on Supplier’s Relationship-Specific Investments

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**ABSTRACT:** We investigate the impact of a customer’s cybersecurity breach (CSB) incidents on a supplier’s relationship-specific investment decisions. Relationship-specific investments are specialized to create value for its trading partners in the supply chain and usually subject to the future prospects of the counterparty in the relationship. Consequently, the perception of suppliers about their customers’ business prospects affects their incentive to undertake such investments. An increasing number of firms recognize cyber risk as a primary business risk because of the increase in cybersecurity breach (CSB) incidents and the financial, operational, and reputational costs associated with them. In this study, we examine whether a customer firm’s CSB has a negative effect on its supplier firm’s relationship-specific investment. By investigating reported breaches from 2004-2017, we find a 5.7 percent decline in supplier’s relationship-specific investments (R&D spending) in the year following a CSB. Furthermore, we find an even greater level of decline (59 percent) in a supplier’s relationship-specific investments when a more important customer reports a CSB. Our findings are robust to endogeneity test.
The Stock Market and Audit Market Effects of a Big 4 Security Breach

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ABSTRACT: This research provides insights into how audit clients and investors respond to a breach of confidential client data by an audit firm. Specifically, on September 25, 2017, Deloitte & Touche (a.k.a., Deloitte), an international Big 4 audit firm, reported that its systems had sustained a six month long cyber attack lasting from October 2016 to March 2017 (Hopkins 2017). We examine whether Deloitte’s reputation was impacted. We find that Deloitte’s audit clients at the time of the breach did not experience a change in audit fees, nor were they more likely to dismiss Deloitte. However, Deloitte experienced a decrease in the number of new audit clients after the breach announcement as well as decreased first year audit fees for new clients. A negative market reaction was only found for clients that dismissed Deloitte. Thus, Deloitte’s reputation appears to be only tarnished for companies searching for a new auditor.
You are Hacked, What Happens Next? An Event, Impact, Response Research Framework Linking Cybersecurity and Accounting

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**ABSTRACT:** Due to recent high-profile cybersecurity breaches and increased professional and regulatory attention, organizations are under pressure to consider the accounting implications of these attacks and develop appropriate responses. Specifically, cybersecurity breaches may affect organizations’ operations, financial and non-financial performance, and ultimately its stakeholders. This paper presents an event, impact, response framework to discuss current research and consider future research opportunities for examining how cybersecurity issues may affect accounting. This framework encourages research beyond the AIS community to areas such as financial accounting, managerial accounting, and auditing. Further, the event, impact, response framework provides insights regarding cybersecurity challenges to organizations and regulators.
Blockchain’s Impact on Auditor Legal Liability and the Moderating Effect of Jurors’ Technology Bias

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Neal Michael Snow
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**ABSTRACT:** Advanced technology significantly increases organizations’ ability to use autonomous systems, such as blockchain, to perform daily transactions with little human intervention. Though auditors do not control client systems, auditors must obtain evidence from those systems introducing the possibility that juror beliefs about technology could impact their assessments of auditor liability for a misstatement not detected by the system. In a between-participants experiment with eligible jurors, we manipulate the transaction processing system (blockchain compared to traditional) and the auditor’s reliance on tests of controls versus substantive tests (less or more substantive tests), and we measure participants’ technology bias (high or low technology bias). We find that the blockchain condition breaks the expected relation between substantive tests and negligence judgements. While in the traditional condition jurors reduce negligence verdicts when auditors conduct more substantive tests, the extent of substantive tests has no relation to jurors’ negligence judgments in the blockchain condition. Instead, jurors simply award fewer negligence verdicts in the blockchain condition than in the traditional condition, especially for jurors with high technology bias. Together our results suggest that attitudes towards advanced technology could lead to perverse judgments of auditor liability that depend on the client’s transaction processing system rather than the auditor’s extent of evidence.
Towards a Conceptual Framework of Blockchain in Accounting

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ABSTRACT: We present a conceptual framework of blockchain consisting of three layers of elements featuring the main characteristics in blockchain technology. The top layer of business requirements includes the two most important requirements of tamper free and share that are inherent merits of blockchain, together with four more additional considerations for business requirements: 1) Performance; 2) Complexity; 3) Security and privacy; and 4) Governance and control. The middle layer in the framework are consensus model, network model, and trust model. The foundation of the framework is the infrastructure and environment for blockchain with their various components. We discuss two critical issues, digitization and cryptography, along with other considerations and implications in blockchain implementations. We argue that blockchain, instead of being a specific technology or application, is a collection of innovative concepts and technologies that have the potential to bring another wave of revolutionary changes to technology, business and accounting after the Internet. Our framework provides for a comprehensive understanding of blockchain and offers insights for future research and practice.
ABSTRACT: Bitcoin, an application of blockchain, has attracted a lot of attention from the public. However, our understanding in this domain is still very limited. In this study, we attempt to provide insights regarding nonprofessional investors’ investment judgments towards bitcoin accepting companies’ bitcoin managing strategies. In particular, we argue that investors are more likely to invest in companies that do not keep or keep a low percentage of bitcoin earnings as investment, rather than companies that keep a high percentage of bitcoin earnings. We also expect that investors are the most likely to invest in companies that keep a low percentage of bitcoin earnings and pay taxes with bitcoin. A 2 x 2 + 1 between participants experiment through Amazon MTurk was performed and our findings are consistent with our expectations. Implications are discussed.
ABSTRACT: To improve students’ spreadsheet proficiency, this case offers guided modeling experience in a gradebook context for identifying modeling requirements from conversation, scanning data for exceptions, learning and performing spreadsheet operations from documentation, and verifying spreadsheet operation correctness. The case offers diagnostic questions to assess initial proficiency, practice questions for calibrating learning, and assessment questions to measure learning gains. The approach appears to help students improve their spreadsheet proficiency as they prepare to enter a work world that takes it for granted. The case is suitable for students that can copy cells, develop formulas with absolute and relative references, and use built-in functions in formulas. It requires students to develop formulas with IF statements and across-worksheet cell references, invoke functions from icons, record sorting macros, and create a pivot table. Scaffolding resources include scripts with screenshots and narrated videos for performing the spreadsheet operations.
Blockchain: Bridging the Profession-Education Gap with Instructional Scaffolding

