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Teaching Case

A Small Accounting Firm Must Meet the Challenge Posed by Artificial Intelligence

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Hook

A breakthrough in artificial intelligence might pose an existential threat to a small accounting firm. Can you help them devise a plan to compete against The Big Four accounting firms?

Abstract

Maloof & Associates (M&A), a well-regarded small auditing and accounting firm in Atlanta, kept a close eye on the media buzz surrounding ChatGPT. The partners knew that they must make decisions soon regarding the new technology, but they did not realize how soon until they lost a long-standing and substantial client to a rival that had moved aggressively and publicly to insert AI into their operations. Students, acting the role of consultants, must help M&A understand how ChatGPT and similar tools might be incorporated into the firm's existing infrastructure, identify potential risks, and identify sources of potential costs and benefits of adopting artificial intelligence-based tools.

Keywords: Case, Consulting, Artificial intelligence, ChatGPT, Auditing, Accounting

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A Small Accounting Firm Must Meet the Challenge Posed by Artificial Intelligence

Michael A. Smith

1. BACKGROUND

Maloof & Associates (M&A), a well-regarded auditing and accounting firm based in Atlanta, Georgia, has been the trusted partner of small and medium-sized businesses in the Southeast for over 35 years. With a team of 28 professionals, many of them "long-timers", M&A has carved a niche for itself by providing services for clients that the "Big Four" accounting firms often overlook.

The "Big Four" accounting firms, all headquartered in New York City, include Deloitte, Ernst & Young (EY), PricewaterhouseCoopers (PwC), and Klynveld Peat Marwick Goerdeler (KMPG). These firms have "practices", each headed by a partner or group of partners, in most major metropolitan areas in the United States. Together they account for over 80% of the revenue of the top 15 accounting firms in the USA. Practices often specialize in a consulting area, which might align with a functional area of business, an industry, or even a specific software system, e.g. Salesforce or ServiceNow.

M&A's expertise lies in helping businesses navigate the ever-evolving landscape of commerce and industry, offering personalized solutions that cater to their unique needs. This strategy has served them well for decades.

However, the winds of change carry whispers of a challenge of a kind that M&A has never encountered before—a challenge not to their clients' business models, but to M&A's.

A Potentially Threatening Development

There is a buzz about a breakthrough in artificial intelligence unlike anything the partners have heard since the widespread rollout of Internet connectivity in the late 1990s and the introduction of the iPhone in 2007. Major consulting firms are already capitalizing on the hype, offering paid seminars on how to integrate large language models into business operations and prepare for the impending AI-driven revolution.

Long-time friends of the firm's partners have mentioned hearing from their children and

grandchildren about ChatGPT, a new tool they're using to help them with their homework at school. And in the halls of the Cherokee Town and Country Club and of the Piedmont Driving Club, where audible mobile phone use in the dining areas is prohibited, even members who pride themselves on having no personal email address are starting to talk about "this thing that students are using to write term papers".

The leadership team at M&A have never been "luddites" and they are not opposed to considering any new technology that will help the firm as they have many times in the past. However, this time seems different to them because they believe that failure to identify the threats and opportunities quickly, and to take appropriate actions, could result in smaller firms like theirs falling behind the "Big Four" and that it might change the economics of the auditing business, making M&A's clients more attractive to their larger competitors.

The path forward is shrouded in uncertainty. The partners, while they are familiar in a general way with what the technology is being used for, are unsure about the true capabilities of this technology, beyond the hype, and how they could implement it in a way that would benefit their operations.

Firm Leadership

M&A is steered by a veteran leadership team, each member bringing their unique perspective and expertise to the table. The team consists of the firm's principal partner, George Maloof, and two senior partners, Emily Hwang and Michael Thompson. Assisting them in technological decisions is the firm's Chief Technology Officer, Alice Martinez.

George Maloof (62) - CPA and founder of M&A. George is a Certified Public Accountant (CPA) who values traditional accounting practices and believes that personal relationships with clients are the key to success. His long-time connections are responsible for about 40% of the firm's business and he fears any developments that might affect his ability to retain those clients. He feels "caught in the middle", unsure which would be worse to the firm's reputation—automating

away some of that personal touch, or failure to automate and thus falling behind in terms of services offered or reduced time and costs.

