



INCPAS BOARD TASK FORCE

HYPERSPECIALIZATION WHITE PAPER

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Steve Johnson
Jenni McNaughton, CPA, JD
Louis Stratton, CPA, CGMA
Doug York, CPA, CGMA

Leadership Advisory Council

Doug Baldessari, CPA
Jon Schwander, CPA

Staff

Dave Shatkowski

The INCPAS Hyperspecialization Task Force conducted several meetings and conference calls between June 21 and Nov. 11, 2012. The group was charged with becoming content experts on the emerging concept of hyperspecialization and how it could impact the CPA profession. After a thorough review and discussion of the topic, the group took into consideration the impact of hyperspecialization on the future of INCPAS planning and provided recommendations for INCPAS actions. The remainder of this white paper details the task force's work.

The task force began its work with the following charge:

- Become content experts on the topic.
- Report to the board of directors at the November 2012 retreat with notes related to
 - implications for the future of INCPAS planning (SWOT, heat map, scenario plan) and
 - possible impact on members, CPA firms and industry employers.
- Provide recommendations for INCPAS actions, if any.

Definition

The task force started with two sample definitions and decided to combine elements of the two since the first one was more theory-oriented and the second was more straight-forward in nature. The draft definition was edited a couple times at subsequent meetings to make it more factual and shorter. The phrase “whether or not those pieces are outsourced or distributed within an organization or network” was added to clarify that hyperspecialization does not necessarily equate to outsourcing or offshoring. Large and mid-size companies and firms practice hyperspecialization within their own firms or alliance networks.

Final definition: “Dividing work into ever smaller tasks performed by ever more specialized workers. Today, thanks to knowledge work and communications technology, this subdivision of labor often leads to improvements in quality, speed and cost, whether or not those pieces are outsourced or distributed within an organization or network.”

The Concept

In an article in the *Harvard Business Review*, “The Big Idea: The Age of Hyperspecialization,” Tom Malone, Robert Laubacher and Tammy Johns noted that the division of labor, a development that transformed the way physical work was accomplished during the Industrial Revolution, may now be poised to redefine how knowledge work gets done in the 21st century. As labor has become more knowledge-based and communications technology has advanced, the division of labor has accelerated.

For example, TopCoder, a start-up software firm based in Connecticut, chops its clients IT projects into bite-size chunks and offers them up to a worldwide community of freelance developers as competitive challenges. For instance, a project might begin with a contest to generate the best new software-product idea. A second contest might provide a high level description of the project's goals and challenge developers to create the document that best translates them into detailed system requirements. The winning specifications document might become the basis for the next contest, in which other developers compete to design the system's architecture, specifying the required pieces of software and the connections among them. Further contests are launched to develop each of the pieces separately and then to integrate them into a working whole. Finally, still other programmers compete to find and correct bugs in the sundry parts of the system.

TopCoder can often provide its clients with development work that is comparable in quality to what they would get by more traditional means but at as little as 25 percent of the cost. And it manages to do this while maintaining a satisfied, well-paid community of coders.¹

Amazon.com offers a service called "Mechanical Turk," which describes itself as a "marketplace for work." Mechanical Turk gives businesses and developers access to an on-demand, scalable work-force. Workers select from thousands of "Human Intelligence Tasks" and work when and where it is convenient. Requesting companies pay only when they are satisfied with the work.

Venture capital companies have invested significantly in crowdsourcing services, that let other companies access a large group of people to complete a specific task, as well as companies that offer a marketplace of people who perform specified tasks. Such services act as intermediaries for hyperspecialization and allow smaller tasks to be divided up and accomplished. Two recent examples are InfoArmy and Crowdsource.

InfoArmy has a service that provides profiles of companies that include information about management, competitors and financial estimates. In short, it is a directory of contact information that is compiled by a community of users, which are ranked in order of their contribution levels.

