Survey Report

Perspectives on Online Public Engagement

A look at how online services, payments, digital profiles, and artificial intelligence are used and perceived in today's state regulatory landscape

and

tyler technologies

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Executive Summary

Today's state regulatory agencies face the dual challenge of streamlining interactions with licensees and improving online public engagement, specifically through digital platforms.

To explore this challenge, the Council on Licensure, Enforcement and Regulation (CLEAR), in partnership with Tyler Technologies, offered an online survey in February 2024 to more than 7,000 individual CLEAR stakeholders representing more than 400 members (consisting of regulatory agencies, colleges, and bodies). CLEAR and Tyler sought to examine the use and perception of digital technologies — including online services, payment systems, digital profiles, and artificial intelligence (AI) — within regulatory agencies. The goal was to identify both the progress made and the challenges faced in enhancing licensee or public engagement.

With 69 self-selected participants primarily from the U.S. and Canada, plus individual responses from Ireland and the Northern Mariana Islands, the initial insights drawn from this cross section of regulatory officials offer valuable perspectives on technology in the regulatory space.

Key findings include:

- **Online services:** Agencies have adopted web platforms for services, but mobile apps and connectivity between agencies lag in development.
- **Payment systems:** Digital payments volume has increased, but improvements to the payments experience are needed to raise perceived stakeholder satisfaction.
- **Digital profiles:** Agencies see digital profiles as foundational for licensees but see more limited value in digital profiles for the public.
- **AI:** Most agencies are not using AI and are unaware of any plans to implement it in the next two years, suggesting a cautious approach to adoption.
- **Stakeholder satisfaction:** Compared to high satisfaction with accuracy of information and data privacy, perceived stakeholder satisfaction with online interactions appears notably lower regarding the quality of technology tools.

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[1] in this context, "colleges" refers to regulatory bodies in Canada that are responsible for licensing and oversight of specific professions.
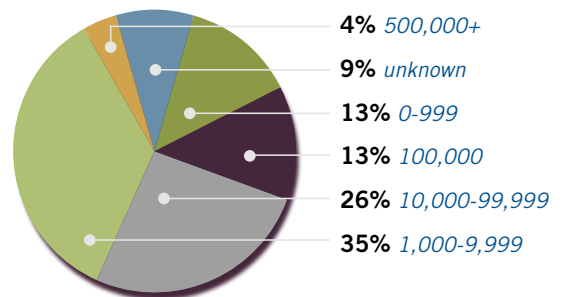
Respondent Demographics

24 Investigative staff

18 Regulatory board/college/agency executive director, registrar, or senior manager

11 Regulatory board/college staff

6 Regulatory board/college/agency administrator

3 Facilities regulator

3 Board or council member

2 Examination staff

1 Legal staff

1 Consultant

Key Terms

- **Digital profile:** A collection of unique information that represents a user's identity, preferences, needs, and behavior. It is typically gathered through user interactions with online services and can be used to personalize experiences and streamline interactions.

- **Mobile access (through a browser):** Accessible through browser/s on user's device. Needs internet connectivity for access and all tasks.

- **Organization:** An autonomous/independent board/college, central agency, or board under a central agency.

- **Public-facing mobile app:** Needs to be installed on user's device. Can be used offline, but many tasks require internet connectivity.

- **User portal:** Personalized website, usually requiring a login, offering users a single point of access to relevant information and self-service options.
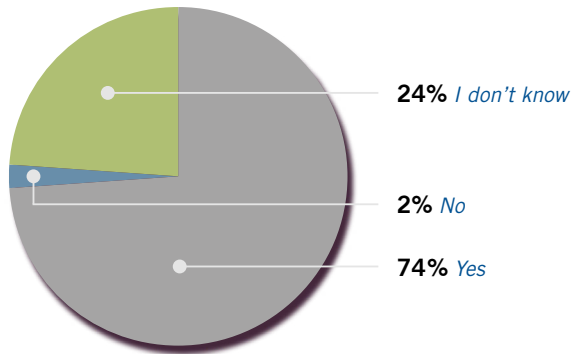
COUNTRY

70% *United States*

1% *Ireland*

1% *Northern Mariana Islands*

28% *Canada*
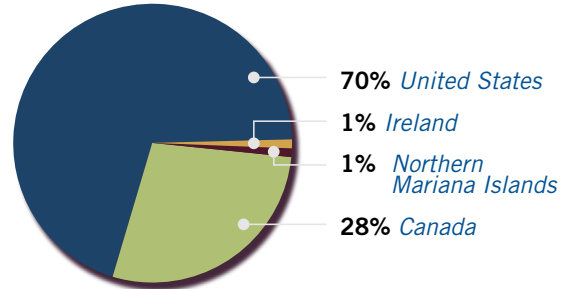
HOW MANY LICENSEES/REGISTRANTS ARE ON YOUR ORGANIZATION'S REGISTER/S?

