

# KPMG SPARK: BRINGING CUTTING-EDGE TECHNOLOGY TO SME CLIENTS

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## ABSTRACT

*Technology is changing the accounting processes allowing for quantum leaps in efficiency, accuracy, and usability of key accounting data. KPMG Spark has implemented numerous cutting-edge technologies (such as Blockchain, artificial intelligence, data analytics, cloud computing, and machine learning) to improve accounting services for small- to medium-sized enterprises. This study of the application of these technologies in the accounting environment can help illustrate the potential impact of technology on the way business processes can be streamlined.*

**Keywords:** KPMG Spark, Blockchain, Artificial Intelligence, Machine Learning, SME Accounting, Data Analytics, Cloud Computing.

## INTRODUCTION

An advisory services page from the KPMG website proclaims:

*“Digital disruption is changing the world in which we live and work. New technologies have created new markets that, in turn, create new customers and new competitors. And those customers and competitors are driving new expectations. The pace of change is unlikely to slow any time soon.*

*“To succeed in the digital world, businesses must not only provide superior experiences for consumers, customers, employees and citizens, but deliver on their promises in a faster, more nimble way. The opportunities are immense, but only for organizations that understand how far and fast they need to transform.” (Brown 2019)*

With the acquisition of Bookly.co and the launch of KPMG Spark, KPMG is bringing cutting-edge technology to an ever-expanding base of small- to medium-size enterprises (SMEs). This new offering helps SMEs to use computer innovations such as Blockchain, artificial intelligence, data analytics, cloud computing, and machine learning to automate their accounting processes and receive critical information on a real-time basis. The venture into the world of KPMG Spark demonstrates that KPMG is “practicing what they preach” to their advisory services clients.

One of the primary purposes of this case study is to demonstrate the impact of technology on accounting practices for SMEs. Not only does this study demonstrate how one firm is implementing cutting-edge technology to service SMEs, but it also demonstrates how technology can impact the manner in which financial information is gathered, processed, and reported. This study should be of particular interest to those investigating the impact of technology in the study of accounting information systems.

## SME Accounting

Over 22 million privately-held SMEs represent more than half of the U.S. economic impact. (AICPA 2008) The AICPA has recognized that, absent regulatory or contractual obligation, SMEs tend to prefer using either a cash-basis or tax-basis financial reporting structure. (AICPA 2018) Traditionally, this market has been served by local or regional accounting firms rather than the Big-4 or large, international firms. Local and regional firms are more likely to provide personal attention and reasonable fee-structures for services such as bookkeeping and on-going business support for small businesses. Further, the large firms typically specialize in accrual-basis accounting that complies with GAAP, rather than provide services focused on cash- or tax-basis accounting.

With advances in technology, a window has opened to allow larger firms to step into an arena dominated by local and regional accounting firms. These smaller firms need to embrace new technology to automate financial statement preparation to continue to hold their market share with SME clients. Further, software developers have a wide-open market to develop high-tech accounting solutions for small business that could be provided to CPA firms nationwide. This case study demonstrates how one Big-4 accounting firm has made a dramatic entry into the SME market by employing cutting-edge technology to serve a new market of SME businesses.

## History

Bookly.co is a Software as a Service (SaaS) company that was launched in 2013 by Zach Olson to simplify the accounting process for entrepreneurs. Olson's driving mantra was that "no one starts a business to become a bookkeeper". (Betts 2016) Yet, his experience was that most business owners find themselves spending an inordinate amount of time focusing on gathering, compiling, and analyzing accounting data. CPAs were expensive, while learning, implementing, and managing accounting software was time consuming and drew focus away from critical business needs.

Olson's experience was that most small business owners were primarily concerned with cash-basis accounting compiled to meet tax reporting requirements. While useful managerial reports could be valuable, the entrepreneur was more concerned with daily operations and meeting the governmental requirements to stay in business. Bookly was created to simplify and automate the way cash transactions migrate from the transaction to the accounting reports.

Over the next five years, Bookly built a bookkeeping system that compiles financial reports directly from data gathered from banks and credit card companies. This allowed them to create a bookkeeping system that matches a client with a Bookly accountant and automates most of the process with minimal client input.

During those first five years, Bookly grew dramatically. That growth was spurred with the investment of nearly \$2 million in seed capital to develop the technologies that drove the success of the business. (Betts 2016) Over the five-year period, their system increased in security, power, and popularity in the market. Bookly began establishing a national reputation as a top provider of bookkeeping services.

In early 2018, two of the Big-4 international accounting firms bid to acquire Bookly. That process culminated in KPMG acquiring Bookly in May 2018 and taking over operations on June 1, 2018.

From June through December, KPMG worked closely with management at Bookly to understand and adapt the system to meet the needs of potential SME clients. This transition period was used to integrate Bookly into KPMG and to develop strategies for future growth and

operations.

