INVESTMENT CLIMATE
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BUSINESS REGULATION

Leveraging Technology to Support Business Registration Reform
Insights from recent country experience

Governments are revamping their processes for business registration, which can help improve the competitiveness of their investment climates and drive growth in formally registered firms. Company registrars are deploying information and communications technology (ICT) applications to reduce the time and effort required for new businesses to register, improve regulatory oversight by government, and facilitate access to company information. A recent survey conducted by the Doing Business and investment climate teams of the World Bank Group examines the experience of 34 company registrars in implementing new or upgraded technology solutions. This note discusses the survey's key findings, identifies several factors influencing the registrars' approaches, and summarizes key lessons in choosing and implementing ICT solutions.

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Business registration is increasingly recognized as an important gateway for entrepreneurs into the formal economy. Through formal business registration, they can benefit from increased rights, such as access to government services, fair treatment under law, and limited liability (in many cases). Registered enterprises also have opportunities to grow through improved access to finance and through potential clients in the formal economy and government. Formalization also involves increased obligations, including compliance with tax laws as well as regulatory and information disclosure requirements.

Empirical evidence has shown that significant reductions in the time and costs required to register a business can have a material effect on new registrations.[1] While many countries have already undertaken legal and procedural reforms to reduce the burden of registration on new and existing firms, further significant gains in efficiency and accessibility can only be realized through the application of technology. Thus, leveraging technology to improve client service and data-sharing capabilities is at the top of the agenda for most company registrars.[2]

According to the *Doing Business* report, 54 economies introduced new technology in their company registration processes during the past seven years.[3] The driving forces behind registry automation are manifold, including:

competitive pressures to reduce the time and costs for business registration as well as improve access for smaller firms that operate at a distance from the registrar's offices (in many countries, a businessperson must still go to the capital city to register); increasing demands for company information within government for regulatory oversight and audit purposes and the consequent need for government databases to share information; and revenue opportunities arising as businesses and financial institutions seek company information to inform their risk analysis of potential trading counterparties and borrowers.

Figure 1 illustrates this growing "ecosystem" of information suppliers and users surrounding the company registry.

As noted in Figure 2, the majority of OECD[4] countries now operate an array of e-services relating to business registration, ranging from online name search and company registration to virtual

"one-stop shops" combining business, tax, social security, and other key registrations into a single online interface which also accepts various types of e-payments. Developing countries are increasingly joining this trend, with registry automation projects proliferating—initially in Eastern Europe and Latin America, and more recently in Africa and South Asia.

The survey: context of the sample initiatives

The survey results found that the initiatives to automate the company registries typically occurred within a broader context of legal and regulatory reform affecting business registration, with almost three-quarters of countries enacting new laws and regulations concurrent with the technology initiative. Almost half had also reengineered the business registration process before implementation of the registry software application. Reforms to