Emily Hwang (48) - CPA and a partner for the past 16 years. Emily specializes in auditing and has an interest in technology, which she is always inclined to see more as a source of opportunities than of threats. While she recognizes the value of Maloof's network of contacts, she believes that embracing new tools like ChatGPT would allow the firm to enhance their services and attract new clients, helping M&A stay competitive while becoming less dependent on those contacts. She is particularly interested in the potential of ChatGPT to improve efficiency and accuracy in auditing and fraud detection.

Michael Thompson (55) - CPA and a partner for the past 25 years. Michael is also an expert in auditing and has a conservative approach to business, which extends to his views about technology. He is skeptical about the adoption of AI tools and fears the potential consequences such as job displacement and a loss of control over sensitive client information. Michael is concerned that the firm's long-term stability could be threatened if they rush into adopting AI without a well-thought-out strategy that is clearly articulated to their clients.

The partners are aided by their CTO, Alice Martinez (34), a tech-savvy professional with a background in computer science. Alice is responsible for implementing and managing technology solutions at M&A. She understands the transformative power of AI and the potential benefits of integrating ChatGPT into the firm.

The different perspectives within the leadership team of M&A reflect the broader debate about the role of AI in business, particularly after the introduction of ChatGPT, a remarkable generative AI, in late 2022. As they navigate this new landscape, their collective wisdom and diverse viewpoints will be essential in shaping the firm's future.

2. A RUDE AWAKENING

The leadership of Maloof & Associates have been keeping a close eye on the media buzz surrounding ChatGPT and they know that they must make some decisions, but they had not fully realized the urgency to formulate a strategic response until George informed the other partners of the unexpected loss of Sideways Industries, a long-standing and substantial client, to a larger competitor, Doghouse, Hedges, and

Redd. Not only was this a personal loss for George, but DH&R was not even one of The Big Four. It was another specialized regional firm, younger and smaller than M&A, that George and his partners had regarded with polite disdain.

Doghouse, Hedges, and Redd had recently publicized the integration of ChatGPT into their auditing services, a move that drastically reduced the time and cost associated with providing them. That Sideways had switched providers so quickly was a clear indication to the M&A leadership of the shifting landscape in the auditing and accounting industry.

The loss of such a steady client sent shockwaves through M&A. The partners recognized that they could either embrace the technological advancements represented by tools like ChatGPT or risk being outpaced by their more aggressive competitors.

George Maloof called a meeting with the partners and the CTO, Alice Martinez. The agenda--to discuss the firm's future in an industry increasingly influenced by artificial intelligence and to determine how M&A could leverage these advancements to maintain their competitive edge.

3. AN URGENT MEETING

As George sat alone in the conference room waiting for the others to arrive, he found himself experiencing a mix of emotions. The stakes were high, and the weight of the firm's legacy weighed on him. He was not just the principal partner of Maloof & Associates; he was its founder, the architect of its success, and the guardian of its reputation...and his own.

George was proud of the one-to-one relationships he had cultivated with clients over the decades. These relationships were not just business transactions; they were the lifeblood of the firm, the cornerstone of its identity and of his. The thought of adopting artificial intelligence, a seemingly impersonal technology, made him uneasy.

But beyond the firm's identity, George's own leadership could be questioned. His ability to steer the firm through this period of change and uncertainty would define his legacy. The decision to adopt AI, or not, was not just about the firm's future; it was about his future as a leader in a rapidly evolving industry. About this, however, he had some confidence. With a steady hand, he had guided M&A through the recession of the early

1990s, the dotcom bust and 9/11 in the early 2000s, the Great Recession beginning in 2007, and the COVID crisis. Despite his fears, he would project only confidence because that's what his people expected and needed.