4% *500,000+*

9% *unknown*

13% *0-999*

13% *100,000*
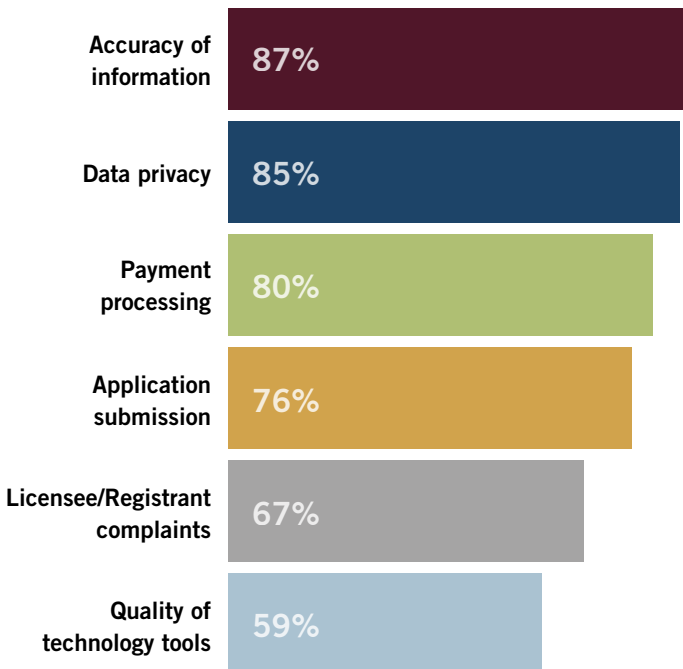
26% *10,000-99,999*

35% *1,000-9,999*

Survey Findings

CAN TECHNOLOGY BETTER SUPPORT YOU AND YOUR ORGANIZATION/AGENCY WITH ENGAGING LICENSEES/ REGISTRANTS AND MEMBERS OF THE PUBLIC?

24% *I don't know*

2% *No*

74% *Yes*

HOW SATISFIED ARE YOUR STAKEHOLDERS WITH THE FOLLOWING ONLINE INTERACTIONS WITH YOUR ORGANIZATION?

Accuracy of information	87%
Data privacy	85%
Payment processing	80%
Application submission	76%
Licensee/Registrant complaints	67%
Quality of technology tools	59%

Technology Perceptions

Survey results show agreement with the potential of technology to improve engagement, with 74% of respondents believing that technology can better support engagement with licensees and the public. However, a minority (24%) are unsure, suggesting a lack of awareness or understanding of available technology solutions. The uncertainty could also indicate a perception of complexity associated with technology implementation.

The relatively sizeable number of **"I don't know"** responses may indicate that respondents are uncertain of the potential value of technology for their situations. This might mean opportunities exist for more education, showcasing practical applications, and providing demonstrations that emphasize the advantages of using more efficient and/or modern technology.

Satisfaction Rates

Generally, average satisfaction rates[2] above 80% are often considered good[3], as they suggest that users' needs and expectations are being met. Respondents perceive that stakeholders are 87% satisfied with **accuracy of information** and 85% satisfied with **data privacy. Payment processing,** at 80% satisfaction, sits on the edge of this threshold and could be seen as having room for improvement. **Application submission** (76%) and **licensee/registrant complaints** (67%) suggest areas to be assessed for shortcomings of existing tools and potential benefits of new options.

Quality of technology tools falls considerably short at 59% satisfaction, highlighting an urgent area for review on the part of agencies and the potential for transitioning to modern, user-friendly options.

Barriers

In the survey, respondents were given the option to identify multiple barriers that their organizations face in adopting emerging technologies. The results show a range of barriers, with the primary concerns being **lack of IT resources** (61%), **financial constraints** (59%), and **privacy concerns** (55%). Human resource issues, including **lack of personnel** (43%) and **not enough staff time** (39%), along with **policy-related challenges** (43%) and **questions about technology's usefulness** (41%), are noteworthy. Less frequently cited were **complexity** (31%) and **lack of support from leadership** (14%).
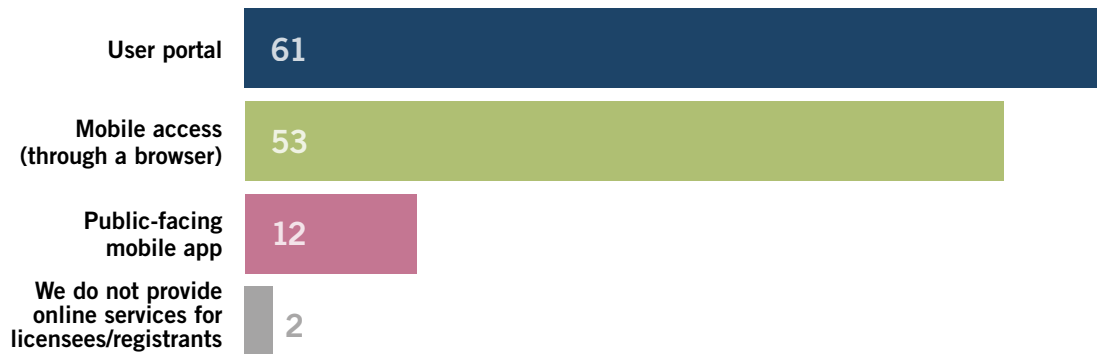
The survey shows that a lack of IT resources and workers is making it harder for organizations to employ the latest technologies. It also points to the need for investing in technologies that can fill in the gaps efficiently and cost effectively.