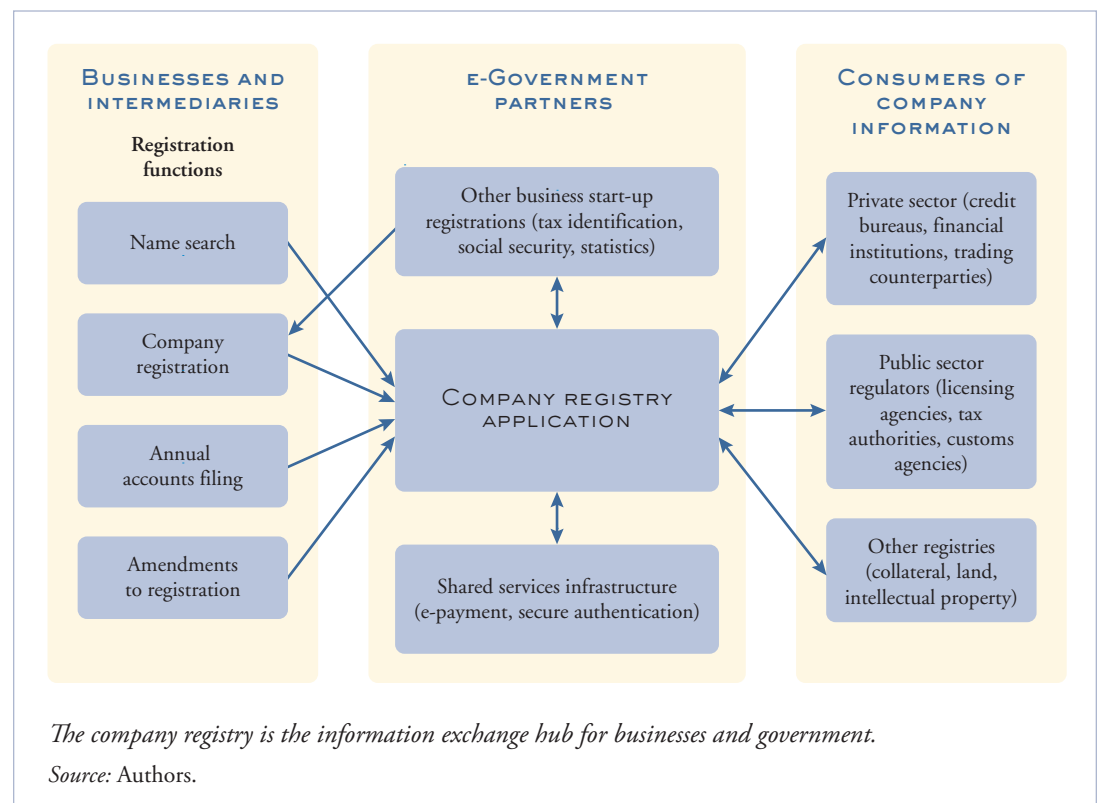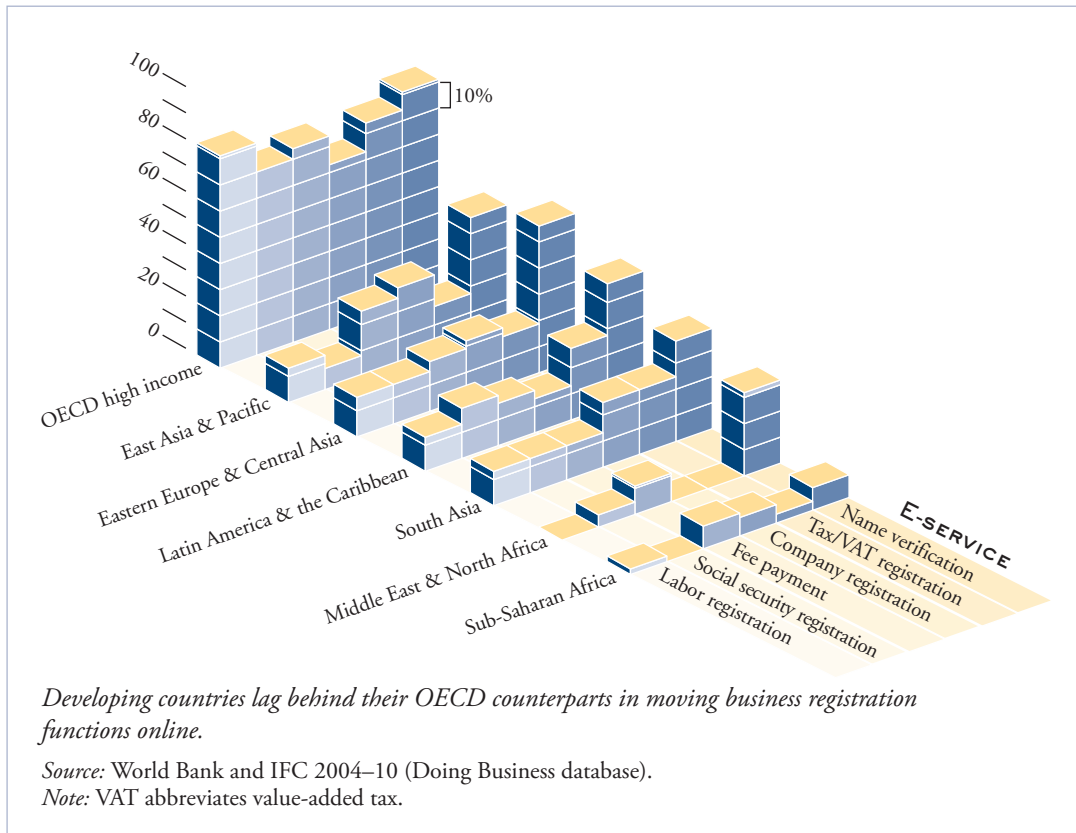## Figure 1: Company Registry Ecosystem

The company registry is the information exchange hub for businesses and government.
Source: Authors.

Figure 2: E-services Available for Starting a Business
(percent providing service within economies measured by Doing Business)

Developing countries lag behind their OECD counterparts in moving business registration functions online.

