Ready or Not, It Will Come: Preparing Accountancy for the Next Disruption

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This study investigates the atypical knowledge, skills, and abilities (KSAs) used by accounting practices during the 2020 U.S. income tax season amidst the COVID-19 pandemic shutdown. We hypothesize that many accountants found themselves serving in atypical roles and that most accounting firms underestimated the pandemic's impact, leaving them unprepared to meet the challenge, and that some firm characteristics influence their state of preparedness. We emailed surveys to small, medium, and large accounting firms to investigate these hypotheses. We found that accounting firms used atypical KSAs significantly more often in 2020 than in previous years and that firms found these KSAs critical to their operations. Roughly 80% reported underestimating the impact of COVID-19. While firm size did not play a role in the usage of the KSAs we identified, there were differences in what firms rated highly important and easy to attain. We feel that these KSAs should be considered for ongoing professional development and in accounting curricula to support the sustainability of accounting practices in the face of future disruptions.

Keywords: disruption, pandemic, accounting, KSA, tax season, accounting practice

INTRODUCTION

COVID-19 changed the world as we know it, necessitating unprecedented pervasive changes in how we live, work, and educate. With the first case of COVID-19 identified in the United States in January 2020 (Holshue et al., 2020), infections continued to climb, culminating in many "life-as-we-know-it" shutdowns across the country by mid-March 2020. Shutdowns caused massive job losses and economic disruptions; however, they were initially effective in halting the exponential spread of the virus (Achenbach & Meckler, 2020). Compounding the complexity of this situation for accountants was that the COVID-19 shutdown timeline coincided with the United States tax season, requiring quick and unplanned process changes in accounting firms. Clients facing uncertain financial futures sought answers and assistance relating to available government support as they faced business failings, personal monetary devastation, and the anxiety that resulted from these events.

Even more significant is that the pandemic has continued to affect additional tax filing seasons since 2020, and many of the questions faced and measures taken by accounting firms must continue to be addressed. Firms that handled COVID-19 disruptions in operations in the spring of 2020 as a one-time event are forced to revisit many of the same issues, as experts predict ongoing impacts (Powell, 2020).

LITERATURE REVIEW

Disruption is a fact of life and is typically regarded as a chance event. Traditional decision-making theory provides that chance events can be described as future states of nature, of which only one outcome will occur, specifically the known unknowns (Phan & Wood, 2020; Simpson & Hancock, 2017). Ideally, an organization takes appropriate measures to understand its external environment and, as a result, is able to manage the slate of near-future events, these known unknowns. Simpson and Hancock (2017) provide that disruptions may be described in terms of four categories, which may or may not be unique: incident, emergency, disaster, and crisis.

An incident can be described as an unscheduled situation requiring immediate attention. An emergency also requires immediate action and describes an incident that may involve a threat to life or a substantial loss of property. A disaster is a large-scale emergency which involves multiple organizations and a suspension of normal operations. At the same time, a crisis can be described as the time that precedes a great change (Simpson and Hancock, 2017). The COVID-19 pandemic is illustrative of each of these categories.

Exceptional to the four categories of disruptions above is the Black Swan event, a situation of extreme impact considered highly improbable by planners. The term *Black Swan*, from the book by the same name (Taleb, 2007), has been applied to the COVID-19 pandemic, inferring that it was unexpected and difficult to predict (Halliburton, 2020). Per Taleb (2007), three questions determine the attributes of a Black Swan event: (1) Is the event an outlier? (2) Does the event result in an extreme impact? And (3) Will it be considered normal and explainable after the fact? (McGillivray, 2020)

In evaluating these three characteristics, COVID-19 does not yet possess all the attributes of a Black Swan event. However, extreme impacts are present around the globe, both in terms of human life and economic costs. Additionally, it remains to be seen if this pandemic will be normalized. However, reflections on the human past illustrate that the most significant killers are infectious diseases, epidemics, and pandemics (McGillivray, 2020); in fact, a new infectious disease has emerged each year, on average, for the last 30 years (Yong, 2018). Additionally, numerous authorities of various backgrounds, including two United States presidents, provided prescient warnings about the COVID-19 pandemic (McGillivary, 2020; Phan & Wood, 2020), as well as one voice indicating a lack of preparedness for such an event (Yong, 2018). The spread of COVID-19 was predicted by Taleb himself, in a paper co-authored with Joseph Norman and Yaneer Bar-Yam, in late January 2020 while the virus was still contained in China (Norman et al., 2020). The authors contended that our increased connectivity will lead to non-linear spread, which may be managed through concepts we now know as social distancing and sheltering in place (Avishai, 2020).