WHICH OF THE FOLLOWING BARRIERS ARE PREVENTING YOUR ORGANIZATION FROM USING EMERGING TECHNOLOGIES? (CHECK ALL THAT APPLY).

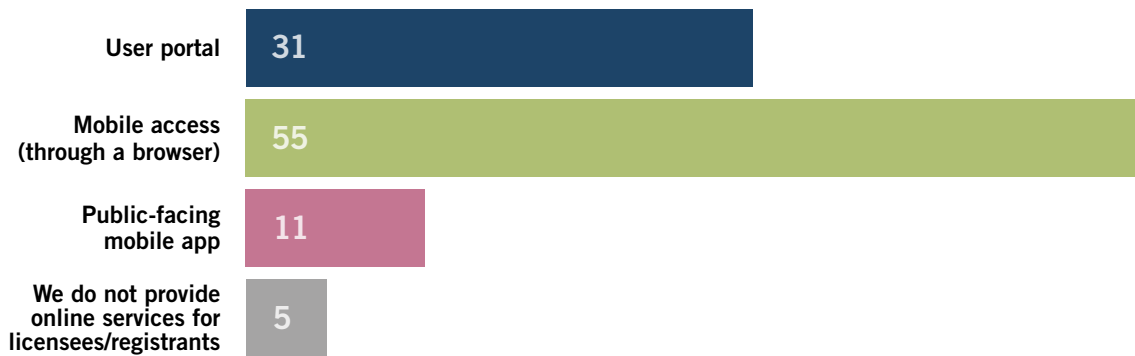| Barrier	Percentage
Lack of IT resources	61%
Financial constraints	59%
Privacy concerns	55%
Policies, laws, or regulations	43%
Lack of personnel	43%
Questions about usefulness of the technology	41%
Not enough staff time	39%
Complexity	31%
Lack of support from leadership	14%
Other (please specify)	12%
None of the above	10%
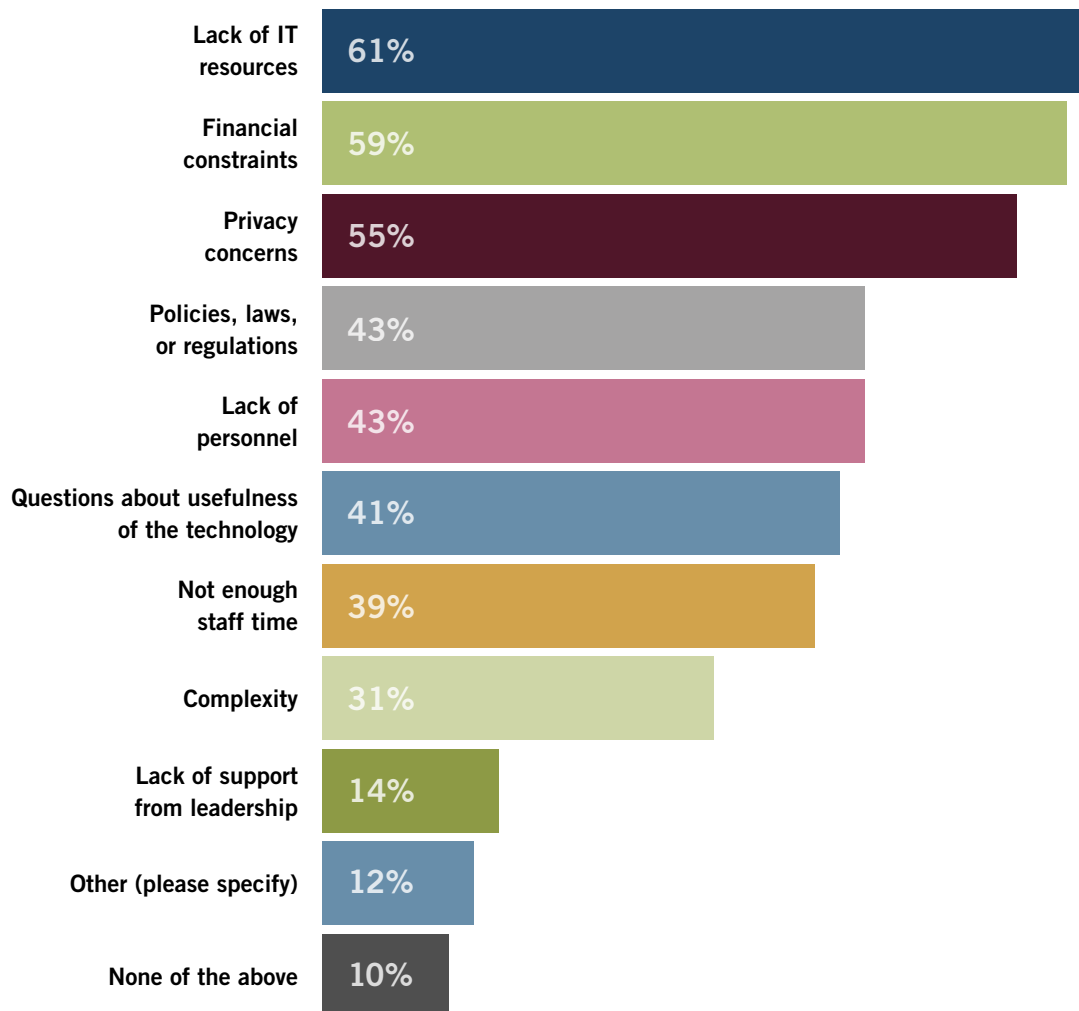
Online Services

