

# New Technologies and Professional Skills: Perspectives for Lawyers and Legal Education in Brazil

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## Abstract

Technological advances have impacted different areas of society, changing the dynamics of work, education, economy, services, etc. Considering that the Brazilian legal area, in this context, has also undergone transformations, this article aims to analyze whether and how the incorporation of technologies by law firms generates the need for the development of different skills by legal professionals. Based on bibliographical-documentary research and interviews, this study discusses the results of research carried out from a survey applied to 400 law firms distributed in different regions of Brazil, as well as in-depth interviews carried out with representatives of institutions involved in the topic. Our thoughts are presented in this text, organized into three main sections: 1) research context; 2) technologies, new areas, and skills; 3) challenges for the legal training of present and future professionals. At the end, conclusions are presented.

## Keywords

Lawyers, Skills, New Technologies

## 1. Introduction

Technological advances have impacted all aspects of society. In this Fourth Industrial Revolution we are currently experiencing (Schwab, 2016)—marked by rapid technological changes and innovations—Law and legal professions are also undergoing a process of redefinition. As new practice areas emerge, legal roles are increasingly required to adapt to this new environment (The Law Society, 2017).

Some years ago, only administrative and management tools were being intro-

duced; today, they already include Artificial Intelligence and predictive analytics technologies, fundamentally altering the landscape. Therefore, the topic of the future of legal practice in light of so many technological changes is not only thought-provoking but demands urgent debate from society—including legal organizations and academic institutions.

How should we train the legal professionals of today and tomorrow? What new areas will offer opportunities for legal practice, and what skills will lawyers need to develop to thrive in this rapidly changing environment? These are the central questions behind the research conducted by the Center for Teaching and Research on Innovation (CEPI) between 2021 and 2023. The goal was to identify and analyze how law firms are incorporating technology into their daily routines, what competencies and skills are essential in this new context, and what limitations current legal education is facing.

The results regarding the adoption of new technologies by law firms, the emergence of new legal areas, and the skills expected of legal professionals provide a foundation for reflecting on the actual impact of technological change on their everyday legal practice and education.

These reflections are presented in this article, organized into three main sections: the first presents the context and methodology of the ‘Training the law practice in the present and in the future: skills and perspectives of professional performance’ study; the second analyzes the incorporation of technology and the emergence of new areas and required skills for legal professionals; and the third discusses the challenges for legal education and the role of universities. The article concludes with final remarks.

## **2. The Research Context—Training the Law Practice in the Present and in the Future: Skills and Perspectives of Professional Performance**

‘Training the law practice in the present and in the future: skills and perspectives of professional performance’ study is part of the Center for Teaching and Research on Innovation’s line of inquiry into the future of legal professions, which seeks to understand the transformation and the future of legal careers. This investigation aimed to understand how law firms are incorporating new technologies, what competencies and skills are essential for legal practice, and what challenges exist in legal education for current and future professionals. Additionally, the study also intended to contribute to discussions on the role of universities in preparing professionals capable of contributing to society.

The research began with a literature and document review on the future of legal professions in a broader way, with a specific focus on Brazilian legal practice. One key finding was the abundance of theoretical work discussing the future of legal professions, highlighting several challenges, such as those outlined by [Susskind and Susskind \(2023\)](#): delivering better legal services at lower costs, the liberalization of legal services (i.e., allowing non-lawyers to participate), and the impact of

technology, which has becoming “incredibly capable” (Susskind & Susskind, 2023: p. 22).

Another key finding was the lack of specific data on the profile of Brazilian law practice. While ample literature exists on the future of legal professions, especially in the U.S., there is far less research addressing the unique characteristics of Brazilian legal practice.

Although some official statistics are available from the Brazilian Bar Association (OAB)—such as the number of registered lawyers, their regional distribution, and gender demographics—other robust data to answer the research questions were lacking. This reinforced the need for empirical data collection (i.e., conducting interviews), especially regarding technology adoption, required skills, new legal areas, and recruitment practices in law firms.

Seventeen in-depth interviews were conducted with representatives from institutions involved in the topic (such as the OAB, technology solutions developers oriented to legal clients, legal tech and law tech associations, professional associations, and training organizations), along with a survey for 400 law firms (each with at least three partners) across all Brazilian regions. According to OAB, the number of firms per region was proportional to the number of lawyers registered with the OAB in each area. Law firms were categorized as small (5 - 10 lawyers; 11 - 20 lawyers), medium (21 - 40 lawyers; 41 - 100 lawyers), and large (more than 100 lawyers) to test the hypothesis that larger firms are more likely to adopt technology.