CrowdSource's service helps customers complete aspects of projects that are not well-suited for its employees, such as labor intensive tasks that occur only once or twice a year. It identifies the people that would be best to perform certain tasks based on profiles that feature their skills and interest. A software solution breaks down a project into micro tasks and then brings them all together to complete the final product.²

The task force spent significant time discussing drivers of hyperspecialization, and advances in communications technology as described in the example above is one of six that were identified. Other key factors driving the trend toward hyperspecialization include: 1) increased complexity; 2) changes and increases in regulation; 3) the economy, which has encouraged offshoring of repetitive tasks; 4) globalization; and 5) demographics, which is resulting in the consolidation of firms as demand for commodity services declines.

Where Do Elements of Hyperspecialization Exist in the CPA Profession Today?

The concept of specialization, in both function and industry, has existed in the profession for decades. There are signs of an evolution to hyperspecialization. The task force spent considerable time identifying and discussing many examples of hyperspecialization within the CPA profession, both in public practice and in business and industry.

Large International and National Firms

Many elements of hyperspecialization exist within the largest CPA firms today. For example, a typical audit of a mid-size public company might involve more than a dozen specialists. These specialized resources could reside within the U.S. firm, global network of member firms or offshore subsidiaries. Examples of specialized resources include:

- Valuation – broken down further into specialized areas such as real property, personal property, intangibles, “hard to value” investments, and stock-based compensation;
- Tax – specialty areas include federal tax, state and local tax, international tax, transfer pricing, cost segregation, research and development credits, and other specialty tax credits;
- Information technology including general and application controls;
- Actuarial services - specialists can be found both in self-insurance for health and other risks (including product liability, workers comp, auto liability), as well as pensions.
- Derivatives – with further specialization in financial, commodity and foreign exchange instruments;
- Forensics – including journal entry testing and fraud risk assessment;
- Other specialized technical areas like co-op accounting, business valuation, and International Financial Reporting Standards, or IFRS.
- Integrated reporting and other emerging services could create specialized needs in entirely new areas like engineering, environmental science, human resources and social media.
- Outsourcing of accounting for 401K and other retirement plans.

In addition to the specialized resources noted above, most of the large firms have also formed offshore subsidiaries in lower cost labor markets. These global delivery centers take advantage of labor rate arbitrage and provide round the clock support. Many of the tasks completed

offshore are not specialized at this point. Rather, they generally involve high-volume repetitive tasks that previously may have been performed by newer associates.

Finally, the discussion above is focused solely on services provided primarily by CPAs. In addition, large firms have management consulting practices with a wide range of specialized service areas.

Regional and Mid-size Firms

Regional and mid-size firms have many of the same specialized resources discussed above, either within their own firm or through alliances like the BDO network. Some regional and mid-size firms have enough scale to have certain types of hyperspecialized resources on staff. In addition, for firms that are large enough to absorb the annual fee, firm alliances serve as intermediaries for resources that do not make sense to have on payroll. Some service areas utilized through alliances include international tax and cost segregation. Alliances enable firms to offer services they can't offer internally and get some profit margin, but not have overhead associated with a specialist. Alliance arrangements dictate the rates charged from one member firm to another. Also, a larger firm could sub out bookkeeping write-up work to a small practitioner who could hire paraprofessionals at a reasonable rate. As accounting packages go more online, clients are performing many of these tasks themselves; however they may still need assistance getting information ready for audit, preparation for tax return or year end.

Smaller Firms

Smaller firms and mid-sized firms who choose not to bear the cost of a firm alliance rely on informal networks of specialty firms that they can turn to as needed. These relationships must be developed over time through a state CPA society, networking at CPE events, or through personal contacts. Being part of an alliance isn't necessarily a factor of firm size, but there is a cost-benefit decision. Alliances can make sense if the firm is big enough, but annual membership fees can be expensive. Some small firms may simply choose not to provide certain services at all, do it themselves or find someone to help fill that need. Smaller firms may specialize in only a couple of industries as general practitioners and outsource to their network of peers functions like business valuation, cost-segregation studies, specialty tax like R+D credits, or international tax matters.

Industry

Finance Activities

In industry, there have historically been accounts receivable and accounts payable specialists that focused on those specific transactions. Transactional services are increasingly outsourced by many large businesses. Outside providers are performing many activities as a service and work is frequently done off shore. The scope of work includes accounts payable and receivable processing, intercompany billings and collections, maintenance of accounting master data, some

manual journal vouchers and account reconciliations. Other companies also have staff dedicated to many of these specific functions, which has been a trend for a number of years.