In Avishai (2020), Taleb provides that the improbable is becoming increasingly probable, likening the COVID-19 pandemic to a “storm signal” of other disasters. Instead of focusing on the most significant part of the bell curve when considering probability, it is necessary to focus on the tails that may contribute to considerable outcomes through chain reactions, termed “fatal fat tails.” Taleb encourages the establishment of structures that are better equipped for such events (Avishai, 2020). Although establishing such structures implies large societal and governmental entities, it makes sense for industries to heed the same message. Impacted industries include the obvious health care and tangible supply chains and service supply chains, such as accounting services.

Accounting firms were not the only service providers impacted during the 2020 and 2021 US tax seasons, but a study of this industry exemplifies organizational resilience. Gaps in firms’ knowledge assets were identified early in the pandemic, and internal capabilities were adapted to fill these gaps with minimal disruption. By necessity, firms created business and knowledge management strategies to address specific gaps resulting from the complex crisis of COVID-19 (Bratianu, 2020). Resilience, or bouncing back after an unexpected disruption or crisis, is not necessarily the result of organized disaster planning or the reallocation and redeployment of available resources (Mithani, 2020). Firms relied on their internal capabilities or knowledge assets, and in many cases improvised and adapted operations grappling accordingly to manage disruption (Stoverink, et al., 2020). As the pandemic impacts two years, many, if not all, the adaptations have lasted long enough to establish permanent changes in business practices or a "new normal" (Jacobides, 2020; Mithani, 2020).

Adapting to new business practices, or a "new normal," has long been a common practice in accounting. Accounting firms have constantly grappled with changes in accounting standards, tax reform, and securities regulations like the new leasing rules, the Tax Cuts and Jobs Act, and the Sarbanes Oxley Act. Shortly before the coronavirus pandemic, accounting firms were dealing with the movement away from time-based billing, an increase in remote work, less compliance-focused accounting, and more business advisory services. The pandemic merely accelerated changes already under way and forced many accounting firms to make dramatic changes quickly (Ackerman, 2020; Tosczak, 2021).

In a few days, most accounting offices became obsolete, the standard workday was turned on its head, and the way accountants communicated and shared information with clients completely changed. Accountants had to deal with hastily drafted legislation such as The Coronavirus Aid, Relief, and Economic Survey (CARES) Act and the accompanying Paycheck Protection Program provision that were thrust upon them virtually overnight. The rules and eligibility of this legislation kept changing, making it exceedingly difficult to advise clients about how to use the programs. Despite these challenges, accountants, being resilient, quickly learned how to adapt and continue to run their practices and serve their clients. Accountants learned how to manage staff remotely, host Zoom meetings, and get their work done (Ackerman, 2020–21; Tosczak, 2021).

The following sections will provide the purpose of the study, the research questions, and the method employed to address the research questions. The methodology results follow, along with a discussion of the findings. The study concludes with the study's limitations and opportunities for further research.

PURPOSE AND RESEARCH QUESTIONS

This research aims to determine the uncommon or atypical knowledge, skills, and abilities (KSAs) used by U.S. accounting firms during the 2020 tax season amid the COVID-19 pandemic. These KSAs should be considered for ongoing professional and practice development and in accounting curricula to support the sustainability of accounting practices in the face of future (or continued) disruption, thereby providing the importance of the study.

We hypothesized that many accountants served in capacities beyond typical accounting roles (H1). We further hypothesized that most public accounting firms underestimated the risk associated with the pandemic, with many firms not preparing by way of disaster recovery planning (H2). Lastly, firm size influences preparedness and resulting KSAs necessary for sustained operation (H3). This study focuses on a sample of accounting practices of varying sizes and scopes in New York, which we selected from the State Society of CPAs' membership.

