OREGON DEPARTMENT OF REVENUE

Call Center Customer Experience

September 27, 2022

Presented by Ernst & Young LLP

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1. Executive Summary

Executive Summary

Project overview

In 2021, the Oregon legislature recommended that the Oregon Department of Revenue ('DOR') develop a customer experience strategy and present it to the legislature in January 2023. The DOR hired EY as a call center improvement consultant to develop a comprehensive customer experience strategy to improve the overall customer engagement.

This Final Report is compilation of all reports previously provided to DOR including the final report objectives. The purpose of this report is to provide recommendations to improve the overall customer experience including a strategy/roadmap for implementation.

Reports previously issued reports contained herein include:

- Customer experience goals & expectations report
- Data analysis, metrics and measurements report
- Customer experience design – website review report

Final report objectives

- Identify and recommend changes in organizational structure and staffing to meet customer goals and expectations
- Document high level customer journeys
- Identify and recommend opportunities for process improvements and technology to meet customer goals and expectations
- Develop implementation and phasing strategies to create a clear and easy experience for customers.

Activities performed during project

- Conducted interviews with key DOR personnel
- Completed analysis of call drivers, claim center metrics, performance metrics, self-service opportunities, and staffing plans by analyzing the following (included but no limited to):
  - Organizational structure
  - Customer service data
  - IVR / ACD data
  - Customer surveys
  - Technology and process documents
  - Call Center strategic goals
  - Ongoing project documentation
- Performed benchmarking analysis of DOR against industry standards and leading practices in call centers
- Evaluated DOR website, Revenue Online and IVR/ACD
- Developed improvement recommendations and roadmap

Key Focus Areas

Customer experience goals and expectations	Data analysis, metrics and measurements	Customer journey	IVR / ACD call routing
Call center technology	Data analytics	DOR & Revenue Online websites	Analytics & reporting

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Executive Summary

Focus on the "Now" While Striving for Long-Term, Sustainable, and Customer-Focused Outcomes

DOR has a strong foundation with several in-flight initiatives that have been undertaken over the past year to improve the call center and overall customer experience. In order to enhance the customer experience and optimize call center operations, our observations and recommendations throughout this report are focused on the "now" while striving for long-term, sustainable, and customer-focused outcomes.

A Strong Foundation

- Created strategic goals to ensure dignity and inclusion for all, make it simpler for customers to work with DOR, prepare workforce for the future, and enhance data access and use
- Began multi-phased data strategy and data governance project to support one source of truth for Oregon data
- Updated and streamlined IVR, migrating functionality to one vendor
- Developed webchat technology to enhance agency ability to respond to customers
- Conducted Customer Service Survey to obtain customer experience feedback
- Embarked on website redevelopment of DOR website to improve navigation and communication and began transition of Revenue Online to v12 for newest capabilities to further serve customers

Strengthen

- Establish an Operations Center of Excellence (COE) to support continuous improvement across all call centers
- Utilize COE to propagate best practices for coaching, training, IT, quality assurance, performance and Change Management in all call centers
- Prioritize technological enhancements and process improvements to enhance customer experience, self-service, and call center efficiency
- Develop a communications strategy to solidify customer communication approach for key areas impacting the customer experience and call volume
- Deploy a data strategy that promotes transparency through internal and external dashboards, placing actionable data and clear KPIs with the people who will use them

Secure the Future

- Continue expansion of COE with Command Center considerations to build an agile workforce
- Utilize Change Management to create a culture of continuous improvement
- Further implement technologies and improvements that provide greater citizen connectivity and digital self-service opportunities
- Explore workforce management tool to increase call center operational efficiency
- Streamline onboarding and training, measuring impact for further improvements
- Continue to expand the data strategy to identify further improvements, measure the impact of actions taken and continuous staffing realignment

Executive Summary
Observations Summary

Below is a summary of key observations and areas for improvement based on our assessment of DOR's key focus areas.

Recommended key metrics

Service Level (SL)	Total Call Volume (TCV)	First Contact Resolution (FCR)	Average Speed of Answer (ASA)
Industry avg: 86 sec. **DOR:** available, not tracked.	**Industry avg.:** varies **DOR** : 711,899	**Industry avg.:** 78%. **DOR:** not tracked	**Industry avg:** 25 sec. **DOR:** 345 sec.

Areas for improvement observed

Organization/People

- Inconsistency in practices and operations between call centers leads to varied customer experience and also acts as a barrier in cross-training agents
- Self-service experience is fragmented
- Lack of a forecasting system prevents agency from accurately staffing to incoming calls
- Limited change management hinders ability to track and review strategic initiatives within call centers

Process and Strategy

- Lack of standardized KPI's across call centers
- Lack of data strategy
- Limited analytical capabilities
- Inconsistent operation practices across call centers
- Limited communication strategy
- Lack of collaboration in Change Control Board has led to ineffective use of available resources

Tools, Analytics and Technology

- Inconsistent use of technology across all call centers
- Inefficient agent desktop environment – lack of integration with DOR website and ROL
- Call closure reason classification lacking on consistency and depth
- Lack of skills-based and AI-driven behavioral call routing
- Lack of IVR-enabled Customer Identification / Validation
- Underutilized knowledge management tools across all call centers
- Underutilized email queues and handling

Executive Summary
Summarized Implementation Strategy

Based on our experience with call centers of similar size and scope and consideration of where DOR is in the call center journey, below is an implementation strategy with key recommendations to support continuous, targeted improvement of the customer experience including the quality of customer interactions, integration of enhanced technology, tracking of metrics/measurements and people optimization. We have utilized a Now, Next and Beyond phased approach to consistently achieve positive outcomes across five contact center pillars to support agency and business unit alignment.

	Now *(1 month to 6 months)*	Next *(7 months to 18 months)*	Beyond *(18+ months)*
1.0 Strategy, Planning, and Governance	Establish COE and Change Management (CM) program to support and improve continuous change education and adoption across DOR. ▸ Define CM and COE vision, strategy and critical success factors ▸ Develop training and communication strategy and governance framework ▸ Design, build and implement tools and processes for project planning, risk and issue management, scope change and status reporting ▸ Design decision/governance framework ▸ Identify high performers to own project roles on the SWAT team/COE	Implement Change Management across DOR by supporting implementation and transition of quality management, project initiation, portfolio management, and benefits management for Customer Experience program. ▸ Align COE program with behavioral operating model success factors to ensure cohesive interaction and support between these center initiatives	Execute Continuous Improvement strategies across CM and COE ▸ Evaluate structure needed for long-term support of people program initiatives ▸ Refine governance processes, train and implement as needed ▸ Perform targeted cadence of assessments ("look backs") to ensure continuous improvement strategies and structure are resulting in improvements
2.0 Organizational Alignment and People	Establish and deploy initial, uniform quality assurance across business units ▸ Allow COE to serve as oversight for implementation and establishment ▸ Couple quality assurance uniformity with call center realignment in each division, under one manager, and encourage job function evaluations	Support resource stability measures to improve call center operating performance and allow for continued improvement initiatives ▸ Monitor and refine staff augmentation balance as needed ▸ Fully dedicate agents to singular functions such as call intake ▸ Develop cross-training plan to develop an agile workforce	Begin strategizing for phase II implementations, setting the stage for an agile work force in more functional job categories. ▸ Implement plan for staff cross-training ▸ Expand COE by evaluating a path forward for a command center, including timelines and call center consolidation ▸ Continue refining QA and KPI targets, continuing peak performance
3.0 Process and Operations	Standardize call center operations processes and conduct peak performance analysis. ▸ Define and adopt a standardized quality assurance process to disseminate leading practices across all call centers ▸ Conduct peak performance analysis to set the bar for ideal performance and expectations for everyday performance	Capitalize on operational baselining by communicating expectations to the team while anticipating future developments ▸ Rollout new performance expectations and baseline current performance ▸ Define business process for a proactive communication strategy	Sustain growth by continuing to emphasize metrics and evaluate needed changes due to past performance ▸ Continue to review actual vs. target performance and re-baseline target performance ▸ Re-assess and enhance processes based on data insights ▸ Enhance training processes

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Executive Summary
Summarized Implementation Roadmap cont.

	Now *(1 month to 6 months)*	Next *(7 months to 18 months)*	Beyond *(18+ months)*
4.0 Tools & Technology	Increase call deflection through high value, low complexity use cases, leveraging existing technology ▶ Add additional details to website to enable customers to understand the "Why" and "Next Steps" to returns and payment ▶ Create dashboards to easily measure value and performance of a virtual agent ▶ Add virtual agent to provide answers to FAQs	Scale self-service capabilities to include additional functionality and integrations with backend systems ▶ Integration to additional data sources to enable 360° view of customer ▶ Restructure IVR call tree ▶ Create virtual agent use case to provide question level assistance with returns ▶ Leverage Robotic Process Automation (RPA) use cases to as needed to automate manual processes.	Continuous improvement across technical improvements rolled out during the previous eighteen months to build additional use cases based on learnings from customer interactions with existing capabilities ▶ Develop additional knowledge articles and videos to assist customers on the website to target top mistakes or questions ▶ For additional improvements to customer experience, expand callback functionality to web, enabling customers to schedule a time for a callback online ▶ Based on analysis of user intents coming into the virtual agent, develop additional integrations for full self -service in the virtual agent ▶ Develop RPA use cases based on survey of top repetitive tasks for DOR agents
5.0 Measurement, Insights, and Compliance	Improve ability to make data-driven decisions by creating single place to view metrics from diverse sources ▶ Metrics tracking and KPIs that will drive path to 100% of calls handled ▶ Workload forecasting reporting template	By leveraging predictive analytics, complete further analysis to develop a more cohesive picture of pain points ▶ New insights into peak performance analysis ▶ Additional detail regarding top call drivers and top drivers of call duration ▶ Comprehensive assessment to understand additional pieces of analysis to prioritize	Continue to leverage new metrics to drive new projects ▶ Draw findings from new data to further develop roadmap, making any changes to current roadmap needed ▶ Finalize workload forecasting reports ▶ Enhance insights and compliances by leveraging prescriptive and cognitive analytics

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Executive Summary

Illustrative Implementation Roadmap

Below is an illustrative recommendations implementation roadmap for DOR's consideration. This roadmap aligns with the recommendations detailed throughout this report to support DOR's strategic goals.

	Now	Next	Beyond
	M 1 to M 6	M 7 to M 18	M 18+

1.0 Strategy, Planning, and Governance

Now
- Set up SWAT Team, implement roadmap and finalize COE and CM design (OA1-2)
- Isolate the most frequent call topics that can be handled through self service (CE-IVR7)

Next
- Implement COE and CM (OA4, CM2, CM1)
- Develop a communications strategy to solidify customer communication approach (WC1)

Beyond
- Buildout capabilities within COE (training, QA, performance management, metrics tracking, IT liaison, Change Management and evaluate path to Phase II COE (PS1, OA3-4)
- Initiate communications strategy project to solidify customer communication approach (WC1-2, CT14, & CE-S1)

Next to Beyond
- Recalibrate forecasting of peak times and staffing levels to optimize the handling of current call volumes (MM4)

2.0 Organizational Alignment and People

Now to Next
- Establish and deploy initial, uniform quality assurance practices across business units (MM5)

Beyond
- Refine QA processes and KPI targets as needed. Continue peak performance (MM5)

Now
- Focus on career progression, training, quality assurance, and professional development
- Realign call centers under one manager in each division to facilitate job function evaluations (OA1 & PS1)

Next
- Fully dedicate agents to call intake, providing uninterrupted, efficient, in-depth customer service which will support overall agile workforce mobilization (OA3)
- Develop plan to cross-train agents on skills (e.g., payments) and overall call center functions (CE-IVR4 & PS3)

Beyond
- Realign the call center into more functional job categories, aligning pay for like positions (OA2)
- Review and determine path forward for a Command Center (OA4)
- Implement plan to cross-train agents on skills and overall functions (CE-IVR4 & PS3)
- Streamline onboarding and incorporate behavioral insights (PS2 & PS4)

Now to Beyond
- Continually reassess staffing levels paying careful attention to the agent to supervisor ratio and utilize Erlang C model as framework for staffing needs. (OA5)

3.0 Process and Operations

Now
- Define and adopt a standardized QA process (MM5)
- Conduct peak performance analysis (by agent, call type and supervisor) (MM2)

Next
- Align new QA technology to baseline performance (MM5)
- Rollout new performance expectations and coaching strategy (MM2 & OA4)

Beyond
- Facilitate target operating model workshop (OA1)
- Refine QA processes and KPI targets as needed. Continuation of peak performance. (MM5)
- Enable data-driven decision making by leveraging data insights. (DA2 & DA3)
- Leverage training videos to augment agent call handling (OA4)

Executive Summary
Illustrative Implementation Roadmap cont.

	Now	Next	Beyond
	M 1 to M 6	M 7 to M 18	M 18+
4.0 Tools & Technology	Adopt recommendations as part of ongoing DOR website project and deploy SEO tool (OP1-2)	Re-assess upgrade and deploy webchat on DOR website. (SS1)	Identify and initiate additional virtual agent use cases for DOR and Revenue Online (e.g., AI enabled) (CTI8)
	Adopt in scope recommendations as part of ROL V12 upgrade project (ROL1)	Upgrade ROL website phase 2 (ROL1)	Evaluate AI-driven call routing (CT15)
	Record actionable reasons for calls and unify close out procedures (CE-S2)	Identify top five manual processes and leverage RPA for automation (CTI2, CE-IVR9)	Evaluate WFM tool (PS5)
	Refine queues and reduce message length (CE-IVR1 & 3)	Rerecord IVR in English and Spanish (CE-IVR6 & 2)	
	Deploy call center screen pops (CTI7)		Deploy call scheduling (CE-IVR8)
	Implement IVR Quick Wins (e.g., call recording policies confirmation) (CE-S4, CE-IVR2)		Integrate online services (social media) to support additional channels/customers/ business (CTI1)
	Deploy IVR functionality like TSU to all call centers (CTI3)		
		Deploy intelligent call routing (ICR) (CTI6)	
5.0 Measurement, Insights, and Compliance	Define data strategy, confirm data sources needed for metrics and establish centralized data for analytics* (MM1 & DA1)		
	Identify reporting tool (AT1); Build dashboard visuals by leveraging descriptive and diagnostic analytics (MM1 & DA1)	Enhance visualization and analytics by consider predictive analytics (DA2)	Enhance visualization and prescriptive and cognitive analytics (DA3)
	Standardize KPIs & performance measurements across business units (MM2 & MM3)		Workload and staffing level forecasting (OA2& MM4)

* This recommendation is aligned with DOR's goal 11,12,13.

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Executive Summary
Implementation Benefits

The roadmap in the previous slides is designed to help DOR enhance customer satisfaction and improve key performance measures. Following are some of the key benefits that DOR is expected to realize during various phases of the implementation journey.