One CFO in manufacturing said hyperspecialization in their industry was forcing employees to be managers of processes. Specialization has put an increased emphasis on logistics, efficient systems, and well defined processes. This business used to manufacture all components of their product but now they manage only the logistics process of having other manufacturers across the globe manufacture pieces of it. The result is a small labor force dedicated to manufacturing the product and more devoted to managing the process.

A partner of a medical group said that specialization has created more stand alone specialists in the industry. Meaning, instead of being part of a large organization and utilizing the organization's back office, specialists are now being contracted with large hospitals forcing them to have their entity structure with their own back office. For example, many hospitals are now outsourcing their medical billing. Most of these partners (doctors) do not know how to run a business and it has proved to be quite the learning curve and has created opportunities for a CPA firm to provide consulting.

Some positions by their very nature require you to become specialized. In one example, a not-for-profit received funding from 14 different federal and the state government sources via FSSA, and each one has different requirements. It is subject to an A-133 audit and the rules put in place by the OMB. Many newly-hired CPAs have no knowledge regarding the specialized rules that apply and some may be overwhelmed. However, unless they hire a person with previous experience working for an AAA, many CPAs can do the work.

Some other areas require very specialized knowledge due to the complexity of the relevant accounting standards. For example, an accounting manager for a software developer would have to know complex revenue recognition rules unique to the industry.

Shared Service Center Concept

Another large company trend is the shared service center within the organization. These central or regional groups take ownership of financial responsibilities previously within the local controller's scope. The shared service center scope often includes period closing activities, reviewing individual transactions for approval, standardization of management reporting, account reconciliations and processing capital and asset records.

Role of Finance and Accounting Employees

As a result of this hyperspecialization within large companies, the role of the finance and accounting employees has changed significantly. Local controllers and finance employees assigned to business areas complete fewer accounting transactions and accounting systems

maintenance activities. Their focus turns toward business partnering and compliance with local regulations. Fewer individuals are needed locally and as a result, the scope of their responsibility broadens. An additional impact of hyperspecialization is the need to implement new controls to check the work now outsourced and done by a shared service center.

Impact of Outsourcing Company Activities on Finance

The trend of companies outsourcing internal processes also impacts the finance function. New controls may need to be put in place as a result. As an example, when a company outsources some IT functions including providing individual employee computers, internal roles change significantly. The new vendor may be responsible for determining when new computers should be purchased and own the process of ordering and paying the vendor and just submitting an overall invoice to the company. A previous control of having the person who ordered the equipment confirm receipt and the invoice is not longer possible. New controls need to be put in place to ensure invoice accuracy.

Impact of Hyperspecialization on Members

Hyperspecialization will significantly impact INCPAS members, how they work and the skill sets required. The task force discussed a number of potential impacts:

- Hyperspecialization requires a different skill set than doing the work yourself. Someone needs to pull all the pieces together, interact with the client and ensure that services are delivered on time in a quality manner. Skills in project management, communication and coordination will become increasingly important.
- Members may be forced to choose a deeper specialty and to do so earlier in their careers. This could jeopardize the broad-based business knowledge needed to become a trusted advisor to clients and advance in their careers.
- The overall number of members may decline due to offshoring certain work. This can already be seen in reduced hiring by some of the larger firms.
- Conversely, some work done overseas could be done by people in lower-cost rural areas. An example of that is bookkeeping and other transactional services that could be either outsourced or offshored.
- People can choose the type of work they want to do and focus on doing what they like.
- The improvements in communications technology and cost can create flexibility in working time, location and hours.
- Hyperspecialization can result in improved profitability. When firms specialize in certain areas, they become the experts in an area and are able to command premium rates. This could be with either audit or non-audit services. Examples are IT consulting, international services, arbitrage tax services, etc. Additionally, hyperspecialization should result in improved productivity as individuals focus 100 percent on their core competency. The

downside is the risk of functional obsolescence if your niche service goes away due to accounting or regulatory changes.