IDENTIFY THE WAYS THAT LICENSEES/REGISTRANTS CAN ACCESS THE ONLINE SERVICES (EX: APPLICATIONS, COMPLAINTS, PAYMENTS, ETC.) THAT YOUR ORGANIZATION PROVIDES (SELECT ALL THAT APPLY).

Category	Count
User portal	61
Mobile access (through a browser)	53
Public-facing mobile app	12
We do not provide online services for licensees/registrants	2

IDENTIFY THE WAYS THAT THE PUBLIC CAN ACCESS THE ONLINE SERVICES (SELECT ALL THAT APPLY).

Category	Count
User portal	31
Mobile access (through a browser)	55
Public-facing mobile app	11
We do not provide online services for licensees/registrants	5

WHICH AGENCIES/ORGANIZATIONS IS THE USER PORTAL DESIGNED TO SUPPORT? (SELECT ALL THAT APPLY).

	Only my regulatory agency/organization	One or more other governmental agencies/organizations within my jurisdiction
	46	13 [4]
	24	7

■ Only my regulatory agency/organization ■ One or more other governmental agencies/organizations within my jurisdiction
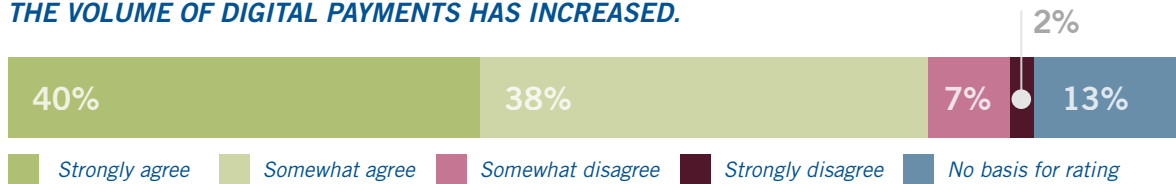
Most organizations provide online services predominantly through **user portals** (61 organizations have user portals for licensees, 31 for the public) and **mobile access through browsers** (53 for licensees, 55 for the public), while fewer offer **public-facing mobile apps** (12 for licensees, 11 for the public). A small number provide **no online services at all**. Most portals are designed to support only their respective issuing agency, with 46 out of 59 licensee/registrant portals serving a single agency, and 24 out of 31 public user portals serving a single agency.

The responses suggest that while most organizations have adopted web-based platforms for service delivery, there is room for increased mobile app adoption and inter-agency collaboration to enhance user access and efficiency.
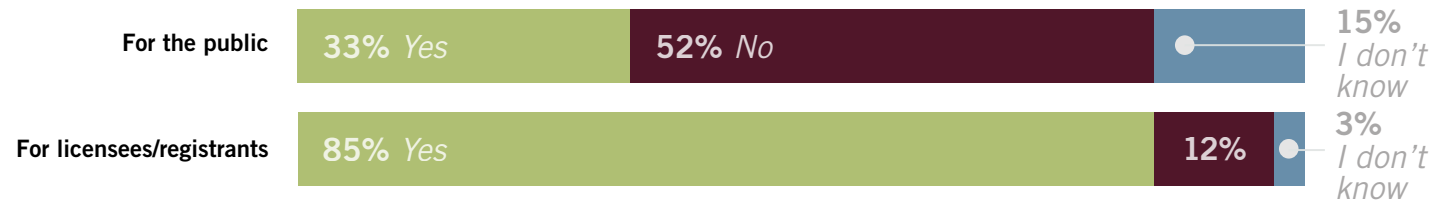
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[4] Numbers in the three online services charts are respondent counts, not percentages.
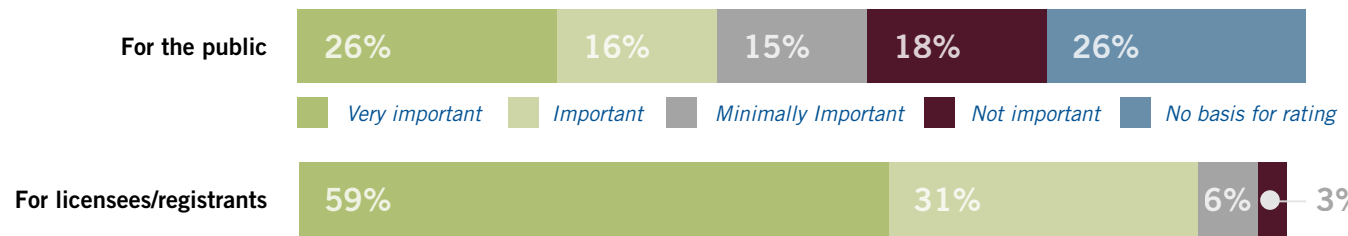
Online Services