Key Metrics (Jan – Jul 2022)
SL: available, not tracked.
Total Call Volume: 711,899
First Contact Resolution: not tracked
Average Speed of Answer: 345 sec.

Target Metrics
SL: available, 86 sec.
Total Call Volume: < 711,899
First Contact Resolution: 78%
Average Speed of Answer: 25 sec.

Decrease **total call volume** by adopting a primary organizing principal for website and enabling more self-service

Increase **first call resolution** with a centralized approach through the COE

Focus the team on **service level** and **average speed of answer** by standardizing **KPIs**, creating internal dashboards and standardizing performance metrics

Decrease **total call volume** with a simplified ROL user experience that enables self help

Increase **first call resolution** and decrease **average handle time** by cross-training agents in needed call centers

Decrease **average speed of answer** with call scheduling and virtual agents

Decrease **average handle time** with screen pops

Decrease **average speed of answer** and improve **service level** by forecasting staffing needs with Erlang C calculations and WFM tools

Decrease **agent attrition** by incorporating behavioral insights during hiring

Decrease **average handle time** with skills-based call routing and speech recognition

Key metrics outlined above are detailed in the Data Analytics Metrics & Measurements Section

Executive Summary
Implementation Cost

Below is a cost estimate of recommended solutions corresponding to the implementation roadmap for DOR's consideration. Pricing estimates will need to be refined and will vary based on the agency's overall approach (to be best-in-cost vs. best-in-class), in-flight projects, duration, the implementation service provider, state contract agreements and licensing protocols.

Category	Item	Description	Cost estimate – low	Cost estimate – high
Computer Telephony Integration (CTI)	Call recordings	Record all calls and chat conversations	$100,000	$250,000
	Screen pops/co-browser	Provide agents the capability to view customers authenticated information prepopulated	$100,000	$250,000
	Speech recognition	AI driven speech recognition speech-enabled or conversational IVR uses speech recognition to understand a customer's voice using intents (common phrases or words that a customer speaks during a call) and gives human-like responses	$250,000	$1,000,000
	Outbound dialing **	Enhanced capability for expanded communication and outreach for proactive communication	$50,000	$150,000
	Call routing	Enhanced data driven and skills-based call routing	$250,000	$500,000
	Expanded payment options via phone	Enhance the current payment by phone options functionality. This functionality should be implemented along with speech recognition	$100,000	$250,000
Website	Web chat **	Basic webchat functionality for customers to interface with live agents	$100,000	$250,000
	Website upgrades – DOR	Enhanced website based on recommendations and enhance the content to improve readability scores	$400,000	$600,000
	Website upgrades – ROL	Enhanced website based on recommendations and enhance the content to improve readability scores	$200,000	$450,000
	AI driven virtual agent	AI-driven contextual virtual agent on DOR and GenTax website	$250,000	$400,000
	Email integration (queued, route managed) **	Enhanced capability for expanded communication and outreach for proactive communication	$50,000	$100,000
Analytics	Workforce management tool	Workforce management tool for forecasting staffing needs and tracking agent productivity	$100,000	$250,000
	Data analytics reporting tool	Build and enhance data analytics & visualization capabilities for descriptive, diagnostic and predictive analytics	$500,000	$750,000
Strategy & Organization Alignment Support	Advisory services	Services to support COE development, change management, organizational alignment, technology and analytics implementation insights and training	$750,000	$900,000
	TOTAL		**$3,200,000**	**$6,100,000**

** Functionality already developed, not enabled in production.
* Excludes internal agency costs (i.e., program management, etc.)

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2. Organizational Alignment

Analysis of Organizational Alignment
Key Observations From Activities Performed

In addition to the People & Staffing observations detailed further in the report, below are observations representing overall high-level themes from our review of organizational alignment:

Current structure is siloed, limiting the communication, sharing of leading practices, training, etc.	Administrators manage other functions in addition to call centers within each business unit	No centralized approach to call center operations, metrics or reporting
Certain call centers have staff whose primary function is call intake while other call centers utilize staff for other primary functions in addition to call intake (return processing)	Key call center strategy and decision making is hindered by siloed focus on individual business units	Technology implementation is hindered by competing business unit call center preferences and lack of overarching call center strategy/alignment
Quality assurance process is inconsistent across business units	Call center structure doesn't provide clear education, personal development or career growth/path for advancement	Call Center structure constrains ability to respond to high call volume surges

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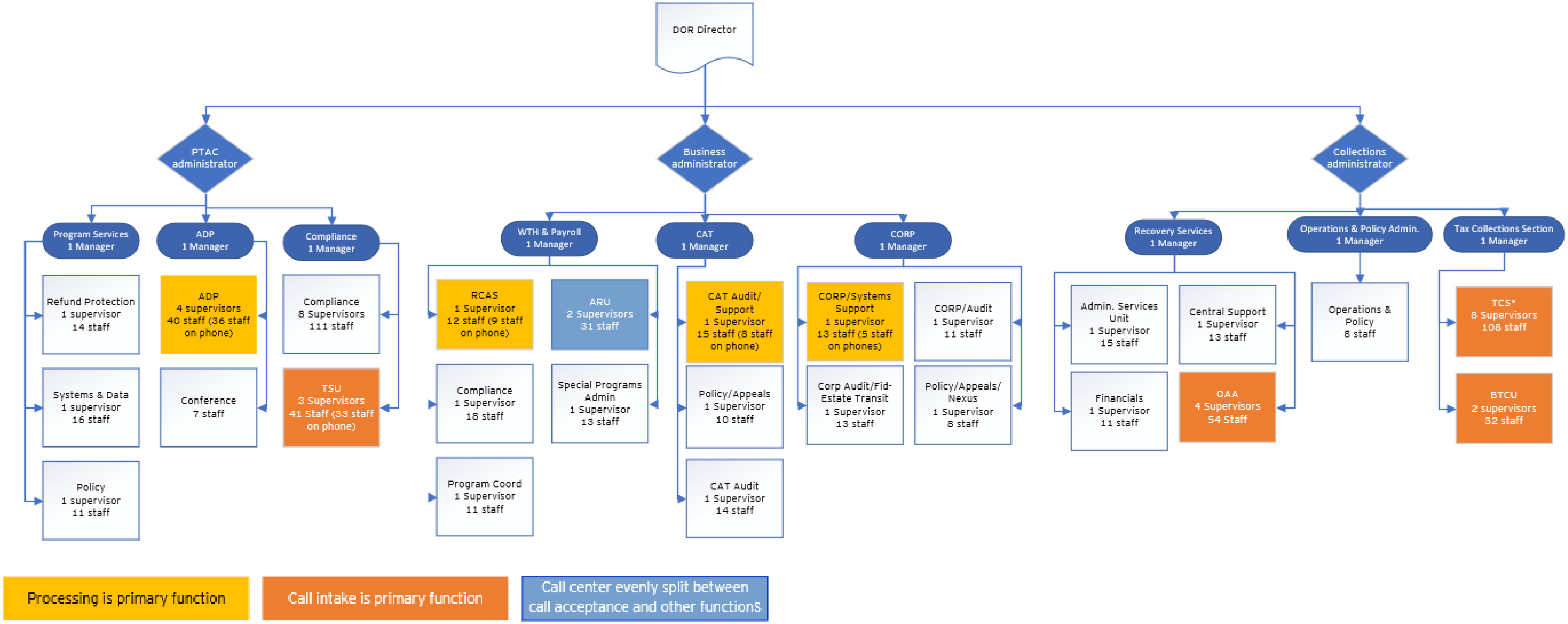
Organizational Alignment
Call Center Organization Current State

Below is a diagram depicting DOR's current organizational structure, which is comprised of nine call center business units across three separate divisions. As noted in the key below, the highlighted boxes indicate each respective call center (gold, orange, or blue) and their respective function classification.



All information obtained from PTAC Org Chart, Business Division Org Chart, 08_2022 v.2, and Collections Division Org Chart 08_2022 v.2 provided by DOR
**TCS is commonly referred to as PTAC in the OpenScape Contact Center Software*

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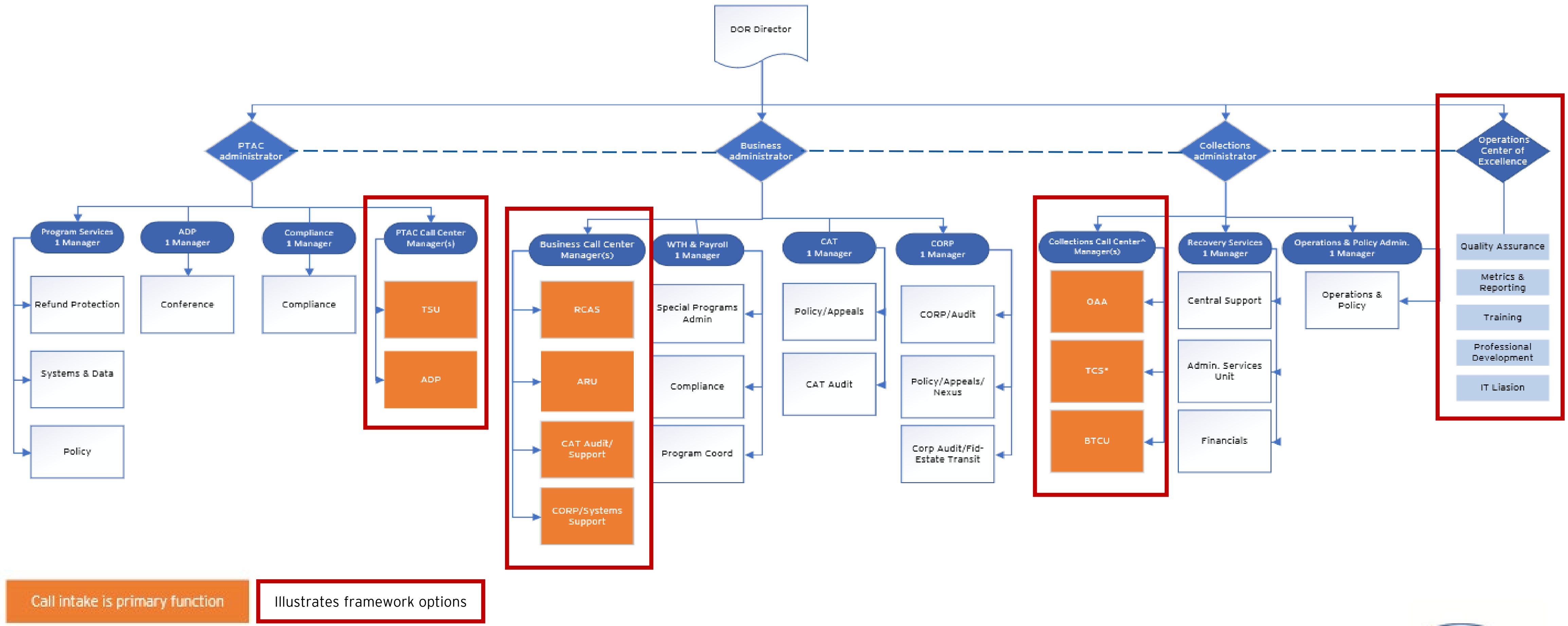
Organizational Alignment

Call Center Organization Future State Framework – Phase I

Below is a diagram depicting a future state (Phase I) DOR call center framework focused on centralized operations to support an efficient approach to metrics/reporting, training, quality assurance, professional development and technology with dedicated call center agents and support staff within each business unit for DOR's consideration. The goal of this framework is to maximize operations, reduce agent turnover and improve the overall customer engagement.



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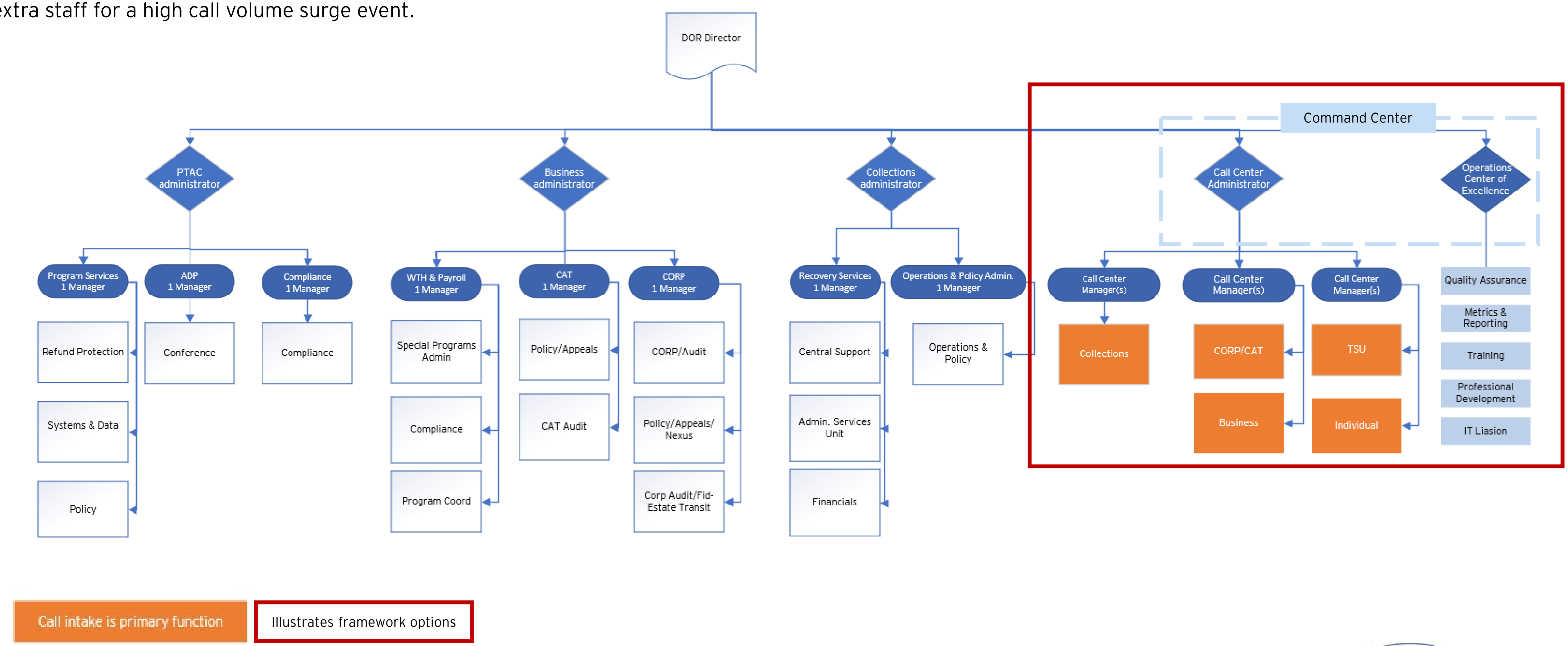
Organizational Alignment

Call Center Organization Future State Framework - Phase II

Below is a diagram depicting a future state (Phase II) DOR call center framework focused on aligning all call centers into a centralized command center to further support efficient call center operations and improve customer engagement for DOR's consideration. This framework allows for streamlined migration and plug in extra staff for a high call volume surge event.