Impact on Education and Competency

Whether the CPA is a “hyperspecialist” or in a client-facing management role, the evolution of hyperspecialization will require different skill sets. This will impact both university education and the ongoing development provided through Continuing Professional Education:

- As noted above, hyperspecialization could require CPAs to shift their focus to more project management and quality control. This could also require a shift in university education and ongoing CPE to help practitioners develop these critical skills.
- Universities and CPE providers may need to offer more specialized courses, but it may not be cost effective. This is an issue more with smaller schools than larger ones. If you only have 30 students, you can't provide all the specialized courses that might be desired.
- Specialized training would be difficult for smaller universities. Something more like the medical model might work. Some big universities are offering more specialized courses such as forensics or business valuation now.
- Hyperspecialization could force universities to partner with online institutions to provide specialty education. How far do we want universities to go in terms of specialized training? It may impact the number of hours that are necessary to get the general education. You still have to have broad-based knowledge to understand client needs.
- With regard to competency, many questions and theories exist as far as how you test for credentials. Can you demonstrate competency in a certain area through learning or experience, and get credit for it?
- Mentoring is an area that could be expanded on, both at the university level and within professional associations.
- The trend toward hyperspecialization may be an opportunity for universities to offer specialized training outside the normal curriculum. Universities are always looking for new ways to make money and that is one way to do it.
- With the need to share data among various firms and across borders, privacy and security issues will be a significant consideration. Practitioners need training to understand the legal and business risks and how to mitigate them.
- Training in hyperspecialties means you may not be getting a broad-based education. Rather, you are getting specialty courses that are training you in specific topics.

Opportunities it Presents

Similar to the benefits recognized in production of physical products through the Industrial Revolution, hyperspecialization presents the opportunity for higher quality and lower cost in knowledge work. Some ancillary opportunities identified by the task force follow:

- CPAs could have greater flexibility in when, where and how they work. With the improvements and reduced cost in communication technology and the evolution of hyperspecialization, project team members do not need to be located in the same physical space.
- As the intermediary market evolves, CPAs could have the ability to choose what projects they work on. Under the current firm model, employees don't always have the choice of what they want to specialize in, so they can either accept it or they may need to move on. However, in a hyperspecialized world, if you have the skills that are in demand and an intermediary market develops, you do have a choice. People will go to where they can find it. The trend of hyperspecialization increases these opportunities.
- With hyperspecialization and in many cases offshoring of some low-level, repetitive tasks, there may be more opportunities for CPAs to do higher level things such as critical thinking and problem solving. It could help young staff get up the learning curve more quickly. With offshoring specifically, you get people at a lower rate and opens up more advanced work for people who were previously doing those tasks.
- Hyperspecialization may provide an opportunity for “technicians” who prefer to focus on their technical specialty and are not interested in managing others or developing new business. Currently these individuals are limited in their ability to progress within a firm.
- Hyperspecialization can lead to increased firm and company profitability as a result of efficiency and proficiency. Some of that is the result of not having to have a resource on staff. In the wake of the “great recession”, many companies have focused on developing more flexible and scalable work forces. An outside firm or individual can perform a specialized service just when you need it and can be scaled up or down as business conditions change. You have more knowledge on what you're doing and a greater opportunity to be innovative and stay ahead of the curve to demand higher rates.

Risks or Challenges

While hyperspecialization presents potential benefits for CPA firms and individuals, it also has very real potential risks and downsides. Some challenges identified by the task force follow:

- Individuals may get silo-ed in one specific area and not develop the broad business skills needed to serve clients and employers, and advance throughout their careers.
- Similarly, with offshoring of lower-level tasks, development of new personnel may be more challenging. Firms rely on senior associates with three years experience, but many of the tasks typically performed by first and second year staff are being done offshore. New methods of developing staff more quickly will be necessary. A staff person can learn by going through the process two or three times and then coordinating and supervising the procedures with the offshore resource. This will require enhanced training, mentoring and supervision.