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Ethan Kinory  
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Sean Stein Smith  
*Lehman College (CUNY)*

**ABSTRACT:** Deloitte’s 2018 global Blockchain survey reports 95% of over 1,000 Blockchain-savvy executives from a variety of industries and professions are investing in distributed ledger technology. A Blockchain is a type of decentralized, distributed database linking together previous records in secure blocks of information available for inspection and review by members of a network. This transformational technology, commonly associated with cryptocurrency, will drive disruption and result in new business models with the potential to lower costs, reduce transaction settlement time and improve cash flow (Panetta, 2018). This proposal utilizes scaffolding learning theory for student engagement of Blockchain content in any junior or senior level courses. This learning strategy introduces Blockchain concepts using guided notes for in-class discussion, current events, short instructional videos, collaborative research tasks and hands-on use case construction. The activities can be introduced in a single class period or up to a week of instruction to increase student awareness of an in-demand disruptive technology. Resources provided with the learning strategy also benefit faculty by providing necessary instructional materials for mastering introductory Blockchain concepts before working with students. Addressing the growing need for increased awareness, this learning strategy builds a necessary skillset with Blockchain technology and applications.
Accounting Implications of Blockchain—A Hyperledger Composer Use Case for Intangible Assets

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ABSTRACT: Blockchain technology, most commonly associated with the cryptocurrency Bitcoin, has attracted large amounts of investment, attention, and analysis. In addition to attracting the attention of investors, speculators, and regulators, the implications for financial practitioners as and organizations are increasingly apparent. Financial transactions, property transfers, audit and attestation services, supply chains, and numerous other areas of industry are continuing to integrate Blockchain into operations. This paper attempts to bridge the gap between the very technically involved concept of Blockchain and its relevance to the field of accounting. More specifically, distilling the technical components of Blockchain into understandable components and data that practitioners and other users of this research can understand, explain, and apply. This paper proposes a Hyperledger Composer use case method by which practitioners and researchers can familiarize themselves with Blockchain concepts through demonstration of a tool for accounting integration. Addressing the growing need for increased awareness, this proposal builds a necessary skillset with Blockchain technology and applications.
An Empirical Study of Securities Crowdfunding Offerings under SEC Regulation Crowdfunding

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ABSTRACT: Under SEC Regulation Crowdfunding effective in May 2016, early-stage private companies are permitted to conduct securities crowdfunding offerings—low-dollar securities offerings on Internet platforms to a large number of non-accredited investors. Using SEC filings and hand-collected data, I first document that 63 percent of companies conducting securities crowdfunding campaigns from 2016 to 2018 successfully raised capital. Ventures with higher revenue, larger management teams, and greater firm age, along with those located in California or New York, are more likely to receive funds from crowdfunding investors. Furthermore, analysis reveals that 48 percent of companies did not comply with Regulation Crowdfunding’s requirement to file offering outcomes with the SEC. Companies that have unsuccessful campaigns and those that conduct campaigns on the Internet platform Wefunder.com are less likely to fulfill their SEC filing obligation. Overall, this study offers new insights into the nascent securities crowdfunding market under Regulation Crowdfunding by shedding light on the determinants of funding success as well as the factors associated with regulatory noncompliance.
ABSTRACT: This paper explores the fire sales, valuation, and value recognition of downgraded bonds. I categorize downgrades as dual downgrades — where both credit ratings downgrade and regulatory risk designation downgrade (latter negatively affecting the risk-based capital ratio) occur, and single downgrades — where only credit ratings downgrade occurs. I find that insurers are more likely to dispose immediately of bonds that experience dual downgrades than single downgrades, but the association is weaker for riskier bonds, primarily because of illiquidity. Moreover, insurers are more likely to recognize other-than-temporary impairment (OTTI) and with greater magnitude upon a dual downgrade than a single downgrade, but the relation becomes weaker for riskier bonds. Additionally, cross-sectional analyses show that the likelihood of fire sales upon a dual downgrade for riskier bonds is higher in higher MTM (mark-to-market accounting) states and among securities that are more commonly held by insurers, and lower for securities that are subject to higher impairment risk. Impairment recognition (fair value estimation) upon a dual downgrade for riskier bonds is less likely or smaller (more favorable) in lower MTM states, for firms with poorer financial performance, and for securities that are less commonly held (for firms with poorer financial performance). In sum, findings suggest that insurers are less likely to dispose immediately of riskier bonds that experience dual downgrades. Nevertheless, they are more likely to engage in opportunistic valuations of such bonds, possibly providing stakeholders with a distorted picture of their financial performance.
Bridging the Governance Gap: The Impact of Foreign Nationals on the Dual Role of Russian Firms’ Boards of Directors