To challenge our hypotheses, we seek to answer the following research questions:

- What atypical knowledge, skills, and abilities were utilized by accounting firms during the pandemic that were not typically used during tax seasons prior to the pandemic; how easily were firms able to overcome barriers to atypical KSAs; and which of these KSAs are perceived as the most critical?
- What was the perceived risk of the pandemic by accounting firms on their practices, and how did accounting firms prepare for the pandemic based on the perceived risk?
- Did KSA use, importance, ease of attainment, and firm preparation differ by firm size?

METHODOLOGY

We administered a Human Subjects Review Board approved survey instrument to answer the research questions using Google Forms. We developed survey questions to address each research question. We emailed surveys to firms from the New York State Society of CPAs' membership database and asked accounting firm administrators or partners-in-charge to complete the survey instrument anonymously. The scope of the membership included small, medium, and large firms with varying scopes of operation. We asked that only one response per firm location be submitted.

The survey had three goals. These goals were to determine (a) the demographic characteristics of the responding firms, including volume, facilities, and number of employees; (b) the use, importance, and ease of attainment of identified knowledge, skills, and abilities; and (c) the disaster readiness of respondent firms.

To determine what KSAs to include in the survey, we brainstormed the types of activities that accountants were likely to undertake during the pandemic. We based our notions on our own experiences and the known national situation (shelter-in-place orders, ordered business closures, government interventions, and Center for Disease Control guidance). We followed our initial brainstorming with exploratory discussions with several accounting firms (one large, two mid-size, one small, and one sole proprietorship) to identify additional KSAs. In addition, a conversation with a staff member of the AICPA provided more insight into KSAs.

The survey instrument included questions related to specific KSAs (See Figure 1). To ascertain KSA use, importance, and ease of attainment, we asked respondents to evaluate the extent of their perceived use, importance, and ease of attainment of these KSAs using an ordinal Likert scale format. The ratings included were:

Use: Not Applicable, Same, Somewhat More, Moderately More, and Extensively More.
Importance: Not Applicable, Not Important, Somewhat Important, Important, Critical.
Ease of Attainment: Not Applicable, Easily Secured, Somewhat Easy to Secure, Somewhat Difficult to Secure, Very Difficult to Secure.

FIGURE 1
SPECIFIC KNOWLEDGE, SKILLS, AND ABILITIES (KSAS), MEASURED IN TERMS OF USE, IMPORTANCE, AND EASE OF ATTAINMENT

Information Technology Hardware use and Troubleshooting (laptops, webcams, microphones, etc.)
Information Technology Software/Application use and Troubleshooting (tax software, Zoom, client portals, etc.)
Local Government Regulation Implementation and Client Consulting (adherence to local COVID regulations by industry)
State Government Regulation Implementation and Client Consulting (determination of essential operations, unemployment, State-administered PPP, stay-at-home orders, etc.)
Federal Government Guidance Implementation and Client Consulting (CDC guidance)
Firm's Implementation and Client Consulting on Implementation of Health and Safety Measures (masking, taking temperatures, social distancing, cleaning, disinfecting, using PPE, etc.)
Client Consulting on Government Programs (PPP, CARES Act, etc.)
Client Consulting on Business Operations (disaster insurance relief, regulatory compliance, capacity limits, masking, work from home considerations, etc.)
Providing Client and Accounting Employees Psychological/Emotional Support

Research Question 1: *What atypical knowledge, skills, and abilities were utilized by accounting firms during the pandemic that were not typically used during tax seasons prior to the pandemic, how easily were firms able to overcome barriers to atypical KSAs, and which of these KSAs are perceived as the most critical?*

To address this line of inquiry, we evaluated respondent data by Pareto analysis, a formal, statistical technique resulting in a diagram that identifies what factors or categories have the largest impact on a given circumstance or question through percentage contribution. Each inquiry from the survey regarding KSAs was subjected to analysis concerning use, importance, and ease of attainment.

We summed the percentage contribution for each dimension (use, importance, and ease of attainment) to reflect the Likert scale items representing the greatest affirmative responses. Thus, for use, the contribution percentages for *Moderately More* and *Extremely More* were summed. For importance, contribution percentages for *Important* and *Critical* were summed. For ease of attainment, percentages for *Somewhat Easy to Secure* and *Easily Secured* were summed. These summations allowed for a clearer picture of the impact of each of the KSAs as a part of the cumulative responses. We considered the results impactful if the percentages were at least 50%, representing most responses.