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Organizational Alignment
Current State Observations & Phase I and II Benefits

Phase I Organizational Realignment

Dedicated Call Center Agents: Fully-dedicate call center agents to provide uninterrupted, efficient, in-depth customer service which will support overall agile workforce mobilization.

Metrics & Reporting: Activate call center-wide reporting to ensure cohesive application of metrics across call centers, call center efficacy, and leadership reporting and visibility.

Operations Center of Excellence (COE): Concentrate call center operations on improving call centers' delivery services and customer interactions by ensuring the right task is done at the right time, with the right level of engagement, i.e., stakeholder engagement, setting KPIs, etc.

Quality Assurance: Centralize quality assurance to support continuous improvement - which is a critical tool to manage improvement over time - including standard operating procedures (SOP), call and customer metrics, surveys, and the performance of QA assessments

IT Liaison: Liaise with IT and the business units to align technology decisions/strategy and provide a holistic view for IT initiatives

Professional Development: Create an enhanced, consistent professional development program including career plans, paths, rotations, and career counseling to reduce staff turnover

Training: Unify and streamline new hire and cross-business unit training to provide differentiated experience to call center staff and encourage tenure with the agency.

Phase II Organizational Realignment

Agile Workforce: Promote and permit a fully agile workforce by cross-training staff with the goal of answering 80% of the incoming calls allowing staff to shift from one area to another depending upon call volume and filing season.

Centralization: Centralize reporting and call center structure by having one administrator over all call centers who can visualize all call center operations and make effective decisions and planning.

Command Center: Manage call center operations, including the COE, allowing the command center to make strategic decisions regarding where the call center goes/grows, people, processes, technology upgrades, etc.

High Call Volume Surge Event: Respond to unexpected high call volume events by utilizing the command center by enforcing good habits with leading practices during "normal" call volumes and allow the command center to pull different levers in order to respond to high call volume surge events.

Pay equity: Align positions and job functions into more functional categories, allowing for pay structure alignment with like job functions being on an equal pay placement.

Cohesive naming conventions: Rename like jobs with the same job titles to reduce confusion, provide standardized position descriptions, and transparent career paths.

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Organizational Alignment
Unexpected Call Volume Strategy

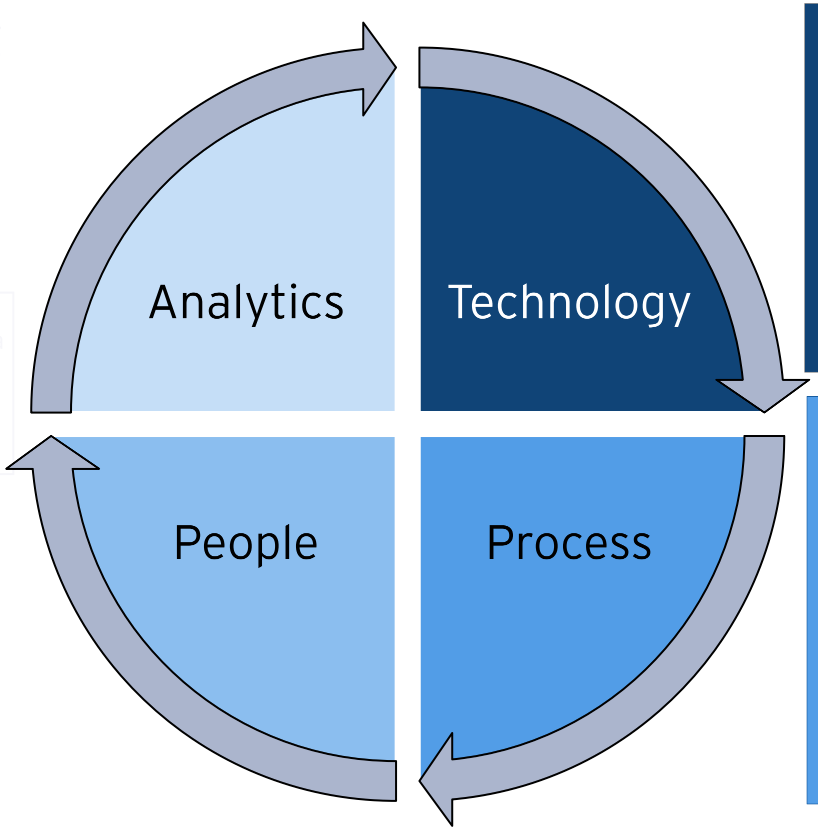
DOR could face unexpected high call volumes due to various unavoidable situations (i.e., new legislation, delays in processing, system issues, etc.). A comprehensive agile strategy will assist DOR in managing high call volumes without compromising customer satisfaction. To address such scenarios, below are key areas of focus across people, process, technology and analytics to support the management of high call volume surge from inception to stabilization.

Analytics

- Provide early warning signs of high call volumes
- Identify the reason for calls
- Measure and track performance of changes made in people, process and technology layer

Technology

- Leverage proactive communications for outreach via emails, text message, voice bots, social media, etc.
- Update IVR with upfront messaging, prioritization of specific topics and deflection to self-service and digital channels
- Ensure agents are equipped with needed technology



People

- Leverage metrics like average handle time, wait time, call back requests, etc. along with Erlang C model for determining appropriate agent count
- Cross-train agents across departments to provide support
- Establish call center surge support contracts to enable adding agents to queues as higher call volume arises, and customer inquires exceeds in house staffing capabilities

Process

- Temporarily extend call center hours
- Define call center shifts and assign workforce based on shifts
- Enhance communication amongst the impacted business units
- Evaluate performance in daily standups and dashboards
- Prepare team through table-top exercises
- Prepare team with cross-training in various call centers

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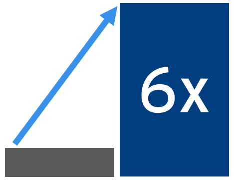
Organizational Change Management
Utilizing Change Management to make DOR's call center program successful

Organizational Change Management is an important component for the overall success of a program. Establishing an OCM governance board is a leading practice that drives the successful adoption and usage of change within the business and its communication to employees regarding overall vision and goals. It allows employees to understand and commit to the shift and work effectively leading to enhanced agency performance and customer service. Without effective Organizational Change Management, agency transitions can be subjected to failure and expensive in terms of both time and resources.

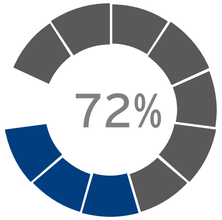
Organizational Change Management will be critical to optimize DOR's call center

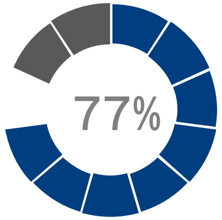
- Enables leadership to prepare people for new ways of working as a result of the Technology and Market Operations Transformation
- Creates a common view of all stakeholders and how to create engagement and support them through the transformation
- Equips teams with the right communications for implementing new processes & technology
- Ensures that value is maximized by increasing buy-in and adoption through ongoing support even after transformation is complete



Organizations that experience excellent Change Management practices are 6x more likely to meet their business objectives [1]

Projects fail 72% of the time due to a lack of leadership buy-in and employees resistance[1]





77% of employees are engaged when workers strongly agree there is open communication vs. 1% engagement when they strongly disagree[2]

[1] *https://www.prosci.com/resources/articles/why-change-management*
[2] *https://www.gallup.com/workplace/236444/managing-tough-financial-times-engagement-help.aspx*

Organizational Change Management

Organizational Readiness & Change Management Approach as a Holistic Discipline

DOR can utilize a combination of individual and organizational Change Management strategies to understand and address gaps holistically

To close gaps requires driving change in people, processes and technologies and aligning the organization to deliver on strategic objectives and considerations

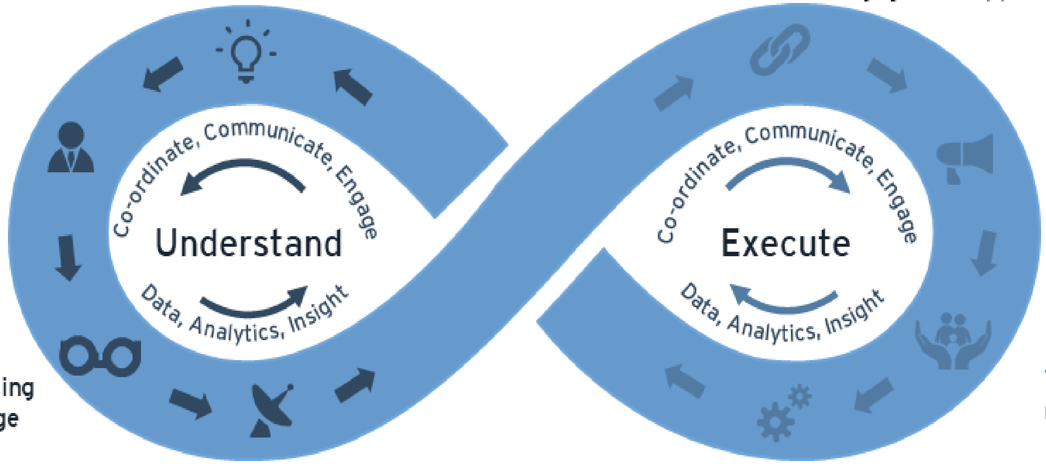
Leading practices and methodology can enable DOR to achieve the necessary buy-in and support for change at an individual and organizational level

1. Why ?
   - Get clarity on purpose, outcomes, case for change and benefits outline

2. Understand needs
   - Build a rich understanding of preferences, needs and reactions across the organization

3. Understand the change
   - Develop a deep understanding of the implications of change on the organization, on the employees, and on customers

4. Co-create the future
   - Co-design the future ways of working and desired experience for all impacted groups



5. Align the organization
   - Design the future organization and ways of working, Align leadership around the transformation engagement approach

6. Prepare the organization
   - Get the impacted stakeholders ready for the change through communication and simulations
   - Undertake Sentiment, Readiness Analysis

7. Build the capability
   - Deliver training and knowledge transfer to lift capability and drive self-sufficiency

8. Execute and sustain the change
   - Implement new ways of working, measure success and track benefit realization

EY's Methodology for Identifying Recommendations

We have categorized project recommendations according to degree of impact and priority level, as defined in the table below.

	Criteria	Description
Impact	High	Recommendations that will have a significant impact on citizen experience and over all agency efficiency.
	Medium	Recommendations that will have a moderate impact on citizen experience and over all agency efficiency.
	Low	Recommendations that will have nominal impact on citizen experience and overall agency efficiency.
Priority	Now (quick wins)	Recommendations proposed that can be completed in one month to six months
	Next	Recommendations proposed that can be completed between seven months to eighteen months
	Beyond	Recommendations proposed that will be completed more in more than eighteen months

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Organizational Alignment
Key Findings and Recommendations

Below are recommendations for DOR organizational alignment and Change Management. These recommendation are in addition to the People and Staffing recommendations from the "Customer Experience Goals and Expectations" report and pertain to organizational alignment.

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Organizational Alignment	• Call centers that function at peak efficiency are strategically aligned with organizational structure and job functions.	• Some staff take calls part-time, while others take calls full-time. • Call centers are split into nine separate areas with some centers allotting staff part-time to calls and part-time to other tasks.	**(OA1)** Begin the process of realignment by creating call center managers in the current respective divisions, uniting all call centers so that job function evaluations can begin.	High	Now
			(OA2) Realign the call center into more functional job categories. This step should also focus on aligning pay for like positions. Realignment should also focus on having full-time staff that take calls versus part-time staff.	High	Beyond
			(OA3) Fully-dedicate call center agents to provide uninterrupted, efficient, in-depth customer service which will support overall agile workforce mobilization.	High	Next
	• Command centers aid in managing high call volume surge events by examining analysis, technology, process, and people to keep the call center operating at peak efficiency.	• No current high call volume surge event strategy in place.	**(OA4)** Create a command center comprised of the call center administrator and incorporate the COE to prepare for high call volume strategy and implementation. This practice should be used during "regular" times in order to prepare for unusually high call volume events.	Medium	Beyond

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Organizational Alignment
Key Findings and Recommendations

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Organizational Alignment	‣ Erlang C Model is utilized to provide a range of staffing requirements while taking into account call volumes, service level, average handle time, and target answer time. (Please see Appendix F for Erlang C) ‣ Supervisor to agent ratio should focus on one supervisor to 15-20 agents, depending upon complexity of call topic.	‣ No Erlang C analysis has been done cohesively to look at each call center or the call centers as a whole.	**(OA5)** Examine staffing needs utilizing Erlang C Model as a framework to understand requirements based upon call centers operating at peak efficiency. Use this time to also assess supervisor to agent ration.	Medium	Now
Change Management	‣ Organizations effectuate effective change by enacting a Change Management Board to ensure quality operations and production throughout all changes. In that process, these are responsibilities that the CMB needs to be in charge of: assessing resources, risks, and consequences of changes requested. Reviewing and overseeing the approval process.	‣ No current Change Management board	**(CM1)** DOR should enable a Change Management board to aid with managing recommending changes.	High	Now
	‣ Organizations that implement excellent Change Management practices are six times more likely to meet their business objectives	‣ No current cohesive Change Management strategy	**(CM2)** Utilize Change Management tactics and strategies to manage change and create an effective transformation	High	Now

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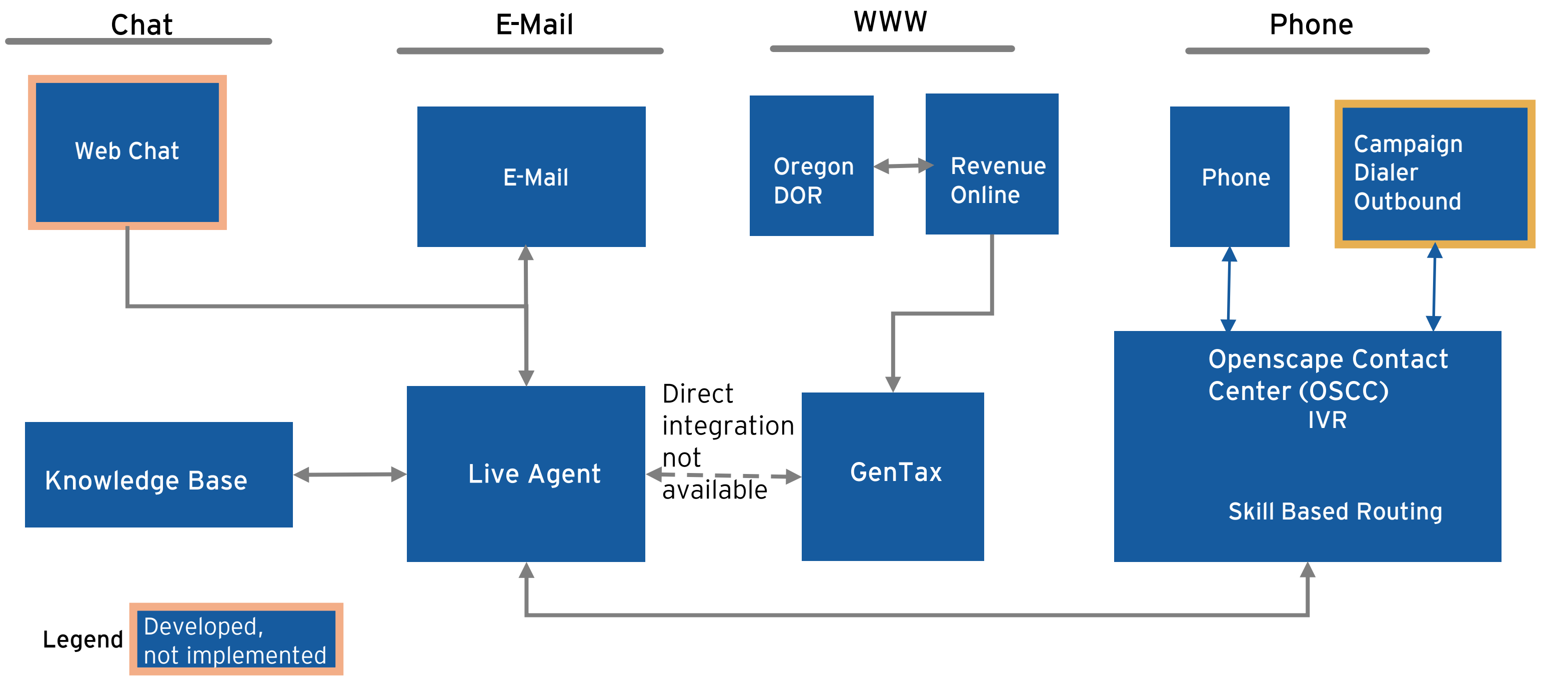
3. Call Center Technology

3a. Technology Recommendations

Call Center Reference Architecture
Current State

DOR is currently using Openscape software version v10.r4.0.7 for running call center operations. Following is the reference architecture of the current call center.