"Thank you all for joining this meeting," George said. "Unless you've been living in a cave, you know we just lost Sideways to Doghouse. I spoke with Stumpy Towers over at Sideways this morning. He was blunt about it. Doghouse has begun incorporating ChatGPT into their auditing services—fraud detection for sure but probably in other areas as well. I hate to put it to the team on such short notice, but we need to discuss whether AI has a place in our firm and how we're going to deal with this. Michael, I know you are reluctant, but we can't wait any longer to decide. Once word gets out about Sideways, I fear other clients might start asking themselves questions we'd rather they not ask. So, I want to have everyone's thoughts. Michael?"

Michael sighed. His personal reputation as a prudent decision-maker was on the line. If the firm invested in AI and it didn't go well, his concerns would be validated but the firm would suffer. However, if they successfully adopted AI and thrived, his caution might be seen as a hindrance to the firm's growth, and he didn't want to get a reputation as a stick in the mud.

After a moment's pause, he spoke, "I agree. This is a serious concern. However, I'm worried about the implications of using AI in our services. The potential loss of jobs and the privacy risks involved with handling sensitive client information make me uneasy."

He looked like he wanted to say more but Emily leaned forward and interjected.

"Michael, I understand your concerns," she said. She tapped her finger on the table to emphasize her point. "But I think it's important that we consider the downside of not incorporating AI like ChatGPT into our services. If we don't adapt to the changing landscape, we risk being left behind by our competitors. I don't want any more clients going Sideways, so to speak."

Emily was a little surprised that she had been so blunt with Michael, but she had built her career on embracing technology and innovation. Her desire to see the firm grow and succeed in a competitive market was tied to her personal career growth. Successfully advocating for the adoption of AI could position her as the forward-thinking leader within the firm, while failure to do

so might limit her influence.

Everyone leaned back in their chairs for a moment, thinking. Until a few months ago, no technological advancement had threatened the very existence of M&A.

Everyone turned to Alice, who was looking into her coffee going over the potential effect of the decision on her reputation. Successfully guiding the firm through AI integration would bolster her credibility and position her as a valuable resource within the company. However, if the AI adoption process was mishandled or led to negative consequences, Alice's expertise and judgment could be called into question, potentially jeopardizing her career at the firm and future opportunities in the whole industry. If M&A fared badly in an IT-based battle among accounting firms, who would want to hire their ex-CTO? But she knew where she stood.

"Emily's right," Alice said. "ChatGPT and other tools like it have the potential to significantly improve our auditing services by increasing efficiency and accuracy. If we integrated this technology, I think you could use it to attract new clients and keep up with the competition, maybe even pass them. George and Michael, I believe we can address the concerns you both raised by implementing AI responsibly as part of a comprehensive strategy that considers all parts of an information system—people and processes, not just hardware, software, and data."

"Just so I'm clear," George said, "I'm not opposed to any technology per se, but I am concerned that relying on AI might weaken our relationships with clients. Our personal touch is what sets us apart from the larger firms. I'm afraid we'll lose that if we become too dependent on technology."

Emily nodded. "I hear you and I believe that by combining our personalized approach with AI-driven solutions, we can find a balance that offers the best of both worlds," she said. "We can still maintain strong relationships with our clients while offering them the services they need at a price that makes sense for us."

"But what about the overhead costs associated with implementing and maintaining such a system?" Michael said. "We're a small firm and investing in AI could be a significant financial burden."

"That's a valid concern," Alice said. "However, if we do it deliberately, I think the long-term benefits of adopting AI technology could outweigh the initial investment. It's also worth considering

that the cost of not adopting might be even greater as we lose more clients to competitors with advanced capabilities. I get the impression that a lot of firms consider this a do-or-die situation. It remains to be seen whether they are right, of course, but that's how people are acting."

"Okay. I appreciate the points that are being made," George said, "and it seems obvious to me that we're lacking some key information that we need to make a supportable decision. Given that time is of the essence now, I think we need some external guidance to help us navigate making this complex decision. What if we bring in a consulting team to help us evaluate our options?"

"That's a great idea," Emily said. "At the last Association meeting, I listened to a presentation by a group of business school graduates who are so tech-savvy that they started a consulting firm specializing in AI implementation for businesses. They seemed to know their stuff, going by how the Q&A went. I think they could provide us with valuable insights into the feasibility and potential benefits of incorporating ChatGPT into our auditing services."