Research Question 2: *What was the perceived risk of the pandemic by accounting firms on their own practices, and how did accounting firms prepare for the pandemic based on the perceived risk?*

To address this inquiry, we asked respondents the following question, with possible responses of *No Impact, Minor Impact, Moderate Impact, Significant Impact*: "Reflecting back to January 2020, when the news coverage of the pandemic focused on China, what level of impact did you perceive COVID-19 to have on your tax season?" Distributions of the ordinal responses were computed.

We also questioned respondents about their establishment and use of disaster readiness plans (DRPs). Here, possible responses included *Yes*, *No,* and *Unknown*. The responses were compiled as percentages of possible responses. Additionally, respondents who answered affirmatively regarding having DRPs were asked to provide textual insights as to their success or issues in implementing those plans.

Research Question 3: *Were there differences among firm sizes in terms of preparation and KSAs utilized?*

To address this question, we segmented the data from the survey question on establishing and using a disaster readiness plan (DRP) by revenue range as an indicator of firm size. We considered responses of *Unknown* as negative for initial analysis. We sorted the affirmative responses (firms with DRPs) by revenue level. If a firm replied affirmatively, further analysis was undertaken to determine if the firm felt the plan was beneficial, as provided by the prompt in the survey instrument.

To determine differences in use, importance, and ease of attainment of KSAs, the textual ordinal Likert data was coded to numeric ordinal data and evaluated for differences among firms as a function of revenue. The differences were ascertained by way of Analysis of Variance (ANOVA), a preferred application when managing this data type when sample sizes meet certain criteria (Minitab Blog Editor, 2015).

RESULTS

The survey was distributed in the summer of 2020. There were 41 respondents, N = 41. Most respondents (82.9%) were from single single-office firms, while 17.1% were from multi-location firms. The data were downloaded from Google Forms and evaluated in Minitab and Excel as described in the Methods section. We considered each research question separately.

For research question 1, a Pareto analysis was performed for each KSA with regard to use, importance, and ease of attainment. The contribution percentages of the highest-ranking affirmative responses were summed, and the results are found in Table 1. Those percentages that met the 50% or more threshold are bolded for ease of evaluation.

In further evaluating the data reported in Table 1, roughly 41% of the KSAs were utilized more than in prior tax seasons. For those KSAs that did not meet the 50% threshold in terms of use, all exceed 34% or one-third of respondents. As such, respondents indicated that each of the knowledge, skills, and abilities identified as atypical in the survey were utilized to some extent beyond what is considered normal in their firms.

TABLE 1
EVALUATION OF RESPONDENTS' PERCEPTIONS OF USE, IMPORTANCE, AND EASE OF ATTAINMENT OF KSAS AS PERCENTAGES

	Use: Moderately More and Extensively More	**Importance: Important and Critical**	**Ease of Attainment: Somewhat Easily and Easily Secured**
Information Technology Hardware use (laptops, webcams, microphones, etc.)	**51.3**	**75.6**	**70.7**
Information Technology Hardware Troubleshooting	36.6	**65.9**	**68.3**
Information Technology Software/Application use	**53.7**	**73.2**	**75.6**
Information Technology Software/Application Troubleshooting	41.5	**65.9**	**70.7**
Local Government Regulation Implementation	48.8	39.1	**63.4**
Local Government Regulation Client Consulting	46.4	41.4	**65.9**
State Government Regulation Implementation	**61.0**	**58.5**	**61.0**
State Government Regulation Client Consulting	**56.1**	**53.7**	**61.0**
Federal Government Guidance Implementation	48.8	**51.2**	**58.5**
Federal Government Guidance Client Consulting	**53.6**	**53.6**	**58.5**
Subject Firm's Implementation of Health and Safety Measures	**56.1**	**53.7**	**75.6**
Client Consulting on Implementation of Health and Safety Measures	41.5	29.3	**63.4**
Client Consulting on Government Programs	**75.6**	**75.6**	**56.1**
Client Consulting on Business Operations	43.9	**53.6**	**65.9**

Providing Client Psychological/Emotional Support	48.8	**51.3**	**65.9**
Providing Accounting Employees Psychological/Emotional Support	34.2	48.8	**64.3**
Subject Firm's Operations	**51.2**	**63.4**	**68.3**

Respondents indicated that 76% of these atypical KSAs were *Important* or *Critical.* The KSAs that did not meet the 50% importance threshold did not meet the 50% use threshold either. Thus, these KSAs might be considered less relevant when compared to the others. All the KSAs noted were reported as either *Somewhat Easily* or *Easily Attained*. This finding suggests some resilience in the accounting community in terms of its ability to identify and secure needed resources.