THE VOLUME OF DIGITAL PAYMENTS HAS INCREASED.

| 40% | 38% | 7% | 2% | 13% |

- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree
- No basis for rating

ARE DIGITAL/ONLINE PAYMENTS AN OPTION AT YOUR AGENCY/ORGANIZATION?

For the public

| 33% Yes | 52% No | 15% I don't know |

For licensees/registrants

| 85% Yes | 12% | 3% I don't know |

RATE THE IMPORTANCE OF THE PROVISION OF A CENTRALIZED PAYMENTS SYSTEM FOR ENGAGEMENT WITH YOUR ORGANIZATION.

For the public

| 26% | 16% | 15% | 18% | 26% |

- Very important
- Important
- Minimally Important
- Not important
- No basis for rating

For licensees/registrants

| 59% | 31% | 6% | 3% |

THE SYSTEM OF DIGITAL PAYMENTS MEETS THE NEEDS OF LICENSEES/REGISTRANTS.

| 35% | 40% | 12% | 4% | 9% |

- Strongly agree
- Somewhat agree
- Somewhat disagree
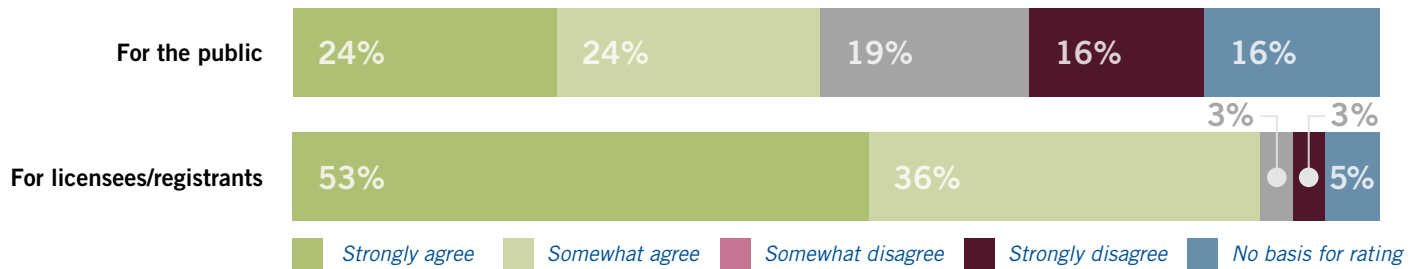- Strongly disagree
- No basis for rating

A majority (78%) agree that the volume of digital payments has increased. When it comes to who has access to digital payments, there is a not-surprising disparity in availability between licensees/registrants (85%) and the public (33%), given that there are limited situations where members of the public who aren't licensees would need to submit a payment to an agency. Similarly, there is a perceived greater importance of centralized payment systems for licensees/registrants (90% important or very important) versus the public (42%).
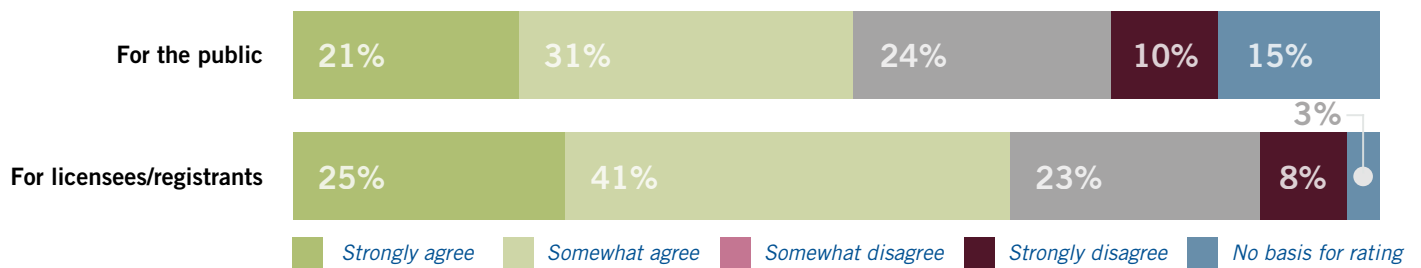
It is worth noting that 75% of respondents indicate their payment system is meeting the needs of licensees/registrants. While not an immediate warning sign, the 25% of non-positive responses is enough to suggest that there may be room for improvement in the digital payment system to increase satisfaction and address any underlying issues that might be causing dissatisfaction.
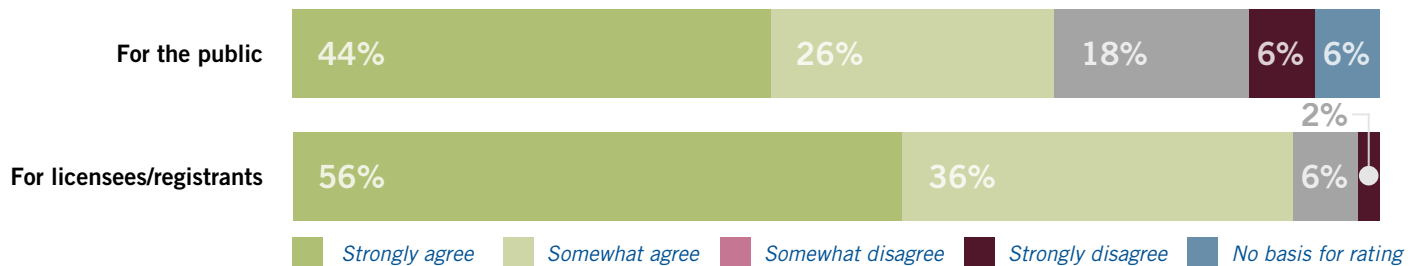
Digital Profiles