On December 6, 2018, KPMG announced the transition of Bookly into KPMG Spark. The firm described KPMG Spark as their “new high-tech, cloud-based service providing bookkeeping, tax prep and facilitating access to payroll services.” Their press release stated:

*“Designed to help businesses, from startup to spin-off, save time and offer them the financial tools they need, when they need them, KPMG Spark is a software enabled service providing cash and accrual-basis tax accounting. Combining the latest technology and a team of accountants, we bring all of your tax accounting into a single platform, without the hourly fees and long-term contracts traditionally charged by accountants.*

*“Every customer gets a dedicated account manager, bookkeeper, and supporting team of accountants and CPAs that you can call, e-mail, or text message. All your accounting information can be accessed anytime on an online dashboard.”* (KPMG 2018)

KPMG Spark offers their services for a flat monthly fee based primarily upon the size of the business and the level of services required. In addition to their bookkeeping services, clients can use Spark for tax preparation and payroll accounting. A further option allows growing firms access to KPMG consulting services.

Although KPMG Spark services are available anywhere across the globe, the operation is based in Salt Lake City, Utah. Their offices house the entire force of bookkeepers, accountants, and systems developers. KPMG Spark is growing exponentially and should double the size of their workforce in 2019. The firm is developing relationships with colleges and universities to supply a pipeline of talented accounting graduates to service their clients.

## Technology

KPMG Spark integrates a variety of cutting-edge technologies to deliver their services. Their system utilizes artificial intelligence and machine learning to develop rules used to gather and classify accounting data. This data is gathered directly from banking systems and is accessed without any manual input.

When KPMG Spark accepts a new client, the first step is to have the client link Spark to each of the client’s banks and credit card companies. For security purposes, no passwords are saved in the Spark system. The data link only allows access to client data and Spark has no access to initiate any transactions with the financial institution. KPMG Spark has access to more than 20,000 different financial institutions. This system updates the data every three hours.

For a new client, this information is used to establish cash and credit card balances for the balance sheet. The accounting team will then work with the client to build the remainder of the balance sheet by gathering such items as loan balances, fixed assets, and owner’s equity. KPMG Spark then creates a customized chart of accounts.

Once the client is set up, the system begins analyzing cash transactions. Over the past five years and working with thousands of clients, the artificial intelligence portion of the system has generated more than 3 million machine learning rules to aid in accurately classifying every transaction. Each of these transactions are recorded and added to a management dashboard that tracks company performance on a real-time basis.

If the system encounters a transaction that it cannot readily identify, the client is contacted

to clarify the purpose of the transaction and build a new rule to assist in future transactions. Additionally, if the client encounters a transaction that needs to be reclassified for any reason, the system adds the adjustment and the artificial intelligence function creates new machine rules to classify future transactions.

This process allows Spark to provide its clients with real-time cash basis reporting. KPMG can assist clients from the pre-revenue stage to upward of \$25 million annually to manage bookkeeping, tax preparation, and related activities. The 2017 Tax Cuts and Jobs Act (TCJA) made it easier for these small businesses to use cash basis accounting both financial and tax reporting purposes, and Spark technology allows clients to take advantage of the TCJA provisions.

The machine learning allows for the system to process vast quantities of data in a short period of time. KPMG Spark was approached by a food service firm with 24 locations in three states. The client needed assistance because exponential growth over its five-year life. That rapid growth had prevented the company from generating usable financial reports. Because Spark is able to pull transactions directly from the financial institutions and had previously generated a dictionary of machine learning rules, KPMG Spark was able to produce five years of preliminary financial reports in less than a week. Such a feat would normally require months of work and hundreds of accounting and bookkeeping hours to record, analyze, classify and book the millions of transactions KPMG Spark processed in the matter of days. (Dalton 2019)

The KPMG Spark system reports update multiple times per day to keep management informed on a real-time basis of activity throughout the business. These reports are conveyed through dashboards that highlight key areas of concern and allow managers to drill into details as needed. Reports are delivered to desktops, laptops, tablets, and phones, keeping management in constant contact with company operations. In addition to the reports, the system allows users to answer questions or communicate concerns with the client's KPMG Spark dedicated bookkeeper from any location with an Internet connection.

Spark's cloud-based system is protected with Blockchain technology. This technology protects against cybersecurity threats normally present in a cloud-based system by providing an immutable 3<sup>rd</sup>-party audit trail of all electronic data, activity, and state changes, as well as the identity of every participant.

The Blockchain technology that is currently in use by KPMG Spark has huge potential for implementation as a solution to automate the interactions between KPMG and its clients. Blockchain could allow KPMG to move from an on-premise system and revolutionize its ability to share data and reporting activity between the firm and its clients. An interactive system would allow KPMG the potential of securely accessing client data from off-site and to interact directly with the client while verifying identities and maintaining an audit trail of all activity.

Because the data is coming directly out of bank databases, Spark is not capable of tracking inventory transactions beyond the purchase of inventory. For this reason, Spark easily integrates with any inventory system based on an SQL database structure.

KPMG Spark services also include invoice and expense management. These services can help clients to invoice customers, apply payments, and monitor unpaid invoices. Additionally, the system will track unpaid expenses to assure that all payments are made on a timely basis.