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ABSTRACT: We examine the extent to which foreign directors’ representation on boards of Russian firms affects the board’s dual role of monitoring and advising executives. First, we find that nationality diversity on boards is positively associated with a firm’s probability of cross-listing in London. Additionally, foreign directors discourage Russian firms from cross-listing on foreign markets with less stringent governance obligations compared to London. Overall, it appears that foreign directors enhance the board’s advisory role. Contrary to the “liability of foreignness” notion, the origins of foreign directors are not necessarily related to a firm’s probability of cross-listing on the directors’ native foreign market. Next, we find that foreign directors’ presence on the board’s audit committee is associated with reduced reporting quality; it also decreases the probability of an auditor’s issuing a modified opinion, and this is more pronounced in the case of financially distressed firms. Accordingly, foreign directors’ contribution toward the board’s monitoring effectiveness is uncertain. To reconcile conflicting findings of the boards’ dual role, we assess the overall benefit of foreign directors’ representation. We document a positive association between the board’s foreign composition and a firm’s performance and valuation, the latter effect being more pronounced for firms with German directors on the board. Finally, following the imposition of economic sanctions on the Russian economy by the Western community in 2014, foreign directors’ advisory role has been reinforced; they also exhibit more caution at monitoring executives.
Monitoring or Payroll Maximization? What Happens When Workers Enter the Boardroom?

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**ABSTRACT:** We examine whether worker representation on corporate boards results in improved monitoring or payroll maximization. Several economic theories predict that worker representatives would use control and voting rights in the boardroom to transform firm assets to private benefits and increased wages, although labor contract models suggest workers’ inside information should permit improved monitoring. To investigate this conflict, we use mandatory worker representation on corporate boards in Germany. Using hand-collected data, our results suggest that payroll maximization incentives dominate their monitoring duties. Specifically, although worker representation is generally associated with improved monitoring, worker representatives follow payroll maximization objectives when incentives conflict. This evidence helps policymakers and researchers better understand the role of workers in corporate governance systems and contributes to the ongoing public debate about introducing worker representation in the United States and the United Kingdom.
ABSTRACT: We investigate how board of directors characteristics evolve over firms’ life cycle stages in the international scenario. Prior literature suggests that firms over years adapt their corporate governance structures according to the life cycle stage in which they are located. We hypothesize that board attributes like monitoring and independence vary according to the firm life cycle stage to respond timely to the demand from its life cycle. Our measure of firm life cycle is based on cash flow patterns (Dickinson 2011). Our sample consists of public companies from North America and the European Union, over 1992-2018, totaling 22,563 observations. We find that the number of board meetings is higher for firms in the decline stage followed by firms in shake-out and introduction stages in comparison to mature firms and board meeting attendance higher for growth firms (monitoring characteristics). Also, we find that board of directors of introduction firms have more non-executive members and higher likelihood to the CEO is also the chairman, while firms in the shake-out stage have less independent directors (independence characteristics). The combined evidence implies that board of directors characteristics evolve over life cycles and firms adjust their corporate governance structure in response to the challenges of the life cycle.
ABSTRACT: Using a shock to the Chinese capital market and unique and detailed audit-adjustment data, this paper investigates the effect of a capital-market liberalization program on auditor behavior. Employing difference-in-differences tests with propensity-score matching and firm fixed effects, we find that the capital-market liberalization induced by the implementation of the Shanghai - Hong Kong Stock Connect increases auditor prudence and leads to audit adjustment changes stimulated by greater reputational and litigation risks for auditors. We observe asymmetric audit adjustment changes. Specifically, the liberalization significantly decreases the frequency and magnitude of upward audit adjustments, but does not change the probability or magnitude of downward audit adjustments. Further evidence shows that the effect is more pronounced for companies audited by the largest audit firms and for companies with low financial transparency and high trading volume. Overall, our findings suggest that auditors respond asymmetrically to increased market scrutiny.
The Impact of PCAOB International Registration on Audit Quality and Audit Fees: Evidence from China

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ABSTRACT: Despite the importance of registration with the PCAOB, there is surprisingly little academic research on the registration process and its impact on audit outcomes (Abernathy, Barnes and Stefaniak 2013). The PCAOB allows registration of audit firms from non-US countries. However, China and a few other countries do not allow the PCAOB to conduct inspections of audit firms. We take advantage of this natural setting to investigate whether PCAOB-registered audit firms improve audit quality in the absence of inspections. We also examine whether PCAOB-registered audit firms charge an audit fee premium. We find that both audit quality and audit fees increase following PCAOB registration. Overall, our findings suggest that PCAOB registration has a positive impact on the quality of audits in China and that clients are willing to pay higher audit fees for audits by PCAOB-registered firms.
ABSTRACT: Organizations such as the AACSB and the Pathways Commission (2012) recommend that emerging technologies be included in the accounting curriculum. Yet the inclusion of emerging technologies represents a challenge for accounting educators due to the complexity and uncertainty associated with the technology, as well as the rapid pace of technology change and innovation. This paper answers the call by the Pathway Commission (2012) for additional research focused on enhancing learning experiences to better reflect current and emerging technologies. Using an experiential learning approach (Butler, Church, and Spencer (in-press), we create a hands-on, learning activity focused on blockchains in order for accounting students to gain a conceptual understanding of blockchains and its applications and implications beyond bitcoins.
Enterprise Architecture for Accounting and Finance Transformation:

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ABSTRACT: Although enterprise architecture is evolving into a multiple billion dollar business, it has received limited attention in the accounting information systems literature. However, enterprise architecture can provide an important approach for transforming an organization. Recently, The Hartford implemented a unique and robust approach that used Kaplan and Norton’s well-known “strategy maps” as part of the enterprise architecture process to transform the finance department. A strategy map was developed for the business level, and a related “principles” map was developed for the finance department in order to integrate the efforts of the finance department into the overall business strategy map. The process generated a creative future state that included a linear flow of information that mirrored the information life cycle, while providing a “single source of truth” archive for financial information. This paper reviews and analyzes The Hartford’s use of strategy maps to redesign the finance function in order to attain “high performance finance.” In so doing the paper investigates a unique approach that allows grounding accounting and financial information systems in an organization’s strategy. The Hartford’s approach provides insight into and “data” about real world enterprise architecture in accounting and finance. Finally, this paper documents how a company used enterprise architecture based on strategy maps, to generate an understanding of a complex “current state” and the journey to a more linear and less complex “future state,” where the design ultimately provides a single source of truth using data warehouses, directly aligned with the Finance department’s portion of the strategy map.
The Robots are Coming…But Aren’t Here Yet: The Use of Artificial Intelligence Technologies in the Public Accounting Profession

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ABSTRACT: In this paper, we survey public accounting professionals to gauge the extent to which Artificial Intelligence (AI), specifically Robotic Process Automation (RPA) and Machine Learning (ML), are currently being utilized by the profession, as well as perceptions about the impact and receptiveness to this technology. Quantitative and qualitative responses from ninety participants, representing various firms, service lines, and positions, indicate that both RPA and ML are currently not being used extensively by public accountants nor by clients of public accounting firms, and firms are conducting some, but not extensive training on these technologies for employees. However, respondents strongly indicated that AI will significantly impact their daily responsibilities in five years and that employees in the profession are very receptive to these changes. Additionally, we find that firm size appears to be the most significant factor impacting differences in responses. These results indicate that while large-scale AI adoption has not yet come to public accounting, substantial changes are on the horizon.
**ABSTRACT:** This paper explores information in the cryptocurrency’s initial coin offerings (ICOs) market and the impact of its self-regulated voluntary disclosure, the so-called “white paper”, has on ICO success. The sample are the token sales listed from two popular ICO investment sites, Smith+Crown and CoinSchedule up to May 2018. Information about white paper, funding information of ICO, as well as the ICO market information are collected and verified. Using the sample, I find that the informativeness of white paper disclosure does affect the total fund raised, and to a lesser extent, the duration of ICO. However, it does not seem to affect the pre-ICO elements (soft cap or hard cap, ICO token prices) that are self-selected by the ICO team, nor does it stimulate pre- or post-ICO market interests. The white paper does affect post-ICO returns and volume for the first trading day, but this impact quickly disappears. In addition, the more informative white paper does seem to reduce the likelihood of post-ICO SEC enforcement. The policy implication suggests that regulators should start implementing mandatory disclosure that markets may want, adding useful information in ICO market.
ABSTRACT: With many businesses either adopting Artificial Intelligence (AI) applications or considering their implementation for enterprise processes which impact financial statement information, auditors need to confront the challenges of relying upon these AI systems including the ethical aspects. Potential biases raise risks to the auditor with respect to the substance which underlies financial information. We propose a generalizable framework which an auditor can follow to perform an audit of an AI application and which considers these ethical risks. The framework, which entails evaluation, examination, and iterative fine-tuning, potentially provides a reliable tool and process for auditors to assess bias and fairness risk in and AI system. Hence, this paper contributes to the extant research on ethics in auditing/accounting AI systems and on auditing AI and Black box algorithms. It is anticipated that this research will be of great interest and value to the professional, regulatory, academic, and business communities.
ABSTRACT: This paper uses various supervised learning algorithms to predict audit quality, which is measured by financial statement restatements, one of the best proxies of audit quality that is publicly available. Using 14,028 firm-year observations from 2008 to 2016 in the United States and ten different supervised learning algorithms, this research shows that Random Forest algorithm can predict audit quality more accurately than logistic regression and that audit-related variables are better than financial variables in predicting audit quality. The results of this paper can provide regulators, investors, and other stakeholders a more effective tool than the traditional logistic regression to assess and predict audit quality, thus better protecting the benefit of the general public and ensuring the healthy functioning of the capital market.
The Attenuating Effect of Intelligent Agents and Agent Autonomy on Managers’ Ability to Diffuse Responsibility for and Engage in Earnings Management