RATE THE IMPORTANCE OF A COMPREHENSIVE DIGITAL PROFILE FOR ENGAGEMENT WITH YOUR ORGANIZATION.
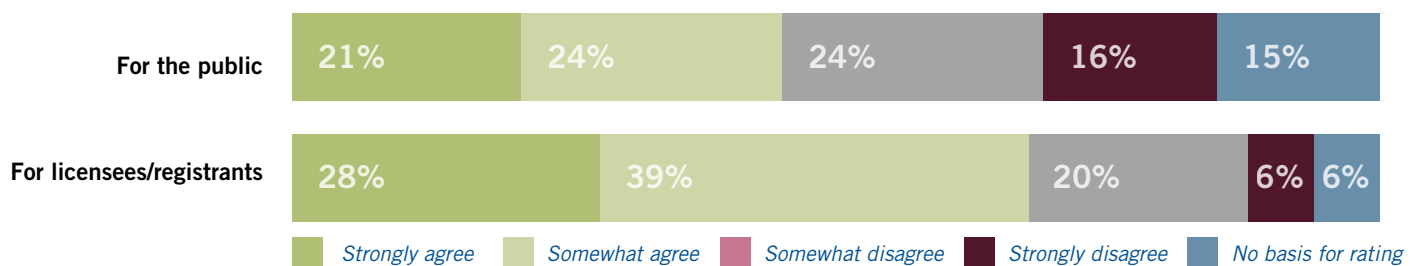
For the public
Strongly agree	Somewhat agree		Strongly disagree	No basis for rating
24%	24%	19%	16%	16%

For licensees/registrants
3% — 3%
Strongly agree	Somewhat agree			No basis for rating
53%	36%			5%

Legend: Strongly agree · Somewhat agree · Somewhat disagree · Strongly disagree · No basis for rating

RATE THE IMPORTANCE OF PERSONALIZED WEB AND MOBILE EXPERIENCES FOR ENGAGEMENT WITH YOUR ORGANIZATION.

For the public
Strongly agree	Somewhat agree		Strongly disagree	No basis for rating
21%	31%	24%	10%	15%

For licensees/registrants
3%
Strongly agree	Somewhat agree		Strongly disagree	
25%	41%	23%	8%	

Legend: Strongly agree · Somewhat agree · Somewhat disagree · Strongly disagree · No basis for rating

RATE THE IMPORTANCE OF CONNECTED DIGITAL SERVICES AND FORMS FOR ENGAGEMENT WITH YOUR ORGANIZATION.

For the public
Strongly agree	Somewhat agree		Strongly disagree	No basis for rating
44%	26%	18%	6%	6%

For licensees/registrants
2%
Strongly agree	Somewhat agree		
56%	36%	6%	

Legend: Strongly agree · Somewhat agree · Somewhat disagree · Strongly disagree · No basis for rating

RATE THE IMPORTANCE OF PERSONALIZED, AUTOMATED NOTIFICATIONS BASED ON USER INTERESTS AND ACTIONS.