Source: World Bank and IFC 2004–10 (Doing Business database).
Note: VAT abbreviates value-added tax.

improve the business registration process can often be enabled by automation. For example, governments may decide to eliminate paper-based application forms, stamps, and physical signatures as well as to implement standardized business rules so that manual reviews of applicant information can be more easily replaced by computer logic.

While most of the registry automation projects surveyed were standalone initiatives, respondents from many developing economies indicated that their projects were often implemented in the context of a larger e-Government program. Such programs can improve the operational framework for online company registries by establishing interoperability standards to permit the exchange of information between government databases; furnishing key shared services, such as government-wide e-payment portals and user authentication systems; and providing government broadband infrastructure and data centers where such critical software applications can be hosted in a secure and reliable environment.

Changes to the business operating model frequently occurred with the implementation of the company registry technology platform. Fully online application processes, including digital signatures and e-payment of fees, were introduced as part of the registry automation solution in almost all developed economies surveyed and about half of developing economies. Also, to encourage use of the online system, some economies set lower fees for online registration. For example, in Belgium, online registration costs €140 versus €2,004 for paper-based registration. In Canada, the company registration costs Can$200 for online and Can$350 for paper applications. Such incentives have been cited as factors accelerating the uptake of the ICT solution.

Common features and functions in registry technology solutions

Registry software applications today range from simple databases and back-office workflow applications using generic software tools to sophisticated, Web-based systems that enable customers and intermediaries to conduct business with the registrar entirely online. Table 1, which summarizes the features and functionalities addressed in the systems implemented by survey respondents, shows the relatively high level of sophistication—even among developing country registrars. For instance, nearly all of the systems provided for online name search and back-office processing of applications, while online company registration and annual account filing were supported by about half of the software applications surveyed. Many registrars begin their automation efforts by focusing on the back office, in order to build internal capacity before exposing their staff to the increased demands of online service delivery.

Over two-thirds of the systems enabled electronic data sharing with other government agencies as well as the dissemination of company information to the private sector. This information sharing within

government was typically conducted with the tax authority (59 percent), and to a lesser extent with the collateral registry (26 percent) and the social security agency (18 percent). Experience has shown that establishing a virtual "one-stop shop" through which all required information is collected via a single online interface and shared within government can reduce registration time and eliminate redundant information requirements. Relatively few software applications directly supported the issuance of business operating permits and trade licenses, indicating that while electronic data interchange among government agencies is increasing, there is little movement to consolidate registration and licensing into a common technology platform.

Procurement and management of the registry technology solution

Government budgets funded the technology solution for all the developed country registrars and just under half of the respondents from developing countries. Many donors have provided financial support for registry automation in developing countries.[5] The cost of registry solutions varied greatly, ranging from $20,000 to several million dollars, depending on the scope of the solution implemented. World Bank Group project experience also shows that digitization of the existing paper records can be a considerable expense, particularly in larger countries just moving online.

In selecting the technology solution, survey respondents indicated that having features and functionality that best fit their needs was the most important consideration, as shown in Figure 3. Availability of local support and security features of the application were also important factors, while cost of the solution was of lesser concern.

These selection criteria may help explain why the majority of registry solutions cited in the survey responses were characterized as "custom developed," although this finding may also reflect the unique nature of registry software products available. Most software on the market is based on solutions initially implemented at leading company registries (for example, in New Zealand and Norway) and subsequently adapted for use in other countries; few, if any, "shrink-wrapped" package applications are offered.

Table 1: Features and Functions Addressed in Surveyed Registry Systems

Software functionality	Percent of surveyed systems
Front counter and back-office automation and workflow management	83
Online name search	83
Data exchange with other government agencies (registration with tax authorities, social security, and so on)	68
Dissemination of company information to the business community and other government agencies through the registry Web site	68
Digitization of all registry records and documents (fully paperless process)	59
Support for multiple registry offices	59
Online registration of companies and other business types	53
Online filing of annual accounts	47
Ability for company to securely update its registry records online	41
Registration for local business operating permits, trade licenses	18

As a result, for nearly all registrars surveyed, the government owns the intellectual property (source code) for the registry application. A different approach has emerged among registries in small island states that use "software as a service"—sharing the application and relying on an out-of-country host for their data. In the case of Tonga, the New Zealand Companies Office provides a version of its own software application and hosts the Tongan data on its servers. Several vendors have indicated to the World Bank Group that they offer their products on a "software-as-a-service" basis.