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**ABSTRACT:** Advances in IT suggest that computerized intelligent agents (IAs) may soon occupy many roles that presently employ human agents. A significant concern is the ethical conduct of those who use IAs, including their possible utilization by managers to engage in earnings management. Following economics and moral disengagement theory, we investigate how financial reporting decisions are affected when they are supported by the work of an IA versus a human agent, with varying autonomy. In a 2 x 2 between-participants experiment with experienced managers, we manipulate agent type and autonomy, finding that managers engage in less aggressive financial reporting decisions with IAs than with human agents, and engage in less aggressive reporting decisions with less autonomous agents than with more autonomous agents. Path analysis suggests that managers’ perception of control over their agent and ability to diffuse responsibility for their financial reporting decisions serially mediate the effect of agent type and autonomy on managers’ financial reporting decisions. Our results have implications for regulators and practitioners, where the adoption of computerized intelligent agents can attenuate managers’ earnings management activity by preventing them from diffusing responsibility for their actions to others.
Auditing an RPA-Enabled Accounting Information System

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ABSTRACT: Even though RPA is anticipated to reduce the time that an auditor spends on highly repetitive, mundane, and error-prone tasks, the auditor should not relax her professional skepticism. The auditor should constantly test as to whether the RPA tools are truly reliable, creating perfect audit trails, and reducing mistakes, as its proponents claim (Moffitt et al 2018). Auditors should not “drink the Kool-Aid” and should instead review the inherent risks of the RPA processes and evaluate their threats, vulnerabilities, likelihood, impact, and controls. Whether the auditor is examining a client’s RPA or her own RPA, the process remains the same. As technology becomes more and more intertwined with human processes with humans relinquishing actions of certain tasks to RPA bots, the auditor will be required to evaluate these controls more frequently and perhaps even on a continual basis. This research will investigate and document the audit-related issues that arise due to the incorporation of RPA tools in a typical Accounting Information System. We will identify RPA-specific issues that may impact the audit process with respect to specific accounting-related business processes, the RPA tools being utilized, and the varied types of data and data sources that drive the process.
The Use of Technology Based Audit Techniques in the Internal Audit Function—Is There an Improvement in Efficiency and Effectiveness?

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ABSTRACT: The effective use of technology and advanced data analytics can be a competitive advantage for companies in today's operating environment. The use of technology based audit techniques has also become an important part of the internal audit function. Using a unique and proprietary dataset, our study focusses on the effects of technology based audit techniques on the performance of internal audits. We analyze a total number of 159 internal audits performed by 91 different internal auditors. We gather data on the maturity level of technology based audit techniques in the IAF and the individual use of such techniques by the participating internal auditors. Our results demonstrate that the participating internal auditors evaluate the use of the IAF’s results by different stakeholders to be greater if technology based techniques are implemented to a greater degree. Depending on the specific stakeholder, we find slightly differing results. Most notably, we find that internal auditors perceive C-level executives and audit committees use internal audit results more intently when there is greater implementation of technology within the IAF.
ABSTRACT: This study compares and illustrates the decision-making process for male and female audit partners when issuing a going concern audit opinion. Using a statistical machine learning process called a decision tree, this study derives models for the decision process from archival data for both male and female audit partners. This study shows that the majority of going concerns are decided in almost exactly the same way by male and female audit partners. However, when looking at the smaller number of firms that are borderline as a going concern, there are relevant differences between the decisions of male and female audit partners. The female audit partners are influenced by more relevant factors such as a modified bankruptcy probability score. The female audit partners are also shown to make clearer and more consistent decisions than male partners. In summary, this study finds that in general, female audit partners make more consistent decisions based on more relevant data when issuing going concern audit opinions. This study also shows that audit fees do not affect the going concern decisions of audit partners relative to other factors, and this study verifies that liability ratios are still important influences for an audit partner’s going concern decision process.
**Knowledge Spillover from Audit Clients Using the same ERP System: Effects on Audit Efficiency and Pricing**

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**ABSTRACT:** In this study, we utilize a unique dataset (Global Software Leads) to examine the association between the level of ERP expertise acquired through interactions with various clients at the office level and audit report lag and audit fees of clients with similar ERP systems. Consistent with our prediction we observe shorter (longer) audit report lags when clients use an ERP system that is used by more (less) of the clients of the office conducting the audit. We suggest that this is consistent with audit offices gaining knowledge of an ERP system and using that knowledge to improve the audit efficiency of clients where that ERP specific knowledge is more relevant. We further find that these apparent efficiency gains enjoyed by the audit firm appear to be shared with the client through lower fees. The latter finding provides an important contribution to the literature as prior audit research has generally failed to find evidence of fee discounts (lower audit fees) when the auditor appears to experience efficiency gains (less audit delay). The findings of this study are therefore important and timely to both practice and academics as the profession continues to move toward a more tech enabled audit.
Shared, Distributed, and Blockchain Ledgers: What’s the Core Concept?

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**ABSTRACT:** Blockchains have many proposed applications, some of which are already in operation. Originally used in the cryptocurrency Bitcoin, blockchain has evolved into many forms that work differently from Bitcoin. We place blockchain in perspective as one type of distributed ledger technology (DLT) that, in turn, is one type of shared ledger. We suggest the underlying concept is the shared ledger, whose appropriate form should be determined for each proposed use case. Much current blockchain research applies to shared ledgers generally.