Michael smiled. "I'm willing to explore this further if we can make a better-informed decision with their help," he said.

"Me too," Alice said. "Having an external perspective could give us the confidence we need to make the right choice for the future. But why stop with auditing services? As long as we've got them, let's ask him to consider all aspects of our operations."

"Agreed and alright then," George said. "I'll write up a call for proposal and arrange a meeting with those bright young students."

"I hear they're pretty fond of their intellects," Emily said. "Let's see whether they're as good as they seem to think they are!"

4. THE CHARGE

The next day, George met Laura Callaway, a senior analyst from Tanyard Creek Services, a consulting firm that, a little research had revealed, had a good reputation for working with small and medium-size enterprises to solve IT-related problems. Laura was well-versed in AI applications for businesses and had a strong understanding of the accounting industry. Together, she and George discussed the challenges and opportunities that AI implementation, including ChatGPT, posed for the

accounting firm.

Laura began by asking a series of questions to assess the current state of Maloof & Associates' technology infrastructure, their primary concerns, and their long-term goals. George provided an overview of the partners' differing opinions on AI adoption and the reasons behind their apprehension. He also expressed the desire to strike a balance between leveraging AI technology and maintaining the firm's personalized approach to client relationships.

Laura realized that the outcome of the analysis would not only affect the future success and direction of Maloof & Associates but also the reputations, career trajectories, and influence within the company of each of the partners and of the CTO. Navigating this complex issue would require a thoughtful and collaborative approach involving each stakeholder and considering the potential risks and rewards for each of them as well as for the firm.

Laura and George agreed upon the key objectives of the initial consulting engagement:

1. Assess the feasibility of incorporating ChatGPT into Maloof & Associates' auditing service, considering the firm's existing technology infrastructure and resources.
2. Identify the potential risks, including data privacy concerns, job displacement, and impact on client relationships, and propose mitigation strategies.
3. Identify the sources of potential costs and potential benefits of adopting AI technology, for example in terms of efficiency, accuracy, and competitiveness.

Laura assured George that Tanyard Creek Services would provide a detailed report and that, if they decided to move forward, could also prepare a comprehensive implementation plan, including timelines, resource allocation, and training programs for employees.

5. DELIVERABLES

As a team, you should prepare assumptions and findings to be considered should a comprehensive implementation plan be called for. You may use online search tools and AI-based tools such as ChatGPT, Bard, and Claude to aid your work. Depending on the instructions you are given, you should be prepared to offer your opinions during a class discussion or to present them to the class as a short slide presentation. In either case you must be prepared to justify your assumptions and

findings. Therefore, it will not suffice simply to present the output of a tool. Each team member must be able to justify their team's assumptions and findings in their own words when questioned by members of other teams or by the instructor. This requirement mimics what is normal in business presentations, where the presentation is followed by questions designed to determine the depth of the presenter's knowledge of the topic and how they arrived at their conclusions.

6. SUGGESTED READING

These are general articles on AI use in auditing and on the challenges of AI implementation in small and medium-size companies. Your instructor might also suggest more current articles.

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Appendices

APPENDIX A. Maloof & Associates Human Resources

Maloof & Associates has a team of 28 dedicated employees, comprising a mix of Certified Public Accountants (CPAs), accounting support staff, IT support staff, and administrative personnel. The team's diverse experience and expertise enable the firm to provide a range of services to their clients.