For the public
Strongly agree	Somewhat agree		Strongly disagree	No basis for rating
21%	24%	24%	16%	15%

For licensees/registrants
Strongly agree	Somewhat agree		Strongly disagree	No basis for rating
28%	39%	20%	6%	6%

Legend: Strongly agree · Somewhat agree · Somewhat disagree · Strongly disagree · No basis for rating

For the public	34%	29%	10%	15%	13%
For licensees/registrants	47%	38%		9%	3% ⌐ 3%

■ Strongly agree ■ Somewhat agree ■ Somewhat disagree ■ Strongly disagree ■ No basis for rating

Survey results highlight the need for a digital user profile as a foundational element for licensees/registrants but less so for the public, with 89% and 48% of respondents respectively considering it important. While respondents heavily favor connected digital services (92% importance) and access to digital records for licensees/registrants, they demonstrate a need for increased awareness of digital profile benefits for the public.

Tailoring user experiences based on digital profiles is essential for engagement in a connected government future. Personalized digital experiences not only increase user satisfaction and efficiency but also encourage interaction with government technology platforms. Planning for this personalized future should be part of any technology modernization effort.

Artificial Intelligence (AI)

IS YOUR ORGANIZATION CURRENTLY USING ARTIFICIAL INTELLIGENCE (AI) TO FACILITATE ITS INTERACTIONS WITH LICENSEES OR MEMBERS OF THE PUBLIC (E.G., INTERACTIVE VOICE RESPONSE, CHATBOT)?

ARE YOU PLANNING TO IMPLEMENT ANY AI TECHNOLOGIES IN THE NEXT TWO YEARS?

8% *Yes*

75% *No*

17% *I don't know*

9% *Yes*

34% *No*

57% *I don't know*
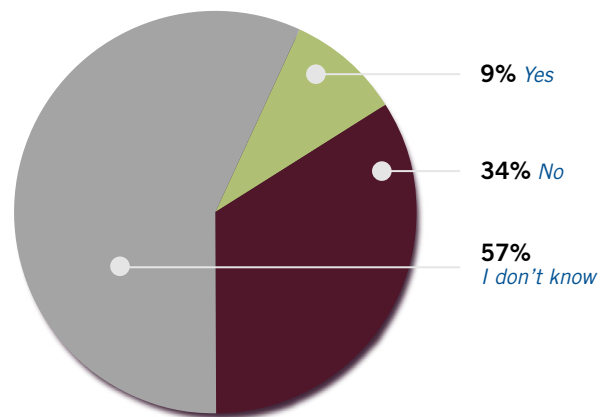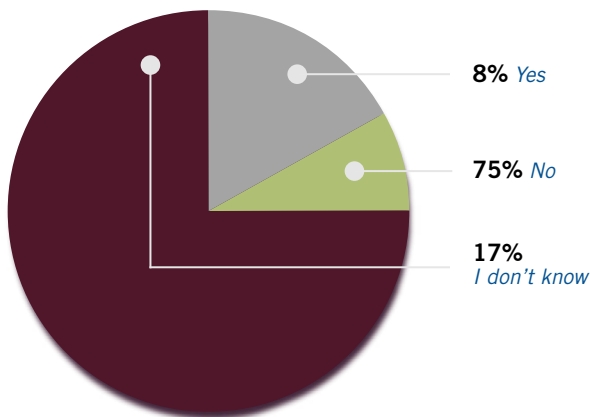
The majority of surveyed organizations (75%) are not currently using AI for interaction with licensees or the public, and a large portion (57%) are uncertain about future AI implementation. Among the few utilizing AI, virtual assistants and chatbots are most common, with limited use in self-assessment and registration processing. Looking ahead, only 9% have plans to adopt AI technologies, focusing on chatbots, transcript assessment, and automated screening for customer inquiries.

Given that most organizations are either not using AI or unsure of their AI implementation plans, it indicates a cautious approach as agencies seek to better understand AI and its practical applications before widespread adoption.

Key Insights and Recommendations

Regulatory agencies today are tasked with optimizing licensee interactions and expanding public engagement — activities that are increasingly online.

User portals are central to online engagement, yet stakeholder satisfaction is varied. To improve, agencies should consider enhancing mobile app functionality and ensuring they serve not just a single agency but allow for a seamlessly connected government future.

In payment systems, we see a rise in digital transactions, but access and satisfaction are not uniform. A strategic focus on making digital payments more widely available and streamlining the process will better meet stakeholder needs.

Digital profiles are seen as very important for licensees and registrants, less so for the public. Given the broad range of government services the public interacts with online, agencies must recognize the role digital profiles play: They create a seamless, cross-agency experience — a unified user interaction across different government departments — for all constituents.

AI remains underutilized. Many agencies are uncertain about its application and implementation, partly due to the introduction of bills to regulate AI in at least 25 states in 2023[5]. Regulators should understand how their vendors, licensees, and the public will be using AI, even if they aren't yet utilizing any AI services themselves. Clear strategies for adopting AI, like chatbots for customer service and automated processing, can enhance efficiency and stakeholder interactions.

The recommendations are clear:
- **Enhance user portals to facilitate broader, more efficient services.**
- **Expand and simplify digital payment acceptance.**
- **Unlock the potential of digital profiles for a seamless experience.**
- **Demystify AI, emphasizing its practical benefits.**

These steps will not only address current challenges but also set a path for continuous improvement in stakeholder engagement within the regulatory landscape.