The survey finds significant differences in the management and maintenance of the registry technology platform, once implemented. While almost all developing economies rely on government staff to operate and maintain the application, developed economies tend to favor outsourced contractor staff for this service. In a few cases, one of two other approaches was taken: either both government and contractor information technology staff manage the platform together, or the vendor supports the hardware infrastructure in a government or private data center while application maintenance and upgrades are managed by government staff.
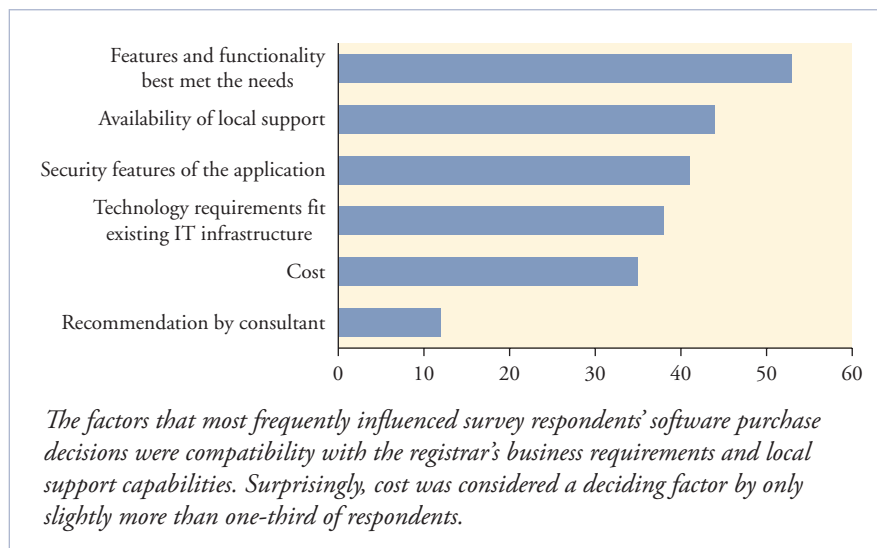
The ongoing management of the technology application was funded from internal government budgets in 44 percent of registrars surveyed, while 23 percent relied on user fees from registrations, annual report filings, and information products. The balance drew funding from both sources. As noted previously, moving company data online provides the opportunity for registrars to create new revenue streams through the sharing of company information with the private sector. Some business registries realize over 20 percent of their funding by packaging registry information into products tailored for various customer groups. For example, bulk data is marketed to credit reporting agencies and marketing firms, and tailored data products are offered to financial institutions and companies analyzing potential trading counterparts.

Lessons from the surveyed registrars

The survey respondents shared many of their challenges and lessons learned in implementing registry technology solutions. Four common lessons emerged from their responses:

Figure 3: Main Factors in Selection of ICT Solution
(percent of survey respondents)

The factors that most frequently influenced survey respondents' software purchase decisions were compatibility with the registrar's business requirements and local support capabilities. Surprisingly, cost was considered a deciding factor by only slightly more than one-third of respondents.

Technology is a means, but not an end. Re-think the registration process first

The registrars surveyed generally agree that simply making a process electronic does not necessarily make it better. The New Zealand Companies Office, which ranks first on the "starting a business" indicator in *Doing Business 2011*, made it clear—reengineering the business process prior to the deployment of the ICT solution was critical. There is no point to making an archaic system electronic. For example, Bangladesh's Registrar of Joint Stock Companies initially automated the manual registration process, which involved multiple layers of review and approval, with the result that little processing time was saved. Simplifying the review process and substituting automated business rules to check data ultimately allowed the registrar to fully realize the efficiencies of automation. Similarly, Ecuador put a strong emphasis on simplifying the registration procedures to allow for better internal controls, while making the entire process more efficient.

Buy-in is important. Develop a comprehensive communications strategy

Improving the business registration process will not have its anticipated impact if the end-users are not explicitly informed of these enhancements. The majority of registries surveyed indicated

Box 1: Key Considerations in Implementing Company Registry Software Applications

1. **Complete the legal and business process reforms before automation**—to fully realize the potential benefits of technology.

2. **Critically assess the agency's ICT capacity, both staff and infrastructure**—if internal capacity is inadequate, identify hosting alternatives within government or the private sector.

3. **Fully document the business and functionality requirements before procuring a technology solution**—this will also inform decisions concerning packaged versus custom-developed software.

4. **Identify and build data linkages with other government agencies**—both to simplify the overall business entry process and ensure company data is fully leveraged to improve regulatory oversight.

5. **Leverage the technology platform to produce new revenue streams**—including information products for financial institutions, credit bureaus, and other firms seeking company data.