- Skills could become obsolete due to accounting, tax or legislative changes.
- Individuals could become bored performing the same repetitive tasks day after day.
- Specialization could also reduce innovation and creativity, both for individual employees or firm- and company-wide.
- With the need to share data among various firms and across borders, privacy and security issues will be a significant consideration. Practitioners will need to understand the legal and business risks and put processes in place to mitigate them.
- Legal liability challenges related to doing audits is another area to keep under consideration. If key procedures are outsourced to hyperspecialists, will they be subject to litigation risk? Will their work be available for review by regulators such as the PCAOB?
- The effects of competition and cooperation will have to be considered, especially through partnering with other firms within formal alliances or informal networks. If INCPAS were to develop as an intermediary to help small and mid-size firms compete, how will this be viewed by members in larger firms?
- Hyperspecialization may cause a change in the perception of accounting as being vocational and not a true profession. The Pathways Commission Report touches on this. The reality of being narrow niches leads to the perception of vocational.
- Specialized industries and service lines often have their own designations that might mean more to the individual than the CPA. Young professionals may not see the value of the broad base of knowledge required to pass the various sections of the exam. This specialization may also drive “tunnel vision” and an inability to think outside the professional’s narrow area of expertise. This can diminish value and lead to lost opportunities. Currently consulting revenues are often driven by CPAs and other professionals taking ideas or concepts from one industry and applying them to a new or under-developed industry. Hyperspecialization could potentially threaten the profession’s ability to accelerate industries to provide creative strategies.

What it Means for the Profession

While it seems inevitable that the trend towards hyperspecialization will continue, it is difficult to predict how broad and deep the impact on the accounting profession will be. While it is easy to visualize how software development and coding or product engineering can be broken down into discrete tasks that can be “bid out” to hyperspecialists around the globe, the task force struggled to come up with comparable examples in the accounting profession. Further, the issues around privacy and security of client data could inhibit “crowdsourcing.” The task force is not aware of any established intermediaries for accounting services at this point.

Nonetheless, the trend cannot and should not be ignored. Hyperspecialization, properly managed, holds the promise of increased profitability, through premium rates for specialized

services, a lower cost delivery model for commodity services and improved quality. Conversely, hyperspecialization carries with it risks and challenges. One of the long-touted benefits of a career as a CPA is the ability to rapidly develop as a professional and to develop a broad business foundation on which to build a career. Evolution of the profession into narrow hyperspecialized “technicians” could diminish the perception and value of the CPA designation.

Technology may also accelerate the trend towards hyperspecialization. Transactions will increasingly be processed electronically/automatically with no manual intervention. Similarly, audits will become more automated, with reliance on “smart technology” to analyze transactions and less detail testing. Taxation may also move to a more automated, transactional approach. Many of the traditional transactional and compliance services will either be eliminated or commoditized. Smaller firms that rely heavily on these services will need to adapt to survive.

Many CPAs play the role of “trusted business advisor” to individuals and small businesses. This role requires a broad knowledge of business and ability to anticipate and resolve problems. The task force does not see the evolution of hyperspecialization eliminating this role. Quite the contrary, the trend may in fact enhance the value of a CPA that can develop deep relationships with clients, understand their business goals and objectives, help them anticipate challenges and bring together the appropriate resources to solve problems in the most cost-effective manner. This will however require a new skill set with more emphasis on project management, communication and quality control. Specialization can help us become more profitable by providing the thought and analysis instead of lower level transactional tasks. This allows CPAs to focus on what really adds value and get paid for the piece that provides value.

The task force does not see hyperspecialization as a disruptive force that will change the profession overnight. Rather, it will be an evolution that takes place over an extended period. Those individual CPA’s and firms that can take advantage of the benefits of hyperspecialization while maintaining their role as trusted advisor and managing the risks can reap significant benefits in improved profitability and revenue growth.

Potential Implications for the Indiana CPA Society

The task force discussed the implication of hyperspecialization on INCPAS, including consideration of the SWOT analysis, our risk assessment process and ultimately the strategic plan.