Features	Current State
Call Routing	Basic call routing functionality is currently being used. While skill-based routing is available, the same needs to be reassessed
Web Chat	Web chat is developed but not implemented. Needs to be re-assessed for upgrades after the SharePoint platform upgrade project is completed in Nov 2022
IVR	IVR functionality is available for TSU Call center
Voice Communication	Speech recognition functionality is currently not available
Call Recording	DOR is not recording any calls due to unconfirmed regulatory parameters. Silent monitoring is in use for quality management and assurance
Screen Pops/ Co-Browsers	Functionality not available
Communication Tools	DOR is currently leveraging email for communication

Observations:

- Realtime integration between call center and GenTax for screen pop/co-browser does not exist
- Integration with social media platforms like whatsapp, etc. are not available
- AI/ML is not being used to enhance customer service
- While OneNote is being used for knowledge management, the practice of using a knowledge management tool is not consistent
- IVR systems are only limited to TSU
- Skill-based routing is deployed in production but requires reassessment

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Key Features of a Modern Call Center

Following are the key features of a modern call center:

CTI	Conversational IVR	Integrations / Orchestrations	Advanced Analytics	Cloud	Omnichannel support
Communication Platform as a Service	Utterances and NLP intent driven	Integrations with pre-existing CRM portal	Speech analytics by using AI	Pay as go	Inbound call
Supports SIP/soft telephony	Customer can speak freely and reach required call category instead fix menu	Cognitive services	Call center dashboards / metrics available out of the box	Scalability	Outbound dialler
Intelligent routing to designated support agent group		Frontend automations		Reliability	SMS
Automatic call distribution support		Ticketing system		Zero maintenance	Web
Agent efficacy and efficiency		Handoff to live agent			virtual agent
					WhatsApp, Facebook, Twitter

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3b. Analytics and Reporting Tools

Reporting Tools, Data Analytics
Current State

EY conducted a comprehensive review of the tracking and reporting tools currently being used by DOR. Currently, DOR's business units are using multiple tools and are generating various reports. Below are the details by business unit.

Call Centers	Division	Reporting Tools	Analytics
Appeals Discovery Processing (ADP)	PTAC	▶ OpenScape call center	▶ Track information at the end of each month for staff production and types of calls being received ▶ Total Calls, Wait Times, Average Call Time, Abandoned Calls, Calls per user
Accounts Resolutions Unit (ARU)	Business	▶ OpenScape call center ▶ Excel - Customer Service Survey is visualized in bar graphs and pie charts	▶ Excel - Customer Service Survey is visualized in bar graphs and pie charts ▶ Current metrics: wait times, calls taken, abandon rate ▶ Customer Service Survey ▶ SLA – "wait time < five min." w/ benchmark at 80% & is measured daily and monthly
Business Collections	Collections	▶ OpenScape call center ▶ Excel – data is transferred from OpenScape to show month to month & annual trends, achieving expectations (or not)	▶ Track information at the end of each month for performance and types of calls being received ▶ Total Calls, Wait Times, Average Call Time, Abandoned Calls, Emails, Wrap-Up Code Selected ▶ Utilize this information to see if adjustments need to be made or trainings offered to our team for call taking best practices
Corporate Activities Tax (CAT)	Business	▶ OpenScape call center	▶ Track information at the end of each month for performance and types of calls being received ▶ Total Calls, Wait Times, Average Call Time, Abandoned Calls, Emails, Wrap-Up Code Selected ▶ Utilize this information to see if adjustments need to be made or trainings offered to our team for call taking best practices ▶ survey that gauges taxpayer experience is monitored by others in the agency
Corporate Income Tax / Estate	Business	▶ OpenScape call center	▶ Calls received monthly, daily, 30 min intervals ▶ Number of abandoned calls, requeued, wait times, transfers ▶ Wrap up reasons

Reporting Tools, Data Analytics
Current State

Call Centers	Division	Reporting Tools	Analytics
Other Agency Accounts (OAA)	Collections	▶ OpenScape call center ▶ GenTax – Searches for Agent Actions	▶ Track information for performance and types of calls being received ▶ Track Total Calls, Wait Times, Average Call Time, Abandoned Calls, Utilization, Call Handle Rate, Hourly accounts touched, Timed out In Calls, Garnishments, Payment plans, Installment average, defaulted payment plans
Business Registration	Business	▶ OpenScape call center ▶ OpenScape Manager ▶ MS Excel ▶ MS Access ▶ GenTax	▶ Current metrics: Wait Times, Calls Taken, Abandon Rate ▶ Registrations Completed ▶ Changes Completed ▶ Wrap-Up Reasons and Work Reasons ▶ Work Items Processed, Rejected and Assigned ▶ Walk-In Customers Served ▶ Weekly Workload Reporting ▶ Number of OBR and CER in Queue and Processing Time (Bus. Days) ▶ Number of Changes in Queue and Processing Time (Bus. Days) ▶ Number of items in GenTax Queue and Processing Time (Bus. Days) ▶ Customer Service Survey ▶ SLA – "queue answer time < five min." w/ benchmark at 80% and is measured daily and monthly
Personal Tax and Compliance (PTAC)	Collections	▶ OpenScape call center ▶ Excel – data is transferred from OpenScape to show month to month & annual trends, achieving expectations (or not)	▶ Track information at the end of each month for performance and types of calls being received ▶ Total Calls, Wait Times, Average Call Time, Abandoned Calls, Emails, Wrap-Up Code Selected ▶ Utilize this information to see if adjustments need to be made or trainings offered to our team for call taking best practices

Reporting Tools, Data Analytics
Current State

Call Centers	Division	Reporting Tools	Analytics
Tax Services Unit (TSU)	PTAC	▶ OpenScape call center ▶ DAS customer service survey ▶ GenTax- web messages, payment data, Where's My Refund ▶ Outlook – DORQ and Practitioner emails ▶ Power BI	▶ Average wait times per week, Total contacts, Top seven wrap up codes, Foot traffic, Calls answered by VIR, Calls unable to take (capacity issue), Total calls answered by reps, Average wait time, Average call length, Abandoned calls, Average abandoned time, Percentage of < five min calls, Calls requeued, Post processing time & after call work, Current working date for emails (peak season only)

Observations:
- DOR is currently leveraging descriptive analytics. Diagnostic, predictive, prescriptive and cognitive analytics are not used.
- A comprehensive real-time visualization of agency performance with further drill downs at the call center-, manager- and agent-levels are not available.
- Call centers perform multiple manual steps to aggregate and generate reports which increases the likely hood of human errors.
- The use of performance management analytics is limited to a few business units only. Also, the information to staff is not readily available for self assessment.

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Tracking, Reporting, and Data Analytics Tools
Current State v. Leading Practices Comparison

Reporting tools will put visual analytics at DOR fingertips. With a powerful reporting tool, DOR could-create interactive data visualizations and reports. This tool could mash up, connect, model, analyse, explore, share and visualize DOR data, while placing visuals exactly where they are needed. DOR should consider a tool which provides following features.

	Reports Interface	Self Service	Advanced Analytics	Building Reports	Platforms
Features	▶ Intuitive and easy to use ▶ Requires a minimal number of steps/clicks to answer business question ▶ Offers a variety of attractive graph and chart formats ▶ Presents information in a dashboard format ▶ Handles large, complex, and/or siloed data sets	▶ Drill down and explore data to discover new insights ▶ Share data and reports they have built within business Intelligence tool and outside the tool through other collaboration platforms ▶ Tool automatically suggests data types, schemas and hierarchies ▶ Share visual analytics with everyone in your organization	▶ Analyses current and historical trends to make predictions about future events ▶ Communicates complex information clearly and effectively through advanced graphics ▶ Handles large, complex, and/or siloed data sets ▶ Transforms and mashes up data from multiple sources—in just a few clicks	▶ Converts data formats of source data into the format required for the reporting system without mistakes ▶ Dig deep into data to find patterns and discover insights ▶ Build out your design with intuitive formatting tools and themes ▶ Integrate with Application Program Interfaces ▶ Connect securely to hundreds of data sources —in the cloud and on-premises ▶ Create mobile reports for on-the-go users	▶ Customization ▶ Grant access to select data, features, objects, etc. based on the users, user role, groups, etc. ▶ Publish securely to the web or an on-premises report server, or embed visuals in your website or app ▶ System can self-monitor critical metrics and alert administrators when they reach concerning levels

Observations:

- Multiple tools are being used by various call centers leading to call center-based operations practices rather than centralized measures.
- DOR is using Microsoft BI, which is one of the leading analytics tool. This tool is only being used by a few business units like TSU.

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Data Analytics
Current State vs Leading Practices Comparison

DOR should consider leveraging the following analytics for the short term, intermediate, and long-term benefits of analytics.

Types of Analytics

Analytics	Description
Descriptive	Provides insight into business operations without providing root case
Diagnostic	Provides root case behind the descriptive analytics
Predictive	Leveraging statistical and machine learning (ML) models, provides insights about what may happen in future
Prescriptive	Advises users on possible outcomes and what should they do to maximize key business outcomes
Cognitive	Combination of Artificial Intelligence and Machine Learning algorithms to perform certain tasks.

Goals and Expectations

Short-term
- Improved DOR staff confidence
- Improved operational efficiency
- Improved knowledge about data use
- Better provider-user relationship

Intermediate
- Improved staff performance
- More personalized service
- Adequately planned use of first-line services
- More timely escalation

Long-term
- Reduced call volumes
- Planning future demand
- Better use of resources
- Improved quality of service
- Improved public trust
- Wider system-level collaboration

Improved efficiency and effectiveness
Improved experience for staff and service users
Improved care, trust and collaboration

Observations:
- DOR Call centers are currently leveraging some reports under descriptive analytics. There is lack of consistency
- Analytics is not being leveraged real-time

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Tracking/Reporting Tools and Data Analytics
How analytics can help DOR

Use of data analytics and reporting tools contributes to a more efficient and effective system, a better experience for staff and customers, and improved trust and collaboration

A more efficient and effective call center

- **Improves operational efficiency:** use of digital tools streamlines information access, helping the staff to improve their productivity and service effectiveness
- **Supports improvements in processes**: data insights equip staff to evaluate the effectiveness of current processes and procedures, enhancing overall efficiency
- **More accurate and timely resolutions**: analytical tools use historical information to make predictions about future events (e.g., probability of an adverse event occurring), helping staff focus on earlier resolutions
- **Generates time savings:** efficient assembly of data allows for more time for analysis, provides insights that enable early detection of issues before point of crisis, thereby reducing time required for resolution
- **Dynamic resource allocation:** data insights inform real-time decision-making to allocate resources where they are needed most
- **Improves future planning:** data analytics generate demand forecasts for key services to improve future allocation of resources and guide cross education

An improved experience for staff and customers

- **Improves convenience and access to services:** sharing of data across DOR reduces redundancies and removes the need for customers to repeat their personal details multiple times
- **Improves self-service interactions:** enables customers to view current state of account, making them active participants account management
- **Improves staff confidence:** provides a more holistic, single view of the customer which improves front line workers' confidence in their decision-making
- **Efficiency gains help tasks productivity:** enables frontline workers to resolve more task sooner and serve more customers

Improved trust and collaboration

- **Enhances trust:** analytics leads to increased transparency which in turn enhances public trust in use of data
- **Promotes collaborative working:** bringing together stakeholders from across the organization to co-develop analytics solutions/reporting tools sets a mindset for collaboration that may spill over into other areas of work

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3c. Recommendations

Key Findings and Recommendations

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Computer Telephony Integration (CTI)	▶ Leverage proactive communication via omni-channel with customers and third parties by contextualizing the overall customer experience	▶ Utilizing GenTax to create outbound dialing lists; email and chat have been configured but not implemented ▶ IVR functionality is only available for TSU	**(CTI1) RPA Integration:** Robotic process automation (RPA) can assist with integration between OSCC and GenTax. **(CTI2) Campaign Dialers Outbound:** Utilizing the campaign dialers will assist DOR in proactive communication. The function is already developed and available for business. **(CTI3) IVR:** IVR Functionality should be extended to all call centers.	High	Now
			(CTI4) Online Services Integration: Integrating online services (social media) to support additional channels to support customers and the business.	Medium	Beyond
	▶ 67% of large call center organizations leverage a screen pop of customer details based on ANI/IVR ▶ Screen pops help in reducing average handle time (AHT) ▶ Screen pops have helped in improving customer experience as the information is available to agent and customer does not have to provide the same again (e.g., caller identification and authorization information)	▶ Currently, there's no integration between GenTax and the agent desktop to "pop" a screen based on information entered in the IVR ▶ A prototype was initially developed for screen pop functionality; however, it did meet businesses expectations	**(CTI5) Call Center Screen Pops:** Implementing screen pops by integrating staff's desktop application with GenTax. Screen pops can save 30-45 seconds in AHT by providing agent information the customer has already provided. Screen pops are a customer experience enhancement by saving time and reducing frustration from asking the customer to enter duplicate information	High	Now