Both the survey and interviews focused on four main pillars: technology adoption, creation of new practice areas, hiring practices, and the skills required of legal professionals. Key questions included: what technologies are being used? Did COVID-19 accelerate technology adoption? Is tech integration really happening uniformly across Brazil? What resistance exists? What new practice areas have emerged in the last years? Is current legal education adequately preparing professionals for innovation context and technological change in law services and law firms?

By connecting trends and outcomes of the market changes, the research identified core skills and practice areas for present and future professionals, presented in the following sections.

### 3. Legal Practice Amidst Technologies, New Areas, and Skills

The incorporation of technology in law firms has been widely discussed in Brazil and globally (Terry, Mark, & Gordon, 2011). The growth of law techs and legal techs over the past five years—and forecasts of further investment in the next decade—highlight a heated and promising market.

However, the study found that the adoption of new technologies and generative AI is neither as extensive nor as uniform as recent debates suggest. The most commonly used tools include case management systems (87%), document and internal process management (82%), and legal research tools (81%).

More advanced technologies—such as those related to automation, compliance, AI, and online dispute resolution—have not been significantly adopted, and their

use is concentrated in large firms. According to the study, about 48% of large firms reported using these tools, compared to only 18% of mid-sized firms (41 - 100 lawyers), likely due to cost barriers.

Although generative AI tools like ChatGPT have been widely discussed in the legal field (Andrade, Rosa, & Pinto, 2020), the research shows they are still emerging and mostly limited to large firms. In this sense, most part of the legal practice is still far from the use of generative AI tools.

There is a clear disparity in tech adoption between firms of different sizes in Brazil. During the pandemic, for example, large firms were the most likely to adopt new technologies and gain clients, while small firms (under 10 lawyers) were the least likely to hire or create new departments. The monetary cost is a factor that must be considered since it is not possible for every firm to adopt it. Only 28% of respondents mentioned adopting technology due to lower costs, suggesting that price is still a major barrier. Brazil is diverse and unequal, so the debate about changes in legal practice must take into consideration that changes are not uniform. For example, small firms in the countryside of a state may have different conditions in comparison to a large firm located in a big city of the same state.

In addition, cultural changes may require investment in workers' training. In many cases, hiring professionals from different areas to compose a team of a legal firm will also be necessary. Interviewees noted that culture is a sensible topic, especially in a traditional field like Law. Many lawyers are reluctant to adopt new technologies. This indicates that beyond financial barriers, cultural factors also play a role in limiting tech adoption.

The introduction of technology and its consequences, such as automation, interdisciplinary hiring, and a decrease in the number of lawyers and others, change the dynamics of the legal firm. This context raises important questions: what new legal areas are emerging in the Law field and in the legal firms? How can law firms and legal professionals adapt to this new technological landscape?

An interesting factor is the changes brought by the use of these tech tools in the composition of law firms. Tech, project management, and marketing teams strategically integrate the organization of the firms.

Over 90% of large firms reported creating new departments in the past five years. However, this was not universal—48% of the law firms did not mention the creation of new areas. 52% of all surveyed firms had created new areas, showing the heterogeneity of the law practice in Brazil. It was not possible to identify a general tendency for an increase. It is interesting to note that the legal firms with higher rates of creation of new areas were located in the Northeast (62%) and Southeast (55%), compared to the North (36%), South (38%), and Central-West (46%).

The most common new departments created were data protection (39%) and marketing (35%). Data protection likely reflects the General Data Protection Law, while marketing suggests broader market changes, including increased use of social media and content production (Rodrigues, Freitas, & Silva, 2022).

One important interdisciplinary role increasingly present in law firms is in Le-

gal Operations (Legal Ops), a structured function or department responsible for a range of operational and strategic duties. Legal Ops professionals come from diverse academic backgrounds such as Law, Business Administration, Data Science, and Marketing. Their work is not limited to the core legal tasks defined by Brazilian law but involves optimizing processes, managing technology adoption, and coordinating cross-functional teams. The interdisciplinary and technological nature of Legal Ops highlights how the legal profession is embracing diverse expertise beyond traditional legal training. (Center for Teaching and Research on Innovation, 2023b)

The creation of new areas, in the same way as the incorporation of technologies, highlighted differences between large and smaller law firms. For example, areas such as legal operations were created by 52% of large firms but only 28% of medium-sized firms.