Since tax reporting is the major accounting concern of most SMEs, KPMG focuses on providing full tax services for any Spark client. Not only is every client assigned a KPMG Spark dedicated bookkeeper, KPMG provides tax services to every Spark client (both business and personal). KPMG tax accountants not only assure compliance with all tax reporting issues, but they are prepared to discuss tax issues with any Spark client. Further, KPMG Spark clients can

avail themselves of full payroll services including payroll check preparation and payroll tax filings.

Due to the high level of automation of the process, Spark can offer starter plans for businesses that rely solely on cash-basis accounting for as little as \$195 per month. This service provides a client that has no more than 5 banks accounts and up to \$10,000 per month in expenses with accounting software setup, monthly reconciliations, monthly financial statements, expense management, and a virtual bookkeeper. Clients can add tax preparation for as little as \$125 per month and payroll facilitation for as little as \$100 per month. Additionally, KPMG consulting services can be added for \$1,000 per month to assist developing businesses with a wide range of professional assistance. (Shelton 2019).

Because of the tremendous growth KPMG Spark is experiencing, they have been actively recruiting accounting students on college campuses. The firm has demonstrated a willingness to hire accounting students prior to finishing their bachelor's degree. This gives the students the unique opportunity of gaining professional experience both working with clients and getting an in-depth look at the entire accounting cycle. These employees are encouraged to continue with their degrees within a supportive work environment.

### **Impact on Accounting Information Systems Education**

Technology is rapidly changing the accounting profession. While the impact of technology on professional accountants is uncertain, there is a broad base of research that forecasts that technology will drastically revise the workforce of professional accountants. Frey and Osbourne (2017) analyzed 702 detailed occupations to determine the probability of computerization. Out of the 702 occupations, less than 100 occupations showed lower probability for computerization than accounting and auditors, which was calculated to have a 94% probability of computerization.

Citing the work of Frey and Osbourne, Keystone (2017) lists five technologies that are destined to redefine the work of accountants: cloud computing, integrations, digital currency, blockchain, and machine learning (four of which were crucial in the development of KPMG Spark). Keystone contends that these technologies will redefine jobs in a manner that will reduce costs and increase demand rather than eliminate those jobs. He claims that "to stay relevant—and employed, we must learn to adopt and adapt to new technology. The future belongs not to those who do, in other words, but those who can learn to do anew."

The KPMG Spark story provides a perfect example of the integration of cutting-edge technologies and accounting information studies. Frequently, AIS instructors introduce many of these technologies in their curriculum but find it difficult to provide real-world examples of the application of these same technologies. KPMG Spark demonstrates how these technologies directly impact accounting information systems.

The KPMG Spark system is based on artificial intelligence using machine learning to process, identify, and classify huge quantities of raw data. This big data approach to data analytics allows for the processing of millions of transactions in a tiny fraction of the time that would be required in human processing. The results of this process are presented using dashboards mimicking a full executive support system. Reports are updated multiple times per day providing management with real-time accounting information.

To provide access to this information to managers and business owners, the data is maintained in the cloud and pushed to a variety of Internet-enabled devices. This service allows access not only from the business offices but also to a variety of mobile devices including tablets

and phones. To provide security and protect confidentiality, Blockchain technology is applied to ensure that all users accessing the system are properly authorized and that the data is encrypted throughout its transfer to and from the cloud.

KPMG Spark demonstrates how technology is changing the world of accounting information systems. Accounting students must be comfortable not only with the technologies moving into the market today, but also with the unforeseen changes in future technology. They must embrace a culture where new developments will drastically change the very face of the profession.

During their tenure in higher education, it is impossible for students to master all of the technologies currently employed in the accounting profession, let alone those that will transform how accounting is to be conducted over the upcoming decades. Exposing students to a variety of technological advances should help our students to understand that accounting is a moving target. Students must understand how important it is to stay current with these innovations. Successful accountants will assume the responsibility to curiously pursue new technologies and to seek pathways for applying that knowledge in their profession.

David Brown, head of KPMG's global shared services and outsourcing advisory, teaches:

*"New technologies always disrupt the corporate world. What is new is the pace at which digital technologies are having an impact, both on a sector-by-sector and function-by-function basis. Every company needs to recognize [sic] that digital disruption is part of the ecosystem in which it operates, and every company must have a digital strategy in order to remain financially viable..."*

*"Organisations [sic] must take a broad, holistic assessment of how new technologies – including the Internet of Things (IoT), process automation, cloud services, self service, social media and even blockchain – will impact their internal and external operations going forward."* (Brown 2017)

KPMG is implementing its own advice by embracing and employing these new cutting-edge technologies in the development of KPMG Spark to revolutionize the way it serves SME clients.

Jeffrey C. LeSage, Americas vice chairman of tax at KPMG, states:

*"Robotic process automation, intelligent automation and other emerging technologies are just beginning to disrupt the accounting and tax services industries. KPMG Spark reflects KPMG's commitment to bringing innovative solutions to an expanding range of clients so we can help them drive growth, gain efficiencies and create greater value."* (Cohn 2018)

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