- **Certified Public Accountants (CPAs):** The firm has 10 CPAs, including the three partners. They are responsible for managing client accounts and providing high-level services such as auditing, tax planning, and financial consulting. The CPAs at the firm have varying levels of experience, ranging from recent graduates to seasoned professionals with over 30 years in the industry.
- **Accounting Support Staff:** There are 10 accounting support staff members who assist the CPAs in their daily tasks, including bookkeeping, payroll processing, and tax preparation. These employees have relevant educational backgrounds and practical experience in accounting, with most holding bachelor's degrees in accounting or finance.
- **IT Support Staff:** The firm has three support staff, supervised by the CTO. They provide first-line technical support for hardware and software and also interact with software and hardware vendors to resolve problems that cannot be solved locally.
- **Administrative Personnel:** The firm has five administrative employees who handle essential office tasks, such as client scheduling, billing, and maintaining office supplies. These staff members have experience in office management and customer service, ensuring smooth day-to-day operations.
- The team at Maloof & Associates is committed to providing excellent service to their clients, which is reflected in their strong local reputation. The firm's leadership encourages a collaborative work environment, fostering strong communication and teamwork among employees.

The firm's employees regularly participate in continuing education programs and professional development opportunities to stay updated on industry trends and regulations. This dedication to ongoing learning helps ensure that Maloof & Associates can provide the most accurate and up-to-date advice to their clients.

In terms of technology proficiency, most of the employees have basic to intermediate skills, enabling them to use standard accounting software and productivity tools effectively. However, their exposure to advanced technologies, such as AI and data analytics, may be limited due to the firm's current infrastructure and focus on traditional accounting practices. However, the employees realize that, as the accounting industry continues to evolve, they may need to adapt their skill sets to stay competitive. This could involve learning new software, adopting advanced technologies, and embracing new ways of working, such as remote collaboration and cloud-based solutions.

Overall, the team at Maloof & Associates is a group of dedicated, skilled, and experienced professionals who work together to provide high-quality accounting services to their clients. Their commitment to maintaining a strong local reputation and staying current with industry developments positions them well for potential growth and adaptation in a changing landscape.

APPENDIX B. Maloof & Associates Technological Infrastructure

The current technology infrastructure at Maloof & Associates is typical for accounting firms of its size and location. The firm has a basic but functional IT setup that includes the following components:

- **Local Servers:** The firm has on-premises servers for storing client data, financial records, and other essential documents. These servers are protected with firewalls and regular security updates to ensure data privacy.
- **Accounting Software:** Maloof & Associates uses industry-standard accounting software to manage their client's financial records, bookkeeping, and auditing tasks. The software is regularly updated and compliant with local and federal regulations.
- **Productivity Tools:** The firm utilizes a suite of productivity tools for communication, project management, and collaboration among employees. These tools include email, video conferencing, and file-sharing applications.

- Data Backup and Recovery: Maloof & Associates has established off-site data backup and recovery protocols to protect their client's information and ensure business continuity in case of data loss or system failure.
- Basic Cybersecurity Measures: The firm has implemented basic cybersecurity measures, such as antivirus software, secure passwords, and employee training on best practices for data protection.
- Limited Cloud Adoption: While the firm has begun to explore cloud-based solutions for some of their services, most of their operations are still conducted on-premises. The proximity to Georgia Tech has allowed them to stay informed about emerging technologies and trends, but they have yet to fully embrace the potential of cloud computing.
- Network Infrastructure: The firm has a stable wired and wireless network infrastructure, enabling employees to access resources and communicate effectively. The network is safeguarded with firewalls and access controls to ensure data security.
- Hardware: Employees at Maloof & Associates use a mix of desktop computers, laptops, and mobile devices to access and manage client data. The firm maintains a regular upgrade cycle for hardware to ensure optimal performance and security.
- Customer Relationship Management (CRM) System: The firm has implemented a basic CRM system to manage client contacts, track communication, and store essential client information. This helps in maintaining strong relationships with clients while keeping their data organized and accessible.
- Remote Access and VPN: Employees at the firm can access resources remotely via a secure VPN connection when necessary, ensuring that they can work even when away from the office.

Despite the firm's adequate technology infrastructure, Maloof & Associates has yet to explore more advanced technologies, such as artificial intelligence and advanced analytics, which are now being adopted by larger competitors. The firm's proximity to several major universities in Atlanta provides an opportunity to stay informed about emerging technologies and trends, but fully leveraging these advancements would require a significant investment in upgrading their current infrastructure and reevaluating their technology strategy.

END OF MATERIAL FOR STUDENTS