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**ABSTRACT:** Blockchain has been hyped as a technological breakthrough and thus far research efforts have focused on how blockchain can revolutionize business. We take a different approach and consider how use of blockchain will be perceived by non-professional investors. Specifically, we study whether the type of financial accounting system used impacts how a non-professional investor perceives the trustworthiness of a potential investment firm which in turn leads to intentions to buy. In a web-based experiment with 256 non-professional investor participants, we find that when firms employ a traditional accounting system, perceived source credibility informs trust. Alternatively, when a blockchain-based accounting system is employed, transparency is the more influential variable when considering perceived trustworthiness of the firm. The findings have implication for research and practice. We extend research by introducing transparency into a model of non-professional investor behavior. The findings also suggest that signaling trustworthiness would not be a necessary endeavor if firms increase transparency by employing a public blockchain.
Cybersecurity Oversight and Disclosure: An Inside Perspective

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ABSTRACT: Amidst increasing concern over cybersecurity risks to public companies, the SEC has charged boards of directors with overseeing the management of these risks. However, there is little known about how boards of directors approach cybersecurity risk oversight. This proposal seeks to ascertain the current state of practice regarding cybersecurity oversight, including cybersecurity-related disclosure decisions, by conducting in-depth, semi-structured interviews with directors and senior executives of publicly listed firms. We theorize that a board’s experience (or lack thereof) with cybersecurity determines their oversight approach, and that experienced boards will use a strategic, internally-oriented approach to cybersecurity oversight, whereas boards lacking cybersecurity experience will use an externally-oriented approach with a primary focus on seeking institutional legitimacy. This internal vs. externally oriented approach then affects how stewardship over cybersecurity risk is allocated within a firm, and what processes are used to manage cyber risks. In addition to testing these predictions, we also examine the degree to which recent SEC guidance shapes cybersecurity oversight and disclosure. This investigation will provide insights to both practitioners, the SEC and to the burgeoning cybersecurity research agenda.
ABSTRACT: Accounting firms are investing substantial resources towards innovation (Alliott 2017; EY 2018; Austin, Carpenter, Christ, and Nielson 2019; O'Leary 2019) with the goal of improving the effectiveness and efficiency of the accounting function. Firms look towards their employees, and particularly those at the staff and senior levels, to identify areas ripe for innovation (Cooper, Holderness, Sorensen, and Wood 2019). One method accounting firms use to facilitate innovation is crowdsourcing (O'Leary 2019), which is the practice of requesting information or other task inputs by soliciting a large number of people via social networking sites. Crowdsourcing “brings together knowledge and information that may be scattered among different groups, locations, hierarchies, or departments” and “increases social interaction, leading to higher social capital of those involved that can in turn positively affect the overall knowledge quality in the enterprise” (Zuchowski, Posegga, Schlagwein, and Fischback 2016, 170).
The Effects of the Perception of Anonymity on Tax Reporting Accuracy

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**ABSTRACT:** This study examines whether the perception of anonymity increases taxpayers filing accuracy. We manipulate anonymity in a 2 x 2 experimental design using pre-populated and non-prepopulated tax forms and an abstract image of watching eyes versus no-watching eyes. The U.S. government relies on the voluntary compliance of taxpayers for accurate collection of income taxes. However, the revenue lost due to noncompliance (tax gap) is substantial and creates multiple social and economic dysfunctions. There is a large body of literature that documents that different factors affect tax compliance, including the classical deterrence model introduced by Allingham and Sandmo (1972). In addition, several researchers have shown that behavior is significantly altered when the actions of individuals are observed or perceived to be observed. Several studies have shown that anonymous individuals who are shown artificial cues of being watched behave as if they are being watched by real people. However, to our knowledge this study is the first to incorporate the watching-eyes effect in the context of tax compliance policy.
ABSTRACT: Regulators continuously express concerns that auditors do not appropriately apply professional skepticism (PS) and exercise insufficient PS (PCAOB 2012; IFIAR 2016; FRC 2017). The Public Company Accounting Oversight Board (2012) suggests audit partners set an appropriate tone that addresses the need for PS. The way a partner communicates PS plays an important role in improving auditors’ PS. However, research related to communication technology used by a partner is under-examined (Kelton, Pennington, and Tuttle 2010). The purpose of this study is to examine how the audit partner’s emphasis on PS (with or without worked-examples) and the use of communication technology (video or email) influence staff auditors’ skeptical judgments.
ABSTRACT: Networks are everywhere: lunch ties among co-workers, golfing partnerships among employees, inter-locking board-of-director connections, Facebook friendship ties, etc. Each network varies in terms of its structure – its size, how inter-connected network members are, and the prevalence of sub-groups and cliques. At the same time, within any given network, some network members will have a more important, more central position on account of their greater number of connections or their capacity as “bridges” connecting members of different network cliques. The logic of network structure and position is at the heart of what is known as social network analysis, and my paper applies this logic to the study of the stock market. Using an array of data analytics and machine learning tools, I will examine 17 million Twitter messages discussing the stocks of the firms in the S&P 1,500 index in 2018. Each of these 1,500 stocks has a distinct Twitter discussion network that varies in terms of core network characteristics such as size, density, influence, norms and values, level of activity, and embedded resources. My core proposition is that the ultimate effect of any market-relevant information is contingent on the characteristics of the network through which it flows. To test this proposition, I operationalize each of the core network characteristics and examine their influence on market reactions to 2018 quarterly earnings announcement events.
The Impact of Intangible Factors on Profitability: Evidence from Corporations Traded at Muscat Securities Market in Oman