Key Findings and Recommendations

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Computer Telephony Integration (CTI)	▶ Modern call centers have enhanced customer experience by leveraging advanced intelligent call routing (ICR) to reduce excessive hold time and multiple department transfers ▶ **83% of large call centers** use call routing based on IVR or speech recognition ▶ The use of agile testing strategy will help in risk mitigation and provide more flexibility to the agency.	▶ DOR is using calling routing in its simplest form, taking incoming calls, queueing them, and routing them to agents	**(CTI6) Deploy Intelligent Call Routing:** Implement advanced skill based intelligent call routing (ICR)	High	Next
Self Service	▶ Automate recurring interaction using speech recognition in IVR ▶ Self-service is **roughly 40-100x cheaper** than a live agent ▶ 55% of large organizations offer **account specific web self service;** 41% use automated speech recognition and 40% have a virtual agent	▶ Speech recognition is not available	**(CTI8) Consider speech recognition based virtual agents:** Speech recognition virtual agents will enable additional and more sophisticated self-service applications	High	Next
	▶ **~75% of states launched a virtual agent** to assist during the pandemic	▶ Web chat is currently not available. While the functionality has been developed, it needs to be reassessed after the upgrade of external website	**(CTI9) Web Chat:** Implementing web chat by integrating staff's desktop application with GenTax will help DOR in reducing average handle time and in improving customer service	High	Next
		▶ Current external website platform doesn't support web chat. This functionality is developed and may require reassessment	**(CTI10) Consider AI virtual agent:** Consider implementing artificial intelligence (AI) based context driven virtual agent	High	Beyond

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Key Findings and Recommendations

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Call Recordings	▶ Call recording assist in quality assurance process and in reviewing the sequence of events	▶ Currently call recording isn't being used due to FTI compliance reasons, including archiving rules and public records requests ▶ Silent monitoring is in use, thus allowing that to be used for quality management and assurance	**(CR1) Enable call recording** leveraging tools by masking PII and FTI information	High	Now
Analytic Tools	▶ Reporting interface is intuitive and easy to use ▶ Provides advanced analytics and self - service options ▶ Can easily integrate with backend platforms.	▶ Multiple tools are being used across all call centers. There is opportunity to standardize and build consistency	**(AT1) Single Source Reporting** DOR should leverage a single tool across all call centers and business units. The tools should be used to build analytics and visualizations	High	Now
Data Analytics	▶ Contextualization and visualization of the overall customer experience ▶ Provide a comprehensive view of agency operations ▶ Identify bottlenecks in DOR business processes and provide remediation options. ▶ Realtime Analytics for guidance in meeting future staffing needs and managing department/staff performance ▶ Reduce emergency interventions	▶ DOR is currently leveraging Descriptive analytics. Diagnostic, Predictive, Prescriptive and Cognitive analytics is not used ▶ A comprehensive real-time visualization of agency performance with further drill downs at call centers, managers and agents is not available ▶ Call centers perform multiple manual steps to aggregate and generate reports. ▶ The use of performance management analytics is limited to a few business units only. Also, the information to staff is not readily available for self assessment	**(DA1) Build Descriptive and Diagnostic Analytics:** DOR should build a combination of Descriptive, Diagnostic to measure call center performance. Diagnostic analytics will help agency in identifying the root case of the results being shown by descriptive analytics	High	Now
			(DA2) Consider Predictive Analytics: DOR should consider predictive analytics by leveraging statistics and machine learning models to forecast call volumes and workforce management	High	Next
			(DA3) Build Prescriptive and Cognitive Analytics Build Prescriptive and Cognitive analytics to advise DOR on possible outcomes and what actions should ne taken to maximize output by leveraging a combination of AI and ML algorithms	High	Beyond

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4. Customer Experience Goals and Expectations

Customer experience goals and expectations
Customer expectations

Customer expectations are rising as individuals are empowered with a wealth of information at their fingertips and many options. These heightened expectations translate to all aspects of an individual's experience and interactions, including interactions with the DOR, as detailed below.

Personalization

58%

of consumers will agree to share personal data in order to receive proactive communication

Contextual

64%

of consumers expect responses and work in real time according to their actions and where they are

Available anytime, anywhere

57%

of consumers expect the same or a similar level of service at night and on weekends as during regular working hours

Transparency

73%

of consumers are willing to wait if an agency offers full operational transparency and accuracy

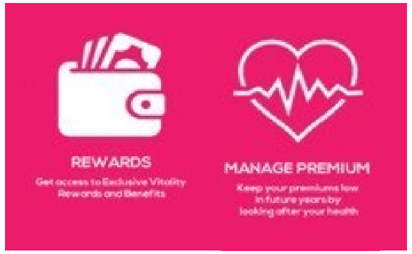
Instant gratification

73%

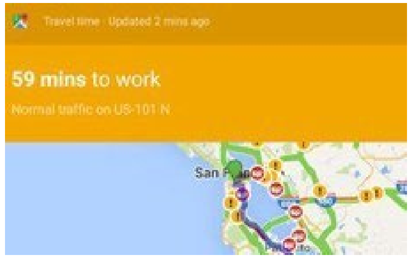
of consumers say that technology has made them more impatient than they were five years ago

Examples

Vitality Rewards Health Plan



Google Now Smart Cards



Capital One and Alexa Bill Pay

Lemonade's Business Practices

Amazon's Same-Day Delivery

Note: Metrics above are a combination of APQC OSM benchmarking data (EY Benchmark Tool), information in the public domain and client experience.

Customer experience goals and expectations
Customer experience goals and recommendations

As part of our review, we have aligned the DOR's strategic goals related to customer experience with the five modern customer experience expectations. Additionally, we have provided recommended goals for DOR's consideration, based on data analysis, interviews and the survey conducted.

	Personalization	Contextual	Available anytime, anywhere	Transparency	Instant gratification
DOR strategic goals*	Goal 6: Improve the quality of correspondence. Measure success based on customer surveys and customer service satisfaction ratings	Goal 9: Ensure new managers have the tools they need to succeed. Measure success based on surveys of employees' satisfaction with training and employee training data	Goal 3: Upgrade to modern call center and phone systems. Measure success based on incoming call data and customer service satisfaction ratings	Goal 4: Improve online services. Measure success based on incoming call data, customer surveys and GenTax analytics	Goal 5: Improve website features and functionality. Measure success with incoming call data, surveys and analytics
	Goal 11: Improve data literacy. Measure success based on surveys of employees' perception of their ability to read, work with, analyze and communicate with data	Goal 8: Enhance agent training Goal 10: Facilitate knowledge transfer and cross-training. Measure success based on surveys of employees' satisfaction with training and employee training data	Goal 7: Accept all payments for all programs in all customer access points. Measure success based on customer surveys and satisfaction ratings		
	Goal 12: Develop data governance. Measure success based on surveys of employees' perception of whether data is usable, accessible and protected.				
	Goal 13: Create and execute a data strategy. Complete and adopt a data strategy and implement a data strategy lifecycle.				
Recommendations	Personalization improves customer experience	Fast responses show that the agency cares about customer and wants to help.	A symbol of being truly modern and best in class agency	Transparency builds trust though openness and reduces customer anxiety	Leveraging the right technology provides fast and frictionless service and support
	Proactive communication with customers and third parties (including other agencies).	Contextualize the overall customer experience.	Create and execute an omnichannel communication strategy.	Optimize DOR business processes and develop workload management strategy.	Utilize advanced technologies to expedite customer response.

* *Note: DOR strategic goals detailed above were derived from the Oregon Department of Revenue Strategic Plan (2022-2027). Goals referenced above are related to customer experience and aligned to customer experience expectations.*

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4a. DOR Call Center Customer Experience Survey Outcomes

DOR Call Center Customer Experience Survey Outcomes
By the numbers

Key metrics

330+
Number of potential survey respondents

81%
Survey original open rate

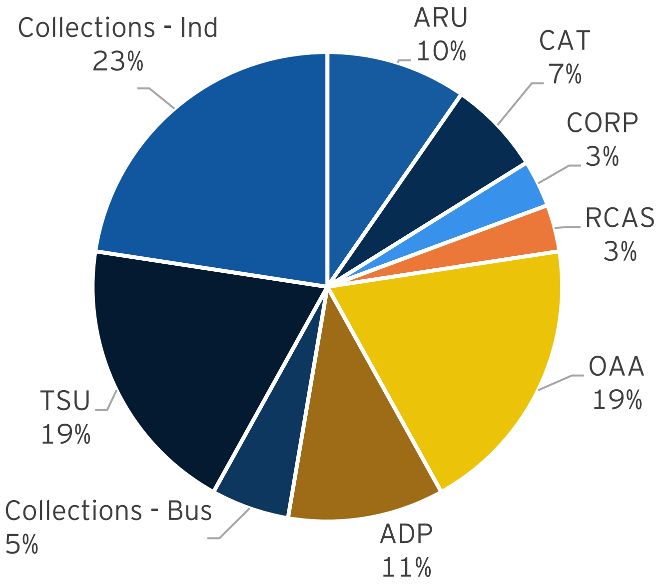
62%
Survey reminder open rate

143+
Number of survey responses received

100%
Percent of departments represented in responses

15+
Number of different job titles that responded

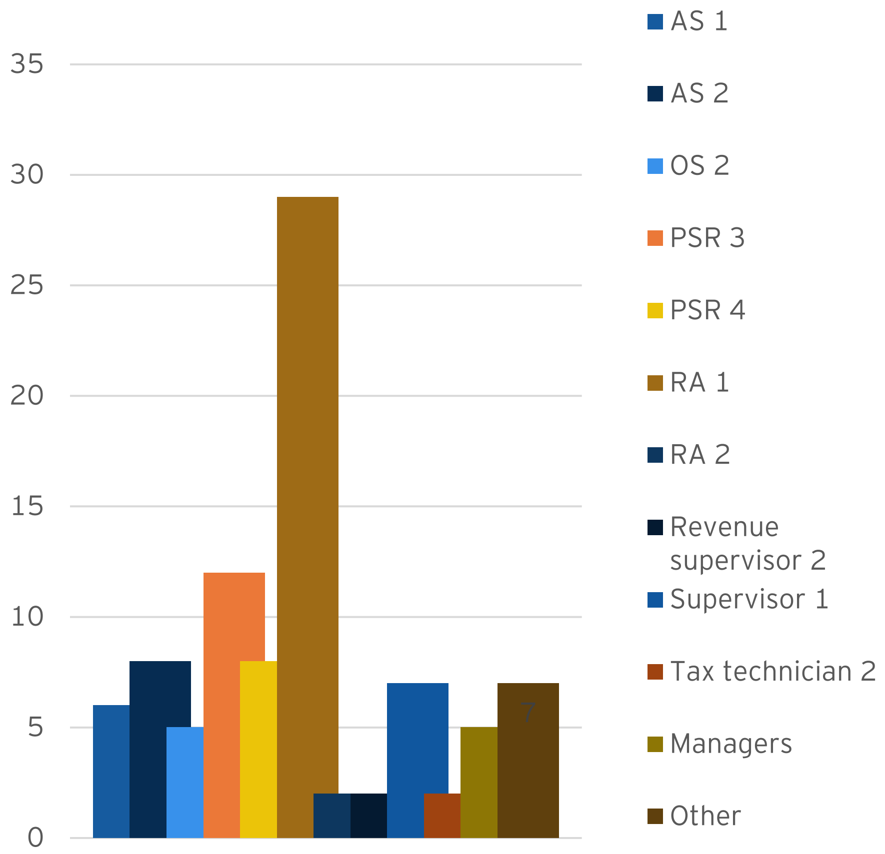
Survey responses by Call Center Team



Survey common themes

- Enhance self-service options
- Increased training
- Refine "first-call resolution" (FCR) strategies
- Reduce long wait times

Survey responses by job title



Note: Metrics detailed above are based on results from the EY Call Center Employee Survey distributed to DOR employees on July 26, 2022. Please see Appendix A for acronyms and abbreviations.

DOR Call Center Customer Experience Survey Outcomes
Top Survey Results

Question	Results
Based on your experience, what are callers' key expectations from DOR Call Centers (for example, reaching a live agent, automated access to account information, shorter hold times, FCR)?	▸ Reach a live agent ▸ First-call resolution (FCR) ▸ Shorter hold times
Based on your experience and understanding, is DOR meeting customer expectations? Please explain your answer.	▸ ~55% = yes ▸ ~28% = no ▸ ~19 = do not have enough information ▸ Please explain your answer = metrics sharing, backlog, wait times
Based on your experience with callers' pain points, what are the top three items that would improve the customer experience? Please list three below.	▸ FCR ▸ Self-service ▸ Training
Do you feel you have the tools, training and knowledge you need to provide an exceptional customer experience?	▸ Yes - 88% ▸ No - 12%
What would help you provide a better customer experience?	▸ Training ▸ Reduce tax return processing times and backlogs ▸ Self-service

Note: Metrics detailed above are a result of the EY Call Center Employee Survey distributed to DOR employees on July 26, 2022.

DOR Call Center Customer Experience Survey Outcomes
Survey Response Themes

Below are key themes derived from employee survey responses:

- **FCR –** Sharpening and emphasizing FCR methodology can help DOR meet customer expectations and reduce pain points
- **Self-service options –** Adding enhanced self-service options and refining existing self-service options will reduce call volumes and allow staff to address more complex inquiries while exceeding customer expectations regarding wait times
- **Reduce tax return processing times and backlogs, offer shorter hold times –** Calls are often a symptom of larger issues. Diagnosing the overarching issue alleviates the symptom. Refining processes can decrease the backlogs that drive the call volume
- **Training –** Provide agents with training on proper procedures for re-queuing, customer service soft skills, and consistent customer answers across all call center units
- **Metrics sharing –** Defining, developing and sharing metrics and KPIs across units, and with all call center staff, can help define clear staff expectations, diagnose trouble areas, and forecast call volumes
- **Configurations –** Maintaining infrastructure—such as the VPN, firewall and other operational tools—at peak condition will minimize glitches and blackouts

Employee perspectives

" Not having to take calls while processing returns would result in more returns processed and less customers having to call and check the status.

" Taxpayers either have long wait times or have to call several times just to get through. The automated phone system is not clear for most taxpayers needing to reach Collections, Business [including iWire and Payroll] or OAA.

" Less issues with the phone system and computers.

" Consistent answers to questions throughout the agency.

" Clearer call menu options, more detailed letters and connectivity [breaking up, dropped calls, tin can sound].

Note: Metrics detailed above are a result of the EY Call Center Employee Survey distributed to DOR employees on July 26, 2022.

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4b. Public and Private Sector Recommended Call Center Metrics

Public and private sector recommended call center metrics
Customer experience

Below are key leading practice call center metrics focused on customer experience. These metrics are effective measures in both public and private call centers. The goal is to improve the overall experiences customers have with DOR. Effective monitoring and management of these metrics will help the DOR move the needle in customer experience and operational effectiveness.