6. **Address change management and communications in the implementation plan**—to ensure all stakeholders are fully invested in the new solution.

they had underestimated the importance of communications and involving all stakeholders, which affected the uptake of the new services once implemented.

At times, a simple communications campaign to explain the changes was enough. Other situations were more complex, requiring more intensive stakeholder management, particularly targeting those who objected to some aspect of the reform because they felt their interests were threatened by the advent of the new technology. The local business culture may delay the adoption of the automated registry, with some users opting to submit paper forms as they have done in the past. In such cases, a public information effort emphasizing the benefits of online registration is essential.

For example, after implementing a new streamlined online process for business registration, Georgia noticed a slow adoption of the new system, with most new company registrations continuing to come through the old channels of notaries. Likewise, businesses continued to prefer the paper forms and certificates with official seals. The government undertook a communications effort to educate stakeholders and also reassure them of the validity of electronic data.

Bangladesh's registrar chose to roll out the implementation in separate phases to allow time for the stakeholders to become accustomed to the new services. The registrar initially introduced electronic name clearance, followed by online business registration, and lastly, online filing of annual returns. Through this sequential approach, the registrar was able to minimize the difficulties encountered by new users to the system, and in turn, established a sound basis for the next phase. New Zealand also introduced new enhancements gradually rather than through a single "big bang" deployment.

Staff training and institutional capacity matter
For internal stakeholders, such as registry personnel, it is particularly important to adopt a change management strategy to ensure that staff has the capacity to effectively utilize the new technology. Cultural and bureaucratic obstacles to the adoption of the new system should be addressed during implementation. For example, in Nepal the initial attempt at automation failed because the staff did not find the software application user-friendly and elected to return to the paper-based system.

The implementation of new and simpler means of interacting with the company registry may lead to greater volumes of interactions and requests for information and assistance. In Ireland, the new electronic system led to a significant increase in registrations, which initially resulted in a backlog of unprocessed applications. The registry also experienced a large spike in inquiries from the public submitted through the new Web site. New demands required new measures. An "Information Unit" was set up to deal with the increased flow of inquiries. With more visitors to the Web site, the registry also took the opportunity to develop clear and concise publications that provide updated information about compliance with the company law and the new registration procedures.

Always consider the local technological and regulatory environment
For governments in many developing economies, unreliable ICT infrastructure has presented a major

challenge to their reforms. Registrars should take into account both the availability and reliability of the ICT infrastructure when designing their solutions for registry automation. For example, Rwanda encountered issues with Internet bandwidth and reliability, which made it difficult for clients to access the online interface. In Liberia, on-site diesel generators were required to ensure a reliable electricity supply to the registry, which posed a significant additional expense. In Serbia, the lack of local online payment processors created a major challenge to fully automating the registration process.

The legal and regulatory infrastructure also can pose problems—outdated company laws and the lack of a legal basis for online transactions inhibit many registrars from making full use of their automated registry systems. This was the case for Serbia until recently when such laws were finally implemented. Kenya and El Salvador, among others, continue to face this obstacle. In several instances, the registry systems were fully implemented before the legal reforms were enacted, creating a situation in which registrations could have been rendered illegal by the courts in the case of a dispute.

Conclusion

The survey results highlight the important technical considerations of a registry automation project and the approaches taken by different countries to ensure their technology solutions met stakeholders' requirements and were technically and financially sustainable. The experience of these countries also provides valuable insight into the non-technological factors which must be addressed at the same time, including the importance of business process re-engineering, change management, and stakeholder communications to the success of these initiatives.

While reform efforts have begun by addressing legal and procedural improvements, with technology enhancements coming at a later stage, it is important to harmonize all initiatives affecting the business registration function to avoid inconsistencies that can disrupt the registry operation or fail in realizing promised efficiency gains.

Endnotes

[1] See Klapper and Love (2011), which uses panel data on the number of new firm registrations in 92 countries to study how the magnitude of reforms affects its impact on new firm registrations.

[2] A company registrar is an agency, ministry, or department (normally a government body) within a country, state, or province that is responsible for the registration or incorporation of companies or businesses.

[3] See World Bank and IFC (2004–10). The Doing Business project benchmarks business regulations across 183 economies. It annually records improvements which, among others, include the implementation of technology solutions.

[4] Organisation for Economic Co-operation and Development.

[5] These donors include the World Bank Group, the United States Agency for International Development/Millennium Challenge Corporation, the Swedish International Development Cooperation Agency, and the Investment Climate Facility for Africa.

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IFC International Finance Corporation — World Bank Group

MIGA World Bank Group — Multilateral Investment Guarantee Agency

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