The most striking KSA is that of client consulting on government programs. The Paycheck Protection Program (PPP), Employee Retention Credit (ERC), and other CARES Act consulting and assistance are responsible for this finding. Although most respondents found this KSA to be highly utilized and *Important* or *Critical*, it had the lowest value in terms of ease of attainment.

Our results then support our first hypothesis:

(H1): *Many accountants served in capacities beyond typical accounting roles.*

In applying research question 2, we asked respondents to report the perceived level of impact that the coronavirus would have on their 2020 tax season, as news of the virus emerged from China in January 2020. Approximately 80% of respondents indicated that, at that time, they believed the virus would have little to no impact on their tax season.

Almost half of respondents (49%) indicated that their firm did not have a disaster recovery plan; about 41% did have a plan. Nearly 10% of respondents indicated they did not know if their firm had a recovery plan. Given that such plans require periodic testing or at least training, it is likely that these respondents should be grouped into the "did not have a plan" category.

Those firms that reported having a disaster plan indicated that the plan helped maintain efficiency and effectiveness during the 2020 tax season. About 30% of those with a plan in place indicated although the plan was very helpful, they did suffer from minor implementation issues that had to be managed.

Our results support our second hypothesis:

(H2): *Most public accounting firms underestimated the risk associated with the pandemic, with many firms not preparing by way of disaster recovery planning.*

To address research question 3, we computed the distribution of respondent firm sizes. For remaining analyses, firms with revenues less than $500,000 were considered small, and firms with revenues greater than $1.5 million were considered large. Approximately 88% of firms that reported having a disaster recovery plan were large, with annual revenues greater than $1.5 million. Of the firms indicating that they did not have a plan (49% of the sample), 85% were small, with revenues less than $500,000. If those unsure if they had a plan were considered as not having a plan, the percentage of small firms without a plan decreased only slightly to 83%. Thus, in partial answer to research question 3, larger practices are more likely to have DRPs than smaller practices.

ANOVA analysis of differences in firm size in terms of use, importance, and ease of attainment indicated that the use of KSAs in aggregate at the *Moderately More* and *Extensively More* levels was similar between large and small firms. Thus, this analysis suggests that the firm's size did not impact the use, importance, and ease of attainment regarding the KSAs.

Regarding importance, all firms other than those that generated less than $250,000 in revenue (very small) noted the KSAs in aggregate as *Important* or *Critical*. Firms that generated less than $250,000 in revenue perceived the KSAs in the aggregate to be only *Somewhat Important*. Such a disparity could be a function of the types of clients and level of services the very small firms perform.

Regarding ease of attainment, all firm sizes indicated the KSAs to be *Somewhat Easily* or *Easily Secured*. Those practices that generated greater than $500,000 to $1.5 million in revenue (medium), and large firms found it easier to secure these KSAs. In contrast, small firms found the KSAs only *Somewhat Easily* secured. This difference may reflect the resources and networks available to larger versus smaller firms.

Our third hypothesis was partially supported in that firm size was found to be related to the existence and usefulness of DRPs:

(H3): *Firm size influences preparedness and resulting KSAs necessary for sustained operation.*

Furthermore, very small firms in aggregate perceived KSAs as *Somewhat Important*, while all others perceived them in aggregate as *Important* or *Critical*, and small firms found KSAs to be *Somewhat Easily Secured*, while larger firms indicated relatively easier attainment of KSAs. However, no significant relationship between firm size and aggregate use of KSAs was found.

DISCUSSION

This study sheds light on a typical service industry that found itself engaging in and depending on atypical activities due to the COVID-19 pandemic. Most accounting firms adopted, to some extent (and in many cases a significant extent), novel knowledge, skills, and abilities to sustain operations at the peak of their business cycle during the 2020 tax season.