Metric	Industry Avg.	Measure description
Average Speed of Answer (ASA)	23-27 sec.	ASA is the average number of seconds it took to answer calls over a defined period. ASA measures call center responsiveness/availability of agents to attend incoming calls.
Abandoned Rate (AR)	< 4%	AR is the percentage of inbound calls that abandoned, i.e., hung up from the queue before speaking to an agent
First Contact Resolution (FCR)	> 78%	FCR is one of the most important measures of call center experience. It is the percentage of caller issues solved in the first call

Metric	Industry Avg.	Measure description
Service Level (SL)	85-87 sec.	SL is determined by the number of seconds within which 80% of calls are answered.
Customer Satisfaction (CSAT)	> 80%	CSAT is the number of positive responses divided by the total of all responses and represents the overall percentage of satisfied customers
Quality Score (QA Score)	> 90%	QA is an internal measure of the agent's successful handling of an interaction against predefined criteria of technical, process, customer experience and soft skills. This will vary between firms

Note: Metrics are derived from APQC benchmarking data (EY Benchmark Tool) and are averages across multiple Industries. Please see Appendix 3 for additional details on APQC benchmarking tool.
** A detailed analysis of the DOR's metrics will be included in the upcoming Data Analysis Report (Task 3).*

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Public and private sector recommended call center metrics
Operational efficiency

Below are key leading practice call center metrics focused on operational efficiency. These metrics are effective measures in both public and private sector call center departments. The goal is to improve the efficiency and effectiveness of the DOR operations without sacrificing quality and service. Effective monitoring and management of these metrics will help the DOR move the needle in both operational effectiveness and citizens' experience.

Metric	Industry Avg.	Measure description
Average handle time (AHT)	336-343 sec.	AHT is the duration of each interaction. AHT needs to be assessed along with other metrics, including customer satisfaction
Total call volume (TCV)	Varies	TCV is the count of all of the incoming calls. It should be used to assess trends over time and to build benchmarks for certain periods. TCV varies by industry and firm
IVR containment	> 80%	A "contained call" is one that is handled completely with in the IVR. IVR containment is the percentage of all calls answered in the IVR. It measures IVR effectiveness
Available time (AT)	85%	AT is defined as the time an agent is spent "plugged in" and ready to take calls. AT excludes time for breaks, training, etc.

Metric	Industry Avg.	Measure description
Agent occupancy (AO)	82-83%	AO measures how busy the call center is by looking at how much idle time CSRs have between calls. Occupancy that consistently runs above 90% could be an advanced indicator of CSR burnout
Agent utilization (AU)	81-82%	AU is a measurement of the time spent being productive (i.e., actual time spent on call). Utilization (%) as a percentage is the utilization time over the total amount of the time worked
Agent attrition	< 11%	Agent attrition is a measure of agents voluntarily leaving and might correlate to agent satisfaction, as well as hiring, training and recruitment practices

Note: Metrics are derived from APQC benchmarking data (EY Benchmark Tool) and are averages across multiple Industries. Please see Appendix 3 for additional details on APQC benchmarking tool.
** A detailed analysis of the DOR's metrics will be included in the upcoming Data Analysis Report (Task 3).*

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Public and private sector recommended call center metrics
Additional ones to consider in the future

Metrics to consider when using a WFM tool

Metric	Industry Avg.	Measure description
Forecast accuracy (%)	90%	This shows how close the actual contact volume matched the prediction. Agent schedules are based on forecasting so that service levels can be met with reasonable consistency
Schedule adherence (%)	89%	Schedule adherence is a measure of the percentage of time that an agent is working vs. their actual schedule.

Metrics to consider when implementing digital self-service and AI tools

Metric	Industry Avg.	Measure description
Digital self-service percentage	90%	Also referred to as containment, this is the ability of users to be able to complete given tasks through digital channels without the need for human interaction
Virtual assistant abandonment	< 5%	An abandoned virtual assistant session is when the user closes the session after seeking information, but before getting relevant answers

Note: Metrics are derived from APQC benchmarking data (EY Benchmark Tool) and are averages across multiple Industries. Please see Appendix 3 for additional details on APQC benchmarking tool.
** A detailed analysis of the DOR's metrics will be included in the upcoming Data Analysis Report (Task 3).*

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Next steps

Well-defined goals and expectations at all levels of the agency's call center, along with use of relevant benchmarks and key performance indicators (KPIs), are vital to developing a strategy that optimizes the overall customer experience.

For goals to be effective, use of the **SMART** framework is a leading practice whereby each goal is: specific, measurable, achievable, relevant and time bound. Additional details of the SMART framework can be found in Appendix B.

Below are the key areas about how the goals and expectations noted in this document can be applied and will be utilized as we progress through the project.

Assessing current criteria and capabilities

- Review existing criteria and metrics against industry benchmarks and leading practices
- Adjust metrics for agency-specific scenarios
- Compare performance against metrics and identify areas that keep needing focus

Aligning roadmap with resources and initiatives

- Prioritize key areas of focus identified in the assessment
- Develop improvement efforts needed to address the areas of focus
- Develop a roadmap for the improvement initiatives
- Assign owners and manage progress for the improvement activities

Use of goals for continuous improvement

- Develop a governance framework for periodic review of the metrics and criteria
- Establish an organizational Change Management strategy
- Review improvements roadmap and align initiatives with changes in agency's priorities
- Develop dashboard reports for management and executive oversight

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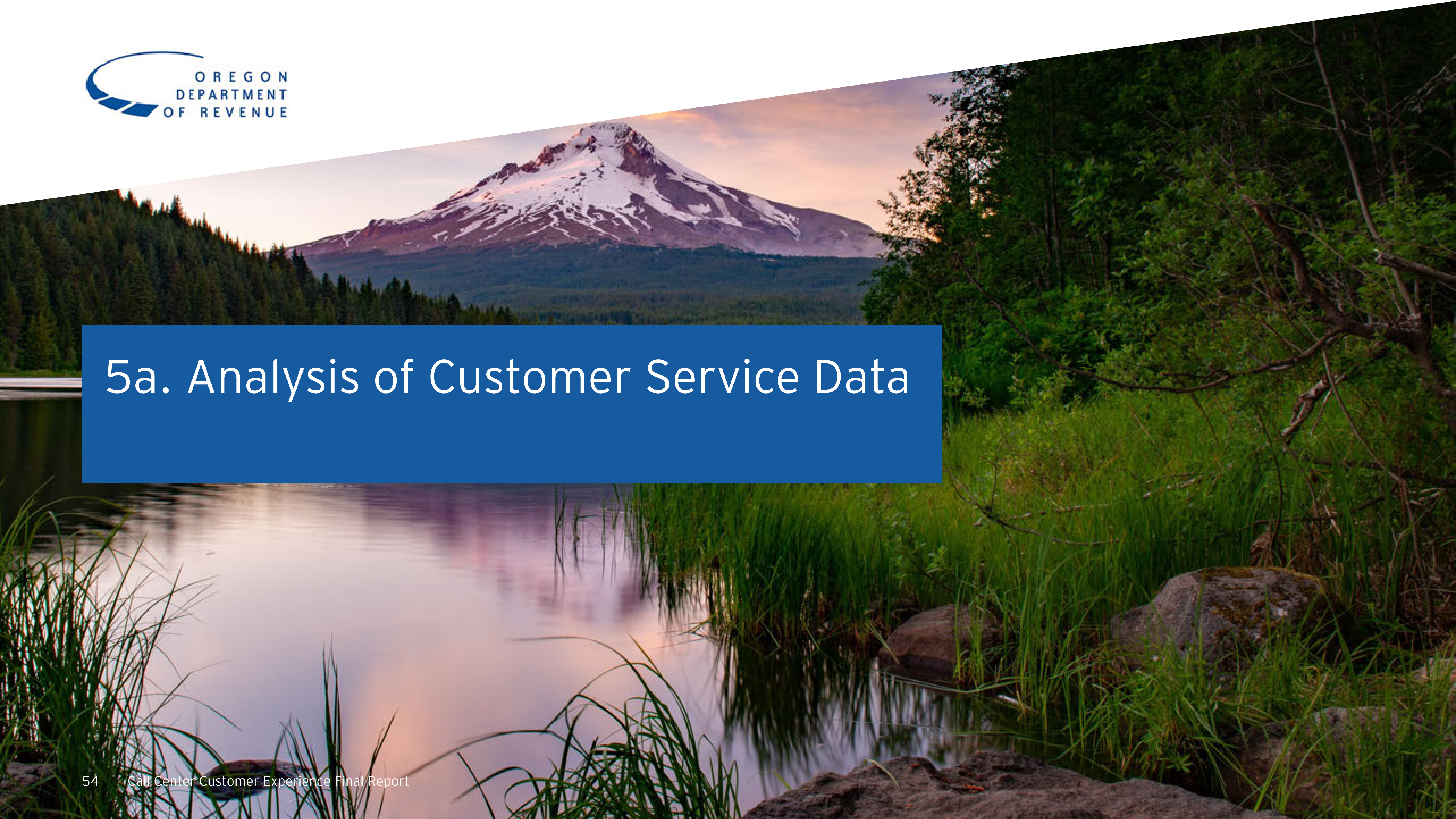
5. Data Analytics Metrics & Measurements



5a. Analysis of Customer Service Data

Analysis of Customer Service Data

Summary

EY conducted a comprehensive review of the customer service data provided by DOR to analyze the current call center customer experience. Our review included evaluating several key call center elements including but not limited to call volumes, contact reasons, abandoned call rate, seasonal trends, contact times, wait times, and staffing levels. The following DOR reports were utilized when performing these activities : Queue Report, Hot sheet Report and Wrap Up Reason Report. Additionally, below is a summary of each call center's (including abbreviations) associated divisions and the high-level activities performed by each call center. We have also included key call center and legislative events that occurred during recent years which may have impacted call center activity. The purpose of this information is to provide additional context for the data analysis and observations contained in this report.

Call Centers	Division	High-level activities performed by each call center	Key (call center or legislative) events impacting call center data
Appeals Discovery Processing (ADP)	PTAC	• Predominately appeals and correspondence review • Call acceptance is a secondary activity	• Corporate Activities Tax call center created in Oct. 2019 • Business Tax Collections Unit queues moved to Collections Division in late 2019 and early 2020 • Other Agency Accounts call center moved to Collections Division in in late 2019 and early 2020 • PTAC call center moved to Collections Division in in late 2019 and early 2020 • Individual income tax deadline moved to July 15, 2020, due to COVID-19 pandemic • Individual income tax deadline moved to May 17, 2021, due to COVID-19 pandemic • New IVR system implemented in Nov. 2021. IVR functionality built but not deployed included: screen pops. web chat, generic email address for each call center, and outbound dialing campaign. ACD was not updated
Accounts Resolutions Unit (ARU)	Business	• ~50% call acceptance • ~50% other (withholding returns and correspondence review)	
Business Collections	Collections	• Predominantly call acceptance	
Corporate Activities Tax (CAT)	Business	• Predominately returns and correspondence review • Call acceptance is a secondary function	
Corporate Income Tax / Estate	Business	• Predominantly other activities including returns and correspondence review • Call acceptance is a secondary activity	
Other Agency Accounts (OAA)	Collections	• Predominantly call acceptance	
Business Registration	Business	• Predominantly other activities including returns and correspondence review • Call acceptance is a secondary function	
Personal Tax and Compliance (PTAC)	Collections	• Predominantly call acceptance	
Tax Services Unit (TSU)	PTAC	• Predominantly call acceptance	

Analysis of Customer Service Data
Calculations and Assumptions

As part of our data analysis, in instances where call centric metric computations* were performed by EY utilizing DOR data, the table below details the metric, equations, and description including report and fields utilized.

Metric	Equation	Description

Total Calls Received	Total Call received by IVR (Hot sheet report) + Total Calls by Non-TSU staff (Queue Report) + Total Calls abandoned by Non-TSU staff (queue report)	• Columns referred for calculation from Queue report were
		    • Received Contacts All :- There are two columns with the same name. We used the second column.
		    • Redirected Contacts Abandoned
		• Call back queues were included in the above calculations

Total Calls by IVR only	Total Calls (based on above calculation) – Total calls by TSU Agent - Total Calls by Non-TSU Agent – Total Calls abandoned by TSU Agent – Total Calls abandoned by Non-TSU staff	No additional information required

Average Wait Time	Total Calls Answered by Agent X Average Wait Time of answered calls) / Total Calls answered by Agent	• Weighted average was computed by using column "Average Wait Time Answered" from queue report.
		    • Call back volumes were excluded from calculation
		    • Total call volume by agents are considered as the weights

Average Contact Time	Total Calls Answered by Agent X Contact Time Average excluding post processing time) / Total Calls answered by Agent	• Weighted average was computed by using column "Average Excluding Post-Processing" under contact time from queue report
		    • Call back volumes were excluded from calculation
		    • Total calls by each queue were considered as the respective weights in calculation
		    • Total call volume by agents are considered as the weights

User Involvement Time	Total Calls Answered by Agent X User Involvement Average excluding post processing time) / Total Calls answered by Agent	• Weighted average was computed by using column "Average Excluding Post-Processing" under user involvement from queue report
		    • Call back volumes were included in calculation
		    • Total calls by each queue were considered as the respective weights in calculation
		    • Total call volume by agents are considered as the weights

Average Post Processing Time	Total Calls Answered by Agent X User Involvement Average post processing time) / Total Calls answered by Agent	• Weighted average was computed by using column "Average Post-Processing" under user involvement from queue report
		    • Call back volumes were included in calculation
		    • Total calls by each queue were considered as the respective weights in calculation

**Please note computations within this report are subjected to the accuracy of the reports provide by DOR and data sets. Due to inconsistencies between how some queues are computing their data set, there may be variations in the results.*

Analysis of Customer Service Data
Mapping of Business Units with Queues

DOR currently captures call center data by call center queues which represent the call tree. Based on the call center to division mapping detailed in our 'Analysis of Call Center Data Summary', EY mapped the call queues to the associated business units as summarized below and leveraged as part of data analysis.