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ABSTRACT: The objective of this paper is to determine whether corporate financial performance may be influenced from intangible assets owned by a company and some special incurring expenditures benefiting the intangible value of the company even though such items could also be technically expensed contrary to getting capitalized. Combining the intangibles reported on the corporate balance sheets with the expenditures such as R&D, staff and advertising expenses, a variable called Calculated Value of Intangible Factors (CVIF) is specifically generated and is examined as to whether intangibles alone might potentially have a significant effect on corporate profitability ratios, and if so to what extent. The sample consists of non-financial public companies traded at Muscat Securities Market in Oman and the sampling period covers the time window from 2013 until 2017. Two regressors are used to capture the effect of intangible factors; meaning CVIF and CVIF/Total Assets (CVIFTA) respectively, the latter of which is a relative measure. Four (4) profitability measures, namely Gross Profit Margin (GPM), EBIT Margin (EBITM), Net Profit Margin (NPM) and Return on Assets (ROA) are developed as proxies to indicate for corporate financial performance. Considering all the resulting eight (8) models each, panel data regression analyses are performed separately to specifically document the linkage between corporate intangibles and corporate financial performance. Results provide a strong evidence by showing that intangibles do have a significant and a positive effect on corporate financial performance, except when ROA is regressed by CVIFTA rather than CVIF. This effect on and the linkage with financial performance is documented to be the most robust once GPM and NPM are to indicate the performance in the forms of CVIF and CVIFTA respectively.
Effects of Strategic Performance Measurement Systems over Profitability, Evidence from Emerging Markets

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ABSTRACT: This paper compares the impact of different configurations of Strategic Performance Measurement Systems (SPMS) over firm financial performance. We adopt the attention-based view approach to argue that SPMS impact on performance depends on the functional areas of business where decision-makers place their attention, rather than the tool itself. We compare the performance effect of nine SPMS alone and combined, and classify them into three functional areas of business: Accounting and Control, Information Systems, and Management. While we did not find an impact of a specific SPMS over performance, we find that organizations that cover all three core functional areas of business, obtain better performance than organizations that include them partially. Moreover, we find that the performance effect of SPMS is contingent on the type of strategy the firms implement as well as their business diversification level.
Return Predictability of the Implied Cost of Equity Capital: International Evidence

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ABSTRACT: I analyze the cross-sectional and time-series return predictability of the implied cost of equity capital (ICC) worldwide and assess whether securities regulation influences both types of return predictability. Although international studies frequently use ICC estimates, the validity of the ICC worldwide is not well confirmed. Furthermore, several studies indicate ICC has the different implications on the cross-sectional and time-series variations in the cost of equity capital using the US setting. In this study, using the observations from 1993 to 2018 across 36 countries, I present four interesting findings. First, ICC-based portfolios constructed by dividing all firm-year observations into 200 portfolios according to the ICC estimate show a clear positive correlation between the portfolios’ average ICC and average future returns. Especially, the average future realized return of a portfolio with average ICCs from 5% to 15% tend to be directly proportional to their average ICC. This relationship is consistent with theoretical predictions. Second, almost all coefficients obtained from the country-by-country regressions of future realized returns on ICC estimates with time dummies are statistically insignificant. This result does not support the cross-sectional return predictability of ICC in almost all countries in the sample. Third, 27 of 36 coefficients obtained from the regressions of future realized returns on the ICC estimates for each country with firm dummies are positive and statistically significant. This result provides moderate support for the time-series return predictability of ICC in two-thirds of the sample countries. Fourth, I find that country-level disclosure requirements and security regulations affect the ICC-Return relation. In particular, countries with more extensive disclosure requirements tend to show positive correlations between the ICC estimates and the ex-post realized stock returns.
Banking Crises, Accounting Choices and the Spare Tire Effect