Conclusion

Online public engagement has become multidimensional, with online services, digital profiles, and payment systems. Behind these tools are enabling technologies that can fuel personalized services, smart data management, and integrated services across government. Gradually, artificial intelligence is entering the scene, making interactions smarter, faster, and more intuitive.

Through the survey, we found that technologies for public engagement show mixed adoption and satisfaction. Across the board, there is notable dissatisfaction with the quality of existing technology tools. Clearly, there is room for improvement.

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[5] National Conference of State Legislatures, "Artificial Intelligence 2023 Legislation," January 12, 2024

Regarding artificial intelligence, our survey was conducted during a time of headlines and hype around generative AI, just 15 months after the launch of ChatGPT. Not surprisingly, we found in the survey responses a careful approach to AI, with only a handful of agencies using AI-powered tools. Given no barriers, several respondents expressed a desire to implement AI or chatbots to provide an easier and more seamless online experience but — with the practicalities of budget, staffing constraints, and government/leadership restrictions — only a few have plans to do so. Looking forward, innovations like AI-powered customer service are just the tip of the iceberg of what's possible for improving public engagement.

As the state regulatory landscape continues to evolve, we recommend conducting further surveys over time with a larger pool of respondents. By collecting more detailed data about both licensees and the public, we would aim to better understand adoption and comfort levels with technologies across different age groups and professions.

We extend our thanks to those who took part in the survey and to all readers for your dedication to improving the experiences for those you serve.

Additional Resources

For more resources for members of the regulatory community, attend the CLEAR Annual Educational Conference each year in September. For additional technology insights for government leaders, visit Tyler Technologies' Resource Center.

About the Authors

Ronne Hines is a partner at The Regulatory Consulting Group, where her dedication to regulation, governance, ethics, labor mobility, and innovation come together to inform a new discussion about smart regulation. Ronne has been immersed in professional and occupational licensing and regulation across more than 50 health and technical professions and had the privilege of serving as president of the Council on Licensure, Enforcement and Regulation (CLEAR). As the division director for Colorado's Division of Professions and Occupations, Ronne demonstrated her willingness to build strategic relationships, deliver key objectives across the state, streamline licensing timelines, and develop alternative pathways to licensure.

Thomas Jackson Thomas is the General Manager for State Regulatory in Tyler's Platform Solutions Division. He has over 13 years experience in the public sector industry and over 30 in the product and consulting world. Thomas has an engineering background and was integral in developing the constituent portal module, Regulatory Access, which is used in both State Regulatory Platform Suite and Enterprise State Regulatory. Thomas understands that government work centers around the constituent and their experience.

Michael "Mike" Teeters is a senior product manager with Tyler Technologies. Mike played a key role productizing Tyler's Identity Workforce and Identity Community solutions, and in launching the supporting administrative tools used by clients to manage those solutions. With a Master of Accounting degree and nearly 30 years of public sector experience — from process consulting to support-team management — Mike understands the importance that customer identity and access management solutions play in service delivery and public engagement.

Acknowledgements

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About the Council on Licensure, Enforcement and Regulation

The Council on Licensure, Enforcement and Regulation (CLEAR) is the premier international resource for professional regulation stakeholders.

CLEAR promotes regulatory excellence through conferences, educational programs, webinars, seminars, and symposia. The organization provides networking opportunities, publications, and research services for those involved with, or affected by, professional and occupational regulation. As a neutral forum to encourage and provide for the sharing of best practices, CLEAR serves and supports the international regulatory community and its vital contribution to public protection. CLEAR has defined its own educator role as proactively identifying critical issues; providing a dynamic, interactive forum for exploration of these issues; and collecting and disseminating relevant information on them. There are four core areas of substantive inquiry that CLEAR supports through its annual conference and other venues: compliance, discipline and enforcement; testing and examination issues; entry to practice standards and continuing competence; and regulatory agency administration.

In brief, CLEAR's hallmark is its inclusiveness. Since it does not lobby or adopt positions on debatable matters, CLEAR offers neutral ground to those holding diverse viewpoints. This holistic approach serves its members well and permits unusual responsiveness to a necessarily varied and changing constituency.

About Tyler Technologies, Inc.

Tyler Technologies (NYSE: TYL) is a leading provider of integrated software and technology services for the public sector. Tyler's end-to-end solutions empower local, state, and federal government entities to operate efficiently and transparently with residents and each other. By connecting data and processes across disparate systems, Tyler's solutions transform how clients turn actionable insights into opportunities and solutions for their communities. Tyler has more than 44,000 successful installations across 13,000 locations, with clients in all 50 states, Canada, the Caribbean, Australia, and other international locations. Tyler has been recognized numerous times for growth and innovation, including on Government Technology's GovTech 100 list. More information about Tyler Technologies, an S&P 500 company headquartered in Plano, Texas, can be found at tylertech.com.