Appeals Discovery Processing

- ADP_Appeals
- ADP_CB Filing Enforcement
- ADP_CB Spanish
- ADP_Filing Enforcement
- ADP_Flexible
- ADP_Other Request
- ADP_Request for Info
- ADP_Spanish

Corporate Activity Tax

- CAT_AS1_PMT_REG_ROL
- CAT_AS2_TAX_GEN

CORP

- CORP

Business

- BUS_ARU Other
- BUS_CB ARU Other
- BUS_CB FTF Notice
- BUS_CB IWIRE
- BUS_CB NOCA
- BUS_CB Registration
- BUS_CB ROL
- BUS_CB SAST
- BUS_CB Spanish
- BUS_FTF Notice
- BUS_IWIRE
- BUS_NOCA
- BUS_Registration
- BUS_ROL
- BUS_SAST

Collections Division

- OAA_CB Spanish
- OAA_LRPP/PPSM
- OAA_MISC
- OAA_Payments
- OAA_Spanish
- PTAC Garnishments
- PTAC Hot_Topic_1
- PTAC Hot_Topic_2
- PTAC Other
- PTAC Payments
- PTAC_CB SP_Other
- PTAC SP_Garnishments
- PTAC SP_Hot_Topic_1
- PTAC SP_Other
- PTAC SP_Payments
- PTAC_CB Garnishments
- PTAC_CB Hot_Topic_1
- PTAC_CB Hot_Topic_2
- PTAC_CB Other
- PTAC_CB Payments
- PTAC_CB SP_Garnishments
- PTAC_CB SP_Payments
- BUS_BTCU All Other
- BUS_BTCU Spanish
- BUS_CB BTCU All Other
- BUS_CB Corp Partner Tax
- BUS_CB LE
- BUS_CB Payroll Transit Tax
- BUS_Corp Partner Tax
- BUS_LE
- BUS_Payroll Transit Tax
- BUS_SPA INH

Tax Services Unit

- TSU_CB Flexible
- TSU_CB Other
- TSU_CB Personal Income Tax
- TSU_CB ROL
- TSU_CB Spanish
- TSU_CB WFHDC
- TSU_Combined Payroll
- TSU_Corporations
- TSU_Deferral
- TSU_Flexible
- TSU_Other
- TSU_Personal Income Tax
- TSU_Prac
- TSU_ROL
- TSU_Spanish
- TSU_Timber Tax
- TSU_WFHDC

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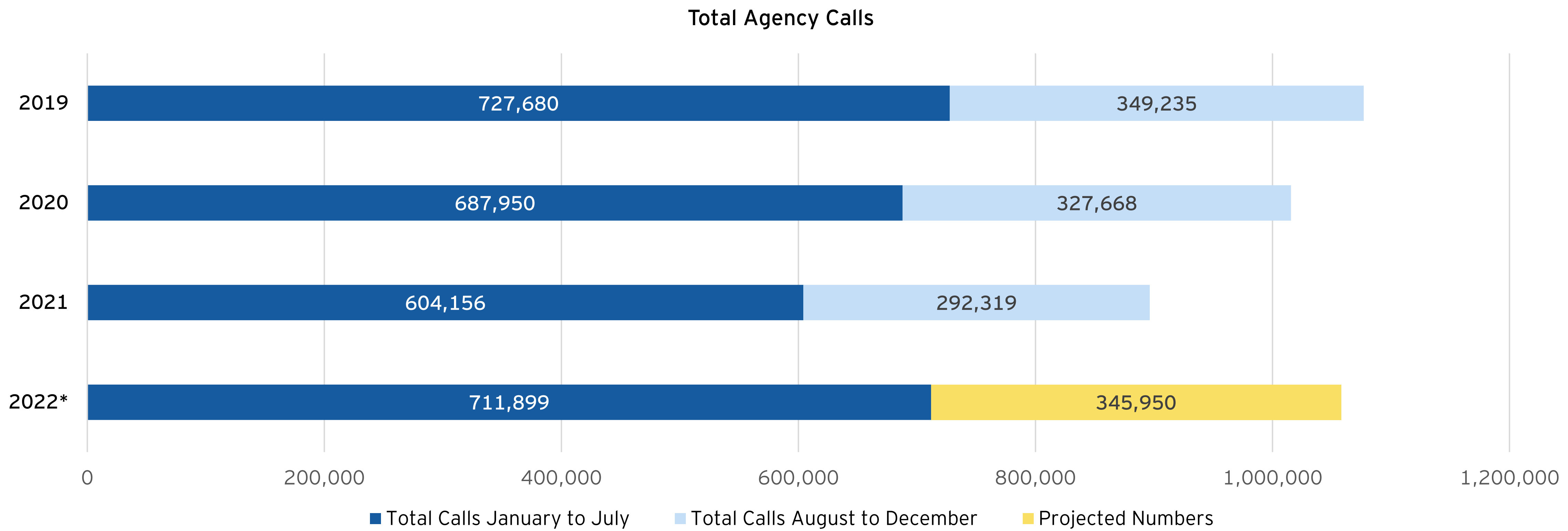
Analysis of Customer Service Data
Key Observations From Activities Performed

Items below represent overall high-level themes observed from the data analysis of the call centers:

At mid-point of calendar year, Call Center volume is on track to exceed previous year	Post-IVR configuration, TSU abandonment rate has increased 16% over same period from 2021 to 2022	Call volume spikes are trending similarly each year
Agent authority to initiate payment plans is limited, decreasing overall first call resolution opportunities and customer satisfaction	Metric tracking is inconsistent at both the agency and division level resulting in limited visibility of operations to leadership	Highest volume of calls is taking place during current business hours
Limited operational information sharing between taxpayer processing division and TSU call center on refund issues	The data for call centers and business organizations is not aligned within the system requiring manual manipulation of data for metrics and insights	Call Centers with lower call volumes are staffed with more staff than Call Centers with higher volumes
Competing duties between back-office work and call center operations. Lack of dedicated staff to manage call centers	IVR capability is not deployed in all call centers decreasing an opportunity to deflect further calls from staff	TSU and Collections Division reasons for calls are limited. 50% are classified as "Others" leading to limited insight

Analysis of Customer Service Data
Agency Call Volumes



Total Call Volume (TCV) Observations

1. While there is a decrease in yearly call volume from 2019 to 2021, there has been an 18% increase in call volume from January - July 2021 to January - July 2022. If trends continue, the 2022 total call volumes are likely to match the 2019 total call volumes. The graph above highlights the historical 2019 – 2021 volumes and the 2022 projected call volumes
2. Currently, reports only exist at the business unit level only and aggregations are not made at the agency level, limiting insights into how the agency is performing
3. No additional technology implemented to support high call volumes navigation and response

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Analysis of Customer Service Data from Jan. 2022 – July 2022
Contact Reasons: Wrap Up Reasons (WUR)

Wrap up reasons with limited information			
Responses	Percentage	Code	Description
71,044	38%	100	TSU Personal Income
6,669	4%	116	TSU ROL
4,597	2%	250	TSU Combined Payroll
4,363	2%	190	TSU Other/Miscellaneous Answered

Wrap up reasons with more extensive information			
Responses	Percentage	Code	Description
27,395	15%	101	TSU Refer to Agent
15,510	8%	130	TSU Where's My Refund
4,987	3%	132	TSU Request for Information
4,700	3%	115	TSU One-Time Assistance Payments

WUR Observations

1. Certain call centers use wrap up reasons to indicate the subject of a recently completed call. The wrap up reasons are generic and limit the agency's capabilities to perform subsequent analytics for identifying the correct reason of call
2. An agent can select multiple wrap up reasons. The current limitations in the data design related with not storing multiple call reasons against a single record impacts subsequent analysis and the ability to ensure that calls are not double counted
3. Wrap up reason 'TSU Refer to Agent' represents the number of instances (27,395) calls are being rerouted to other staff. Often, these calls relate to setting up payment plans or making payments on payment plans. Calls must be transferred to collection staff who have authority to set up payment plans or take payments for payment plans. Such transfers decrease First Call Resolution and negatively impact the customer experience. Also, customers can set up payment plans for 36 months on Revenue Online, but OAA staff can only set up plans for 12 months, unless larger accounts
4. Wrap up reasons during call closures is not a consistent practice across all business units, hence this analysis cannot be performed at the agency level. This data is not currently stored in an appropriate data structure for analytics to be performed against the available data

Analysis of Customer Service Data from July 2021 – Dec. 2021
Contact Reasons: Wrap Up Reasons (WUR)

Wrap up reasons with limited information

Responses	Percentage	Code	Description
41,046	31%	100	TSU Personal Income
5,459	4%	250	TSU Combined Payroll
5,034	4%	107	TSU output explanation
4,719	4%	N/A	BUS/REGA-Pay Reg
4,391	3%	116	TSU ROL

Wrap up reasons with more extensive information

Responses	Percentage	Code	Description
27,667	21%	101	TSU Refer to Agent
4,740	4%	130	TSU Where's My Refund
2,872	2%	132	TSU Request for Information

WUR Observations

5. The wrap up reasons are generic and limit the agency's capabilities to perform subsequent analytics for identifying the correct reason of call
6. An agent can select multiple wrap up reasons. The current limitations in the data design impact subsequent analysis and in ensuring that calls are not double counted
7. 34% of the calls associated with "TSU Others" had a wrap up reason as "100 – Personal Income Tax". It appears that the callers are not able to associate their reason for the call with the available options and hence are selecting others
8. 22% of the calls associated with "TSU Others" had a wrap up reason as "101 – TSU Refer to Agent". It appears that the caller does not have a clear understanding of where they need to call. Also, the staff have limited knowledge and tools to resolve these calls
9. 'BUS/REGA-Pay Reg' is a notable response reason in 2021 that decreased ~3% overall in 2022

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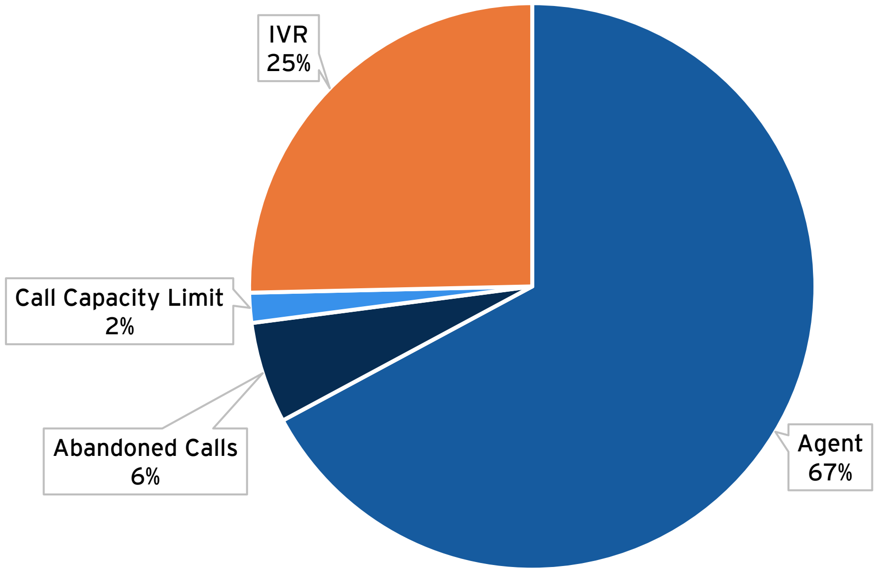
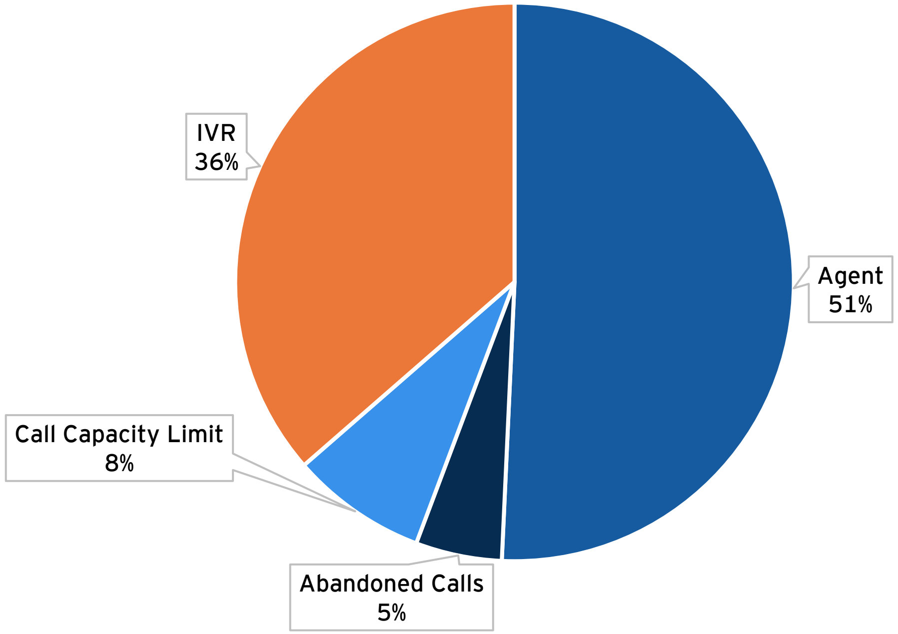
Analysis of Customer Service Data - Year Over Year Comparison
Call Answered Comparison

Calls Answered Comparison 2021 (January – July)



Calls Answered Comparison 2022 (January – July)



Calls Answered Comparison (CAC) Observations

1. Post-technology updates in 2021, the IVR response rate increased by 11% from 2021 to 2022 leading to a reduction in calls being routed to staff. This should have freed up staff to answer more calls
2. DOR has defined call capacity limits. These limits were re-configured in 2021 after IVR upgrades. A comparison between 2021 and 2022 (January – July) data shows an increase in calls not being accepted due to Call Capacity Limit. Callers were told that DOR was unable to accept their call at that time. From January through July of 2022, 60,816 calls were not accepted by the call center due to call capacity limits, adversely impacting the customer experience