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ABSTRACT: We study the role of institutional environment in shaping firms’ accounting choices as banking sector conditions worsen and their subsequent effect on the use of equity financing as an alternative source of financing (the “spare tire” effect). Using a sample of firms from five European countries, we show that, as banking conditions deteriorate, firms are more aggressive in countries with stronger institutional environment where alternative sources of financing are better available and more accessible. Moreover, we find that firms that were more aggressive issue more equity financing during a banking crisis. Lastly, we document that both effects are greater for firms that rely more on external sources of financing. Our results point out the importance of considering the interaction between institutional factors and financial reporting while studying the effects of a banking crisis on firms’ equity financing.
ABSTRACT: This study investigates 1) whether US bank regulators’ phased removal of the prudential filter for accumulative other comprehensive income (AOCI) for advanced approaches bank holding companies (AABHCs) affects banks’ earnings management through sales of available-for-sale (AFS) securities and 2) whether the AOCI filter removal rule affects these banks’ liquidity possibly resulted from the reclassification of AFS securities to held-to-maturity securities or increased proportion of classification of investment securities as HTM securities around the AOCI filter removal rule. The study hypothesizes and finds that the AABHCs no longer engage in selling AFS securities to smooth earnings in the phase-in period (Q1 2014 – Q1 2018), whereas the non-AABHCs continue to use realized gains and losses as an earnings management tool. Further, this study hypothesizes and finds that the AOCI filter removal rule does not affect these banks’ liquidity measured as quarterly bid ask spreads and price impact under the difference-in-difference approach. Finally, it appears that AABHCs do not engage in more LLP management after the AOCI filter removal rule. Taken together, this extends Kim, Kim, and Ryan (2018) by documenting the consequences of the recent AOCI filter removal rule on bank earnings management behavior through strategic sales of AFS securities. This study is unique in that it is the first to examine bank earnings management activities in the phased AOCI filter removal regime, thereby contributing to the debate centering on reforming accounting treatment of AFS securities, market-to-market, since Barth et al. (2017) reveal that recognizing unrealized gains and losses on AFS securities is necessary to remove incentives and thus eliminate realized AFS securities gains and losses as an earnings management tool. The findings also contribute to the debate about the extent to which capital ratios should be based on, market-to-market, or historical values, for financial institutions (Laux and Leuz, 2009, 2010).
Does Climate Risk Relate to Loan Loss Provision Estimates in the Banking Industry?

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**ABSTRACT:** Abstract: We examine the relation between climate risk and loan loss provision estimates in the banking industry. We predict that climate risk positively relates to loan loss provisions because it impacts the credit risk of lending portfolios through the ability of borrowers to repay loans. This prediction is consistent with the concerns of the Federal Reserve regarding the ability of financial institutions to manage climate risk. Using more than 370,000 bank-quarter observations, we document that banks located in counties with higher climate risk (1) make larger provisions for loan losses in their balance sheets and (2) recognize current loan loss provisions that are more closely associated with future charge-offs and are more persistent. In cross-sectional analysis, we find that the relation between climate risk and loan loss provision estimates increases over time and is more pronounced when climate risk perception is high. We also find that the relation between climate risk and loan loss provision estimates is stronger when communities are less resilient. Our results are important, especially because of the increasing awareness of climate risk, and we inform the growing debate about economic consequences of climate risk and the ability of the banking system to absorb this particular type of risk.
ABSTRACT: The association between corporate social responsibility (CSR) disclosures and positive financial consequences, e.g. higher firm values, has been analyzed in previous literature. In this paper we expand these findings in two ways. First, we study the relation between CSR disclosures and dividend pay-outs. Second, we assess whether the association between CSR disclosures and firms’ share price is mediated by dividend pay-outs. We investigate these issues using a large multi-country sample, and controlling for CSR performance. We find that firms with higher levels of unexpected CSR disclosure pay higher dividends. This result is driven by firms with aligned CSR disclosure and CSR performance. Furthermore, we find that unexpected CSR disclosure is positively associated with firms' share price. However, this association is not direct, but fully mediated by dividend pay-outs, suggesting an indirect effect of unexpected CSR disclosures on firm value. Full mediation occurs when firms have their CSR disclosure aligned with CSR performance, while in the unaligned sample unexpected CSR disclosure is still informative. The mediation effect we document has major implications for the interpretation of prior firm value studies, and requires future studies on the association between CSR disclosure and firm value to control for dividend payments.
ABSTRACT: Using data from 43 markets around the world, we document that firms with larger goodwill balances have a higher stock price crash risk in future years. The positive association between goodwill balances and future crash risk is stronger for firms with weaker incentives to provide transparent disclosure, in markets with poorer investor protection or weaker accounting and auditing enforcement, and after periodic goodwill amortization was replaced by fair-value-based goodwill impairment. Further evidence suggests that goodwill balances are positively related to a measure of bad news withholding. Overall, the results are consistent with the view that managers have greater tendency to withhold negative information about goodwill and delay the release of information about the economic impairments of goodwill, thereby leading to increasing the likelihood of stock price crash occurrences in the future.
Are Goodwill-Related Accounting Measures Value Relevant? Evidence from the EU Banking Industry

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**ABSTRACT:** This study analyzes the usefulness of goodwill recognition and goodwill impairment losses to investors in valuing the equity of a sample of 110 EU banks from 2005 to 2015 (767 bank-year observations). The analysis is conducted by using well-accepted models of value relevance that are extended to account for banks industry-specific variables. The results suggest that goodwill recognition is positively and significantly associated with market prices, while impairment losses may be interpreted differently according to the bank’s performance. Specifically, bank’s financial performance moderates the association between impairment losses recognized against goodwill and stock prices, since goodwill write-offs are more informative (value relevant) in banks with negative earnings. Differently from previous literature, this paper does not document a positive association between impairment losses and stock prices, suggesting that, in the banking industry, investors do not consider impairment losses as a sign of restructuring. Given the particular characteristics of the banking industry, this paper seeks to fill a gap in the accounting and financial literature by focusing on value relevance in banks, which is to some extent neglected in the literature and still a matter of debate.