The main motivations for creating new departments included client demand (33%) in first place, followed by service innovation (30%), and technological infrastructure improvements (29%) in third place. This suggests that firms are adapting to meet market expectations and improve competitiveness. This is reflected in the relationships with clients and in the improvement of the law firm's infrastructure.

Regarding essential legal skills for the professionals, interviewees were asked about the most important ones. As expected, the interviewees prioritized legal skills (39%), indicating that legal knowledge is the basis for the legal profession in the present and in the future. The legal dimension (in the theory and in the practice) is, in the model presented by DeStefano (2018), the basis of the pyramid of the legal profession. This indicates that the legal profession is seen as very necessary. Even though the majority (92%) had a consensus that the legal practice will be deeply impacted by technology in the next years and that some practices will need reinvention, the interviewees also affirmed that the role of the lawyer itself will not be profoundly impacted.

In the sequence, the following abilities appeared: management (26%), socio-emotional (20%), and technological skills (15%). Interestingly, while tech skills were ranked lowest, 93% believed that technology would be a key differentiator of the law firms within five years. One explanation for this paradoxical situation is that the interviewees see technology as important but not something they need to be mastered by the lawyers themselves—instead, these skills could be outsourced or supplemented by specialists.

Management skills ranking second was surprising, given that the study had the hypothesis that socio-emotional or tech skills would be preferred, especially considering that studies about the Fourth Industrial Revolution highlight soft and tech skills as essential (Mudzar, Muzdalifah, & Chew, 2022). This may reflect growing professionalization in firm management (Pires, Lopes, & Valls, 2013), often handled by professionals in business or economics instead of being handled by legal firm owners.

According to Fontenele (2021), many legal firms are moving toward the U.S.

model of highly competitive and professionalized management. However, the lack of subjects like people, organizational and financial management in law schools could create difficult challenges to the professionalization of legal firms (Fontenelle, 2021).

The interviews identified 13 general skill categories and 69 specific skills, creating a “skills map” that is presented below (Figure 1). The tool can help legal professionals, students, HR, and universities to guide decision-making processes and to highlight which competencies and abilities to develop for each goal or professional profile.



Figure 1. Skills map.



The map aimed to be exhaustive regarding the skills mentioned both in the literature and by the interviewees, in order to highlight how legal professionals may be required to possess a diverse range of skills beyond legal knowledge. However, it is important to note that the skills to be developed by professionals may vary according to their field of practice, the position held, and their career stage. Lawyers are not expected to become superheroes or achieve excellence in all 69 cataloged skills. Rather, the study emphasizes the existence of different career paths and trajectories, and it is recommended that this map is read in light of the needs of each individual context.

#### 4. Challenges for the Legal Training of Present and Future Professionals

Facing the future of the legal profession requires an understanding of the new context we are in, its ongoing transformations, and the need to foster a continuous dialogue between legal professionals, legal organizations, educational institutions, and society at large.

Technological changes are leading to the creation of new areas of legal practice and services, which in turn demand adequate training for legal professionals so they are prepared to navigate this context of innovation in legal services.

Our contribution goes beyond pointing out trends in new practice areas, services, and demand structures. It also addresses a central issue for professionals operating in this environment: the skills and competencies required not only in the future, but already in the present. There are already—and will increasingly be—challenges in hiring professionals to meet the needs of organizations.

The interviewees reported perceived gaps in the training of lawyers, with the most cited being: 25% mentioned a lack of legal skills, including keeping professionals up to date; 13% identified a gap in technological skills; and 10% highlighted a lack of emotional control among many professionals. When asked how they addressed these gaps, 41% of interviewees said they financed courses for all lawyers, 36% had their own training programs, 31% funded training only for specific lawyers, and 25% reported having no strategy to deal with the gaps.

When asked about their recruitment and selection processes for new lawyers, most law firms said they evaluate résumés (96%), conduct individual interviews (95%), and rely on referrals (90%). 57% of firms said they administer a knowledge test and only 20% conduct group exercises. Given these hiring strategies, the question arises: is there truly a training gap on the part of candidates, or is there a mismatch between the selection process and the actual competencies needed, considering that frequently used strategies like reviewing résumés and relying on referrals are not effective in assessing knowledge and professional skills?