This research aimed to determine the uncommon knowledge, skills, and abilities (KSAs) used by U.S. accounting firms during the 2020 tax season amid the COVID-19 pandemic to provide insight into how to best prepare accountancy for the next such event. We hypothesized that many accountants found themselves serving in capacities beyond typical accounting roles and that many firms underestimated the risk associated with the pandemic. As a result, they did not prepare accordingly. We further hypothesized that firm size influenced preparedness and resulting KSAs needed for sustained operation.

Three research inquiries challenged our hypotheses. In the first inquiry, we sought to identify the atypical knowledge, skills, and abilities utilized by accounting firms during the pandemic that were not typically used during tax seasons prior to the pandemic. Additionally, we sought to determine how easily firms could attain these atypical KSAs and which of these KSAs the firms perceived as the most critical.

The analysis of the survey data for this inquiry supports that public accounting firms utilized atypical KSAs to a significant extent in contrast to the prior tax season. Further, respondents indicated that most of these atypical KSAs were *Important* or *Critical* to operations. Essentially, all of the atypical KSAs we identified were *Somewhat Easily* or *Easily Secured* by firms. However, although most respondents found consulting on government programs highly utilized and important, this KSA was the most difficult to attain. In support of the first hypothesis, accountants did, indeed, find themselves serving in capacities beyond their typical accounting roles, and the KSAs involved in these roles were perceived as very important and fairly easy to attain.

In the second inquiry, we evaluated the perceived risk of the pandemic by accounting firms and the preparedness activities pursued by these firms. Roughly 80% of respondents reported severely underestimating the impact of COVID-19 on the 2020 tax season. It was interesting to find that less than half of all firms have disaster recovery plans, and in some cases, respondents did not know if they had a plan. Those with DRPs indicated a benefit to having a plan. Thus, in support of the second hypothesis, most firms had underestimated the impact of the pandemic on their practice, and most respondents had not prepared accordingly.

In the third inquiry, we sought to understand differences in firm size regarding disaster recovery planning, as well as KSAs use, importance, and ease of attainment. The analysis demonstrated that larger firms were better prepared in terms of disaster recovery plans. Firm size did not play a role in the aggregate use of the KSAs we identified, but differences existed in importance and ease of attainment.

LIMITATIONS AND OPPORTUNITIES FOR FURTHER RESEARCH

Although this study has some limitations, opportunities for further analysis of the sample data collected may reveal some insights that were not originally hypothesized. A small but rich data set that may hold some novel insights into pandemic-related firm behaviors was collected. This paper provides a timely and relevant glimpse at accounting firm preparedness for and response to a global pandemic. The sample size is the most significant limitation of this study, with scope as a close second. This limitation was self-inflicted in that we, as researchers, felt that it was urgent to survey firms immediately after the extended tax season (July 15, 2020) so that responses would be relevant to COVID-specific issues. We wanted firms' memories to be fresh to avoid losing sight of the atypical KSAs being studied. Our original scope was larger, to include the Pennsylvania Society of CPAs; however, the survey could not be administered to their membership in what we thought was a timely manner.

Size and scope were also impacted by the fact that we were asking accounting firm administrators and partners-in-charge in an essential industry to respond to a survey during the worst crisis they have dealt with to date. Had we known that these KSAs would remain relevant beyond the initial tax season, we may have waited to build up our respondent pool. Ironically, like the firms we surveyed, we underestimated the impact of the pandemic and did not anticipate the occurrence of ongoing surges and emerging variants, which triggered further PPP or ERC implementation.

A much larger sample and follow-up study are in order, along with a deeper dive into the original data set. A closer look at lessons learned, best practices, and firm-specific adaptations would be helpful to our original purpose: ongoing professional and practice development and accounting curricula to support the sustainability of accounting practices in the face of future disruption. Since the most striking KSA is that of a client consulting on government programs, a follow-up study must include questions on how firms handled the changes in requirements, regulations, and the tax code as a result of the pandemic and, specifically, the changes in the second rounds of PPP and ERC. Rather than one-and-done solutions, firms will adapt to the KSAs we noted in this study and all likelihood, engage in more atypical behaviors to best serve their clients over the pandemic.

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