Hyperspecialization was also discussed in relation to the value proposition. A concern with the value proposition is that hyperspecialization may not enhance the perceived value of an INCPAS membership by highly specialized CPAs. If a CPA focuses in narrow practice area, he or she might want a specialty credential instead of maintaining INCPAS membership or

even a CPA license. A hyperspecialist may not see the value of INCPAS if they are affiliated with a specialty group. We do not recommend revising the value proposition, but this issue should be included as a threat.

SWOT:

Opportunities:

- INCPAS could serve as an intermediary for professionals to be able to find the specialist they need. Our Knowledge Management initiative could provide a platform that provides assurance as to competency of individuals.
- Offering new and different types of CPE to develop competency for both project management and specialized skills (there is an existing opportunity listed related to development in niche areas; we can add to that)
- Enhancing the CPA brand to convince the public that the CPA fills the “trusted advisor” role
- Offering testing to validate certain specialties

Threats:

- Other intermediaries who manages skill sets/specialties better than us emerge that provide linkage to hyperspecialists and diminish the value of being a member of INCPAS
- Challenge of meeting needs of so many specialists and then those that are generalists
- Currently struggle with industry; do we have the capacity to deal with exponent number of specialties? Could also exacerbate the threat of new and emerging professional organizations that compete for our members
- CPE also becomes more challenging. How do we meet the needs of narrow hyperspecialists?
- Reduction in members as hyperspecialized resources around the globe provide services to clients in Indiana.

Risk Assessment

Several existing risks might be impacted by an increase in hyperspecialization, including:

- Membership competition – alternative groups compete for membership dollars
- Competition from CPE vendors and suppliers (CPA firms)
- CPA designation no longer credential of choice
- Emergence of another association serving the same audience
- Offshoring of work by CPA firms and large companies – impact on CPAs in Indiana

Additionally, the task force identified two new risks that should be added under the Human Capital section of the Heat Map:

- Opportunity to help members transition to a more specialized environment
- They transition too soon or the specialty they transition to goes away

Strategic Plan

The task force agreed that a number of areas could be impacted by hyperspecialization, including growth in membership, human capital and competency. However, it did not see any changes that should be made to the strategic plan currently as a result of hyperspecialization.

Membership Growth:

- The number of members could decline due to offshored or outsourced tasks eliminating local jobs
- New membership categories, member sections or affinity groups could be needed in the future to address increased specialties

Human Capital:

- INCPAS must ensure that it continues to focus on broad business knowledge and recruitment of new people in the profession
- The perception of the profession could be harmed by increased hyperspecialization if viewed as narrow technical specialties

Membership Competence, Integrity and Professional Development:

- Knowledge management implementation could have a strong linkage to hyperspecialization
- Hyperspecialization will also have an impact on understanding the current market and future direction of professional development

Public Relations and Branding:

- The task force did not see any apparent direct impacts of hyperspecialization

Government Relations and Advocacy:

- The task force did not see any apparent direct impacts of hyperspecialization

In general, the task force felt that the strategic plan is broad enough and forward-thinking enough that it already indirectly addresses hyperspecialization and no immediate changes are necessary.

Recommendations

Hyperspecialization is a trend that INCPAS needs to monitor on behalf of the membership, including evaluating emerging intermediaries to identify any trend to offer accounting services. We should also consider any need to modify or enhance CPE to address emerging specialties as the demand is there. One area of immediate consideration for CPE is in the area of project management. These skills are increasingly important, both in public practice where specialists are an increasing portion of the audit, and in industry where companies are increasingly

undertaking transformation efforts. Project management skill sets will continue to be critical as hyperspecialization increases.

The impact of hyperspecialization and how we incorporate it should be considered as we proceed with implementation of our knowledge management initiative. The Skills Web concept appears to be very compatible with hyperspecialization.

In summary, we believe our response to hyperspecialization will be evolutionary. INCPAS should continue to monitor the trend as it develops, consider the impacts on knowledge management, and how it links with competency initiatives.

Footnotes

¹ Thomas W. Malone, Robert J. Laubacher and Tammy Johns, “The Big Idea: The Age of Hyperspecialization,” *Harvard Business Review*, July 2011.

² Scott Denne, “VCs See Wisdom of the Crowds,” *Venture Wire*, Oct. 23, 2012.