Traditional legal practice, although still relevant, seems to be changing, and as a result, the profile of legal professionals is also evolving. With this, opportunities and challenges for legal careers are expanding in light of new configurations and dynamics in the labor market.

The interviewees' perceptions of the knowledge, competencies, and skills needed for legal professionals to face today's and tomorrow's challenges also reflect the awareness within law firms of the importance of a broad skillset for legal work. In other words, legal knowledge alone is no longer enough.

This conclusion is well illustrated by the Delta Model (Runyon & Carrel, 2019), which represents three dimensions of competencies in the shape of a triangle: (i) legal knowledge, (ii) personal effectiveness, and (iii) business and operations. Initially, these three dimensions form an equally sized triangle. However, Runyon and Carrel (2019) describe the model as dynamic—its composition can vary depending on career stage, role, and area of expertise. In this sense, depending on the context and needs, one dimension of the triangle may expand or shrink relative to the others, as represented below (Center for Teaching and Research on Innovation, 2023a).

Furthermore, regarding training gaps, we believe it is important to clarify the role of universities. On one hand, there are major criticisms of traditional Brazilian legal education, in which students are passive participants with little autonomy; the curriculum is minimally or not at all interdisciplinary, focused solely on law; it is predominantly theoretical-dogmatic and disconnected from real-world practice (Faria, 1987; Ghirardi & Oliveira, 2016), making substantial transformations in legal education necessary (Silva, Feferbaum, & Fabiani, 2021).

However, while we endorse these criticisms, we also recognize that the role of the university is not solely to train lawyers, but jurists more broadly—professionals who may pursue various legal careers beyond law practice, such as academia, research, the judiciary, and public prosecution, among others. While we deeply understand the need for reform in legal education, we also stress that some of the expectations expressed by law firms must be developed within the legal market itself, given that universities are responsible for training professionals in law—not exclusively lawyers.

Although the interviewees generally supported the expansion of legal education to include interdisciplinary skills, some voices—such as those from CESA (Centro de Estudos das Sociedades de Advogados)—emphasized that the legal profession should continue to uphold its ethical and knowledge-based foundations. (Center for Teaching and Research on Innovation, 2023b)

Universities play a fundamental role in the development of legal professionals and must evolve alongside the transformations reshaping the world. In this sense, legal education cannot ignore social, technological, and market transformations. It is worth noting, however, that given the diversity in how law firms view and operate, the future will not be homogeneous. Not all firms will adopt the same technologies, nor will legal professionals need to excel in all areas to remain competitive because there is no single future.

The characteristics of sound legal training in the face of these new configurations must be built on solid foundations. Today, the gaps in the education of legal professionals are already evident in the market. With the ongoing transformations



we are experiencing, the impacts of these gaps will likely become even more significant if we do not rethink how we train and shape the professional profiles fostered in Brazilian universities.

## 5. Conclusion

The study ‘Training the law practice in the present and in the future: skills and perspectives of professional performance’ analyzed how law firms have incorporated technologies into their daily practices and if—and how—the required skills of legal professionals have been affected.

The research revealed a highly diverse landscape across Brazil: on the one hand, there are law firms (generally small in size) that have incorporated few or only basic technologies, such as case management and knowledge management tools. On the other hand, we identified firms (especially large ones) that have significantly expanded their technological infrastructure, even employing more complex tools like artificial intelligence.

This transformation, together with the professionalization of law firm management, is changing expectations regarding the skills and competencies legal professionals must develop. Beyond legal knowledge itself, management, socio-emotional, and technological competencies were highlighted as essential. Thus, we observe that today’s and tomorrow’s legal practice must be more interdisciplinary, less self-centered on law alone, and more open to dialogue with other fields of knowledge.

Universities have a central role in the formation of these new professionals. Rethinking how we teach and train future legal professionals seems essential. However, this reform is not aimed solely at the future of legal practice, but also at the broader future of legal professions. The legal job market of the future demands greater engagement with real-world practice, adaptability to new technologies, and increased interdisciplinarity.

Reinvention in this context is undoubtedly a challenge. However, it is not a matter for the future—it demands immediate attention in the present and will continue to do so for years to come. Understanding this new reality will help shape actions, policies, and decisions. Therefore, continuing to research, discuss, and build a legal practice and legal education model is fundamental for society and educational institutions to prepare professionals capable of working in the legal field of both today and tomorrow.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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