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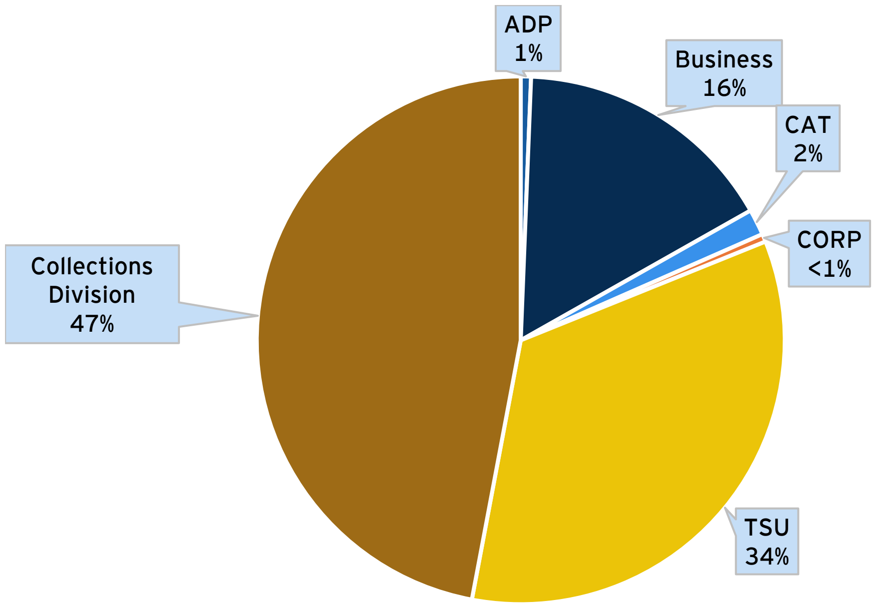
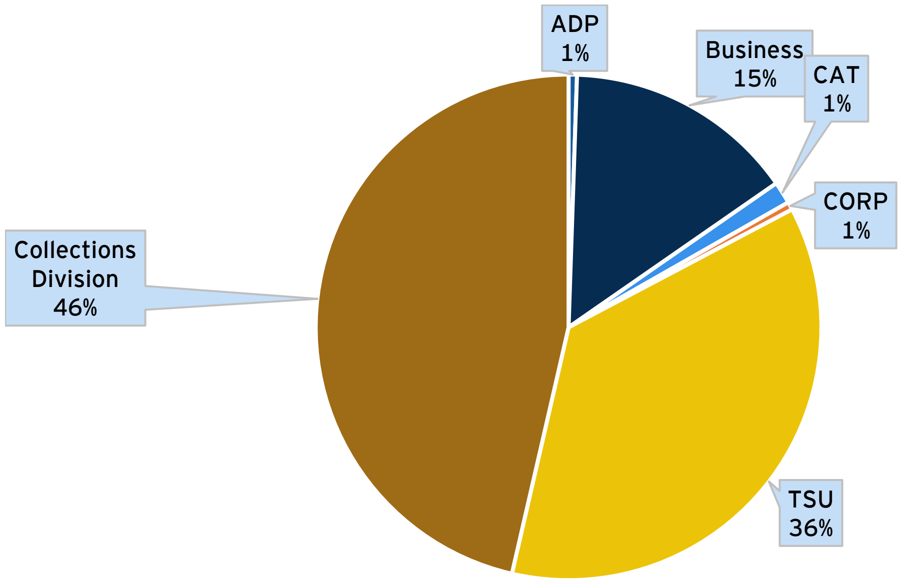
Analysis of Customer Service Data - Year Over Year Comparison
Call by Agents (CA)

Calls by Agents: 2021 January-July



Calls by Agents: 2022 January-July



CA Observations

1. While there is an 18% increase in call volume from 2021 to 2022, the percentage of calls responded to by business unit agents is consistent
2. Collections Division and TSU agents responded to the highest call volumes, comprising more than 81% of the total calls
3. Collections Division was formed in 2019; it includes queues from PTAC, OAA and some payment/collections from the business unit. While consolidation has been performed at the business unit level, the call centers are still being run separately
4. IVR functionality is limited to the TSU unit which leads to limited customer support during non-call center hours

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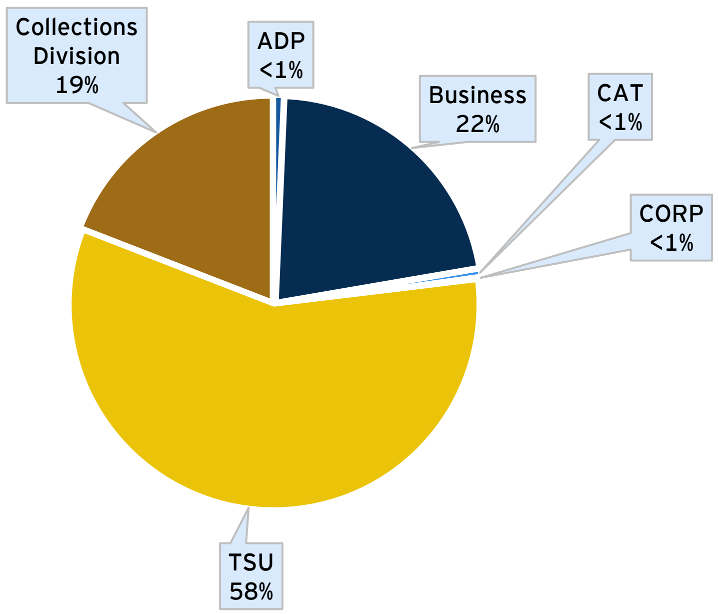
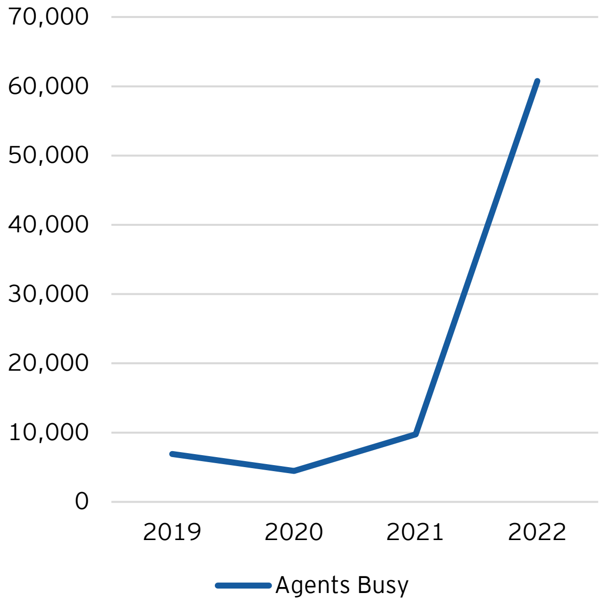
Analysis of Customer Service Data - Year Over Year Comparison
Abandoned Call Rate (AR)

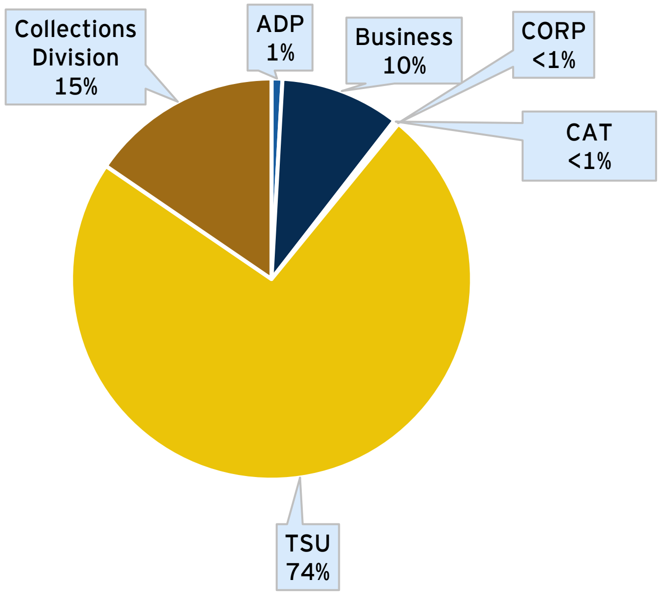
Calls Abandoned - 2021 January-July



Call Capacity Limit



Calls Abandoned – 2022 January-July



AR Observations

1. Call abandon rate for TSU remains the highest and went up by sixteen percent in 2022, indicating customer dissatisfaction with wait times
2. Post-configuration changes in 2021, apart from abandon rate, there has been an increase of more than 60,000 calls not accepted by TSU call center due to call capacity limits
3. Collections division saw a decrease by four percent along with a decrease in call volumes, indicating a better matching of staff to incoming work

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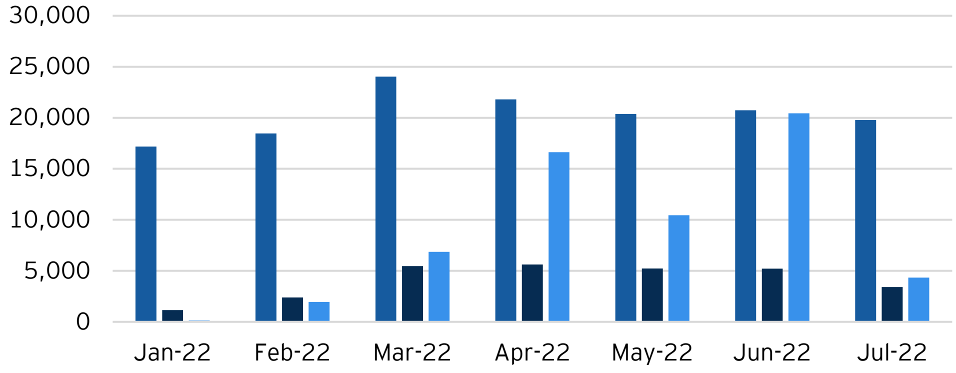
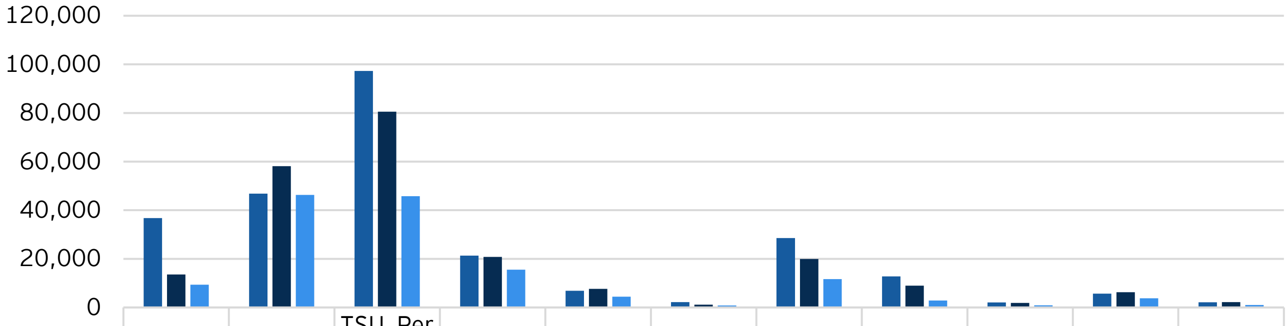
Analysis of Customer Service Data
Call Volumes: Calls Responded By TSU

Call Volumes Jan 2022 – July 2022



	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22
Agent	17,185	18,461	24,036	21,799	20,380	20,732	19,783
Abandon	1,152	2,400	5,472	5,630	5,235	5,212	3,413
Agent Busy	137	1,949	6,864	16,637	10,452	20,438	4,339

Call Volume by Agent Queues



	TSU_Flexible	TSU_Other	TSU_Personal Income Tax	TSU_ROL	TSU_Spanish	TSU_WFHDC	TSU_Combined Payroll	TSU_Corporations	TSU_Deferral	TSU_Prac	TSU_Timber Tax
2020	36,747	46,825	97,262	21,316	6,877	2,232	28,529	12,760	2,054	5,674	2,120
2021	13,548	58,157	80,523	20,811	7,645	1,151	19,953	8,948	1,897	6,266	2,184
2022	9,350	46,274	45,749	15,516	4,449	822	11,664	2,857	863	3,800	1,032

TSU Call Volume Observations

1. A high volume of calls is being abandoned during the peak call volume periods of March to June, indicating dissatisfaction with call wait time. 65% of the abandoned calls are classified under personal tax and other
2. Due to lack of agent availability, DOR is not accepting a number of calls from March to June. Lack of dedicated agents leads to higher abandon rate
3. 33% of the incoming calls are classified as "Other," indicating that a caller's reasons for contacting the department is not listed in the prompts
4. While IVR functionality was upgraded in 2021 has resulted in more calls being answered, staffing for TSU needs to be evaluated from the perspective of the high abandon rates, long wait times and unavailability of call center staff to accept calls. Please refer to the 'Wait Time Comparisons" page for additional details
5. The "Hot sheet report" from TSU unit computes averages based on simple average calculations. There is opportunity to chance computation to weighted approach for more accurate calculations
6. High volume of personal income tax calls are also driven due to citizens missing making tax payments on personal income. There is opportunity for enhanced, proactive communication

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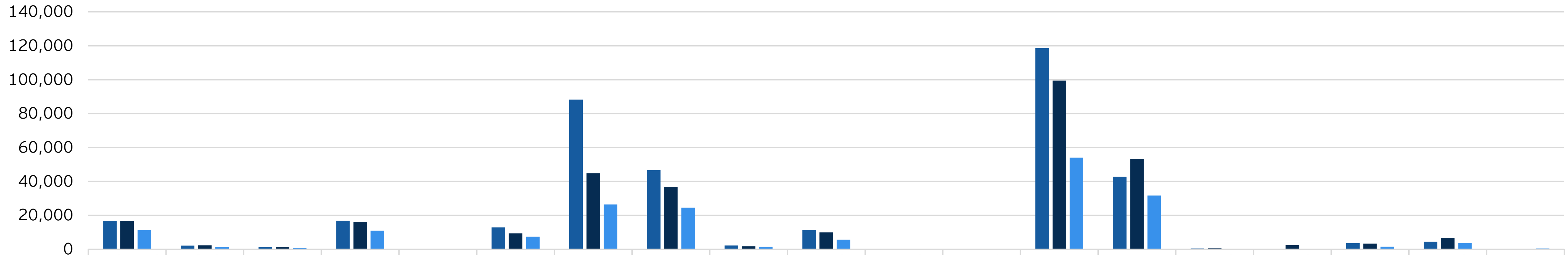
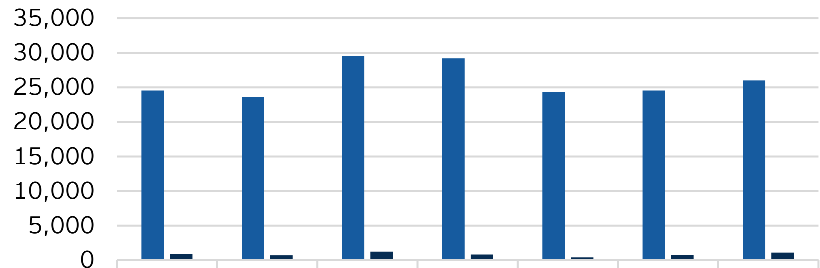
Analysis of Customer Service Data
Call Volumes: Calls Responded By Collections Division

Call Volume by Agent Queue



	BUS_BTCU All Other	BUS_Corp Partner Tax	BUS_LE	BUS_Payroll Transit Tax	BUS_SPAINH	OAA_LRPP/PPSM	OAA_MISC	OAA_Payments	OAA_Spanish	PTAC Garnishments	PTAC Hot_Topic_1	PTAC Hot_Topic_2	PTAC Other	PTAC Payments	PTAC SP_Garnishments	PTAC SP_Hot_Topic_1	PTAC SP_Other	PTAC SP_Payments	BUS_BTCU Spanish
2020	16,685	2,192	1,314	16,857	125	12,885	88,262	46,671	2,291	11,460	8	0	118,637	42,729	497	289	3,686	4,419	0
2021	16,622	2,327	1,221	16,085	125	9,373	44,828	36,750	1,802	9,958	20	2	99,442	53,186	592	2,472	3,345	6,766	286
2022	11,351	1,414	767	11,012	19	7,419	26,451	24,540	1,429	5,628	20	32	54,055	31,696	242	1	1,545	3,755	473

Jan - July 2022



	Jan 2022	Feb 2022	March 2022	April 2022	May 2022	June 2022	July 2022
Agent	24,553	23,622	29,551	29,213	24,344	24,548	26,018
Abandon	919	713	1254	829	407	772	1097

Tax Collections Unit (TCU) Call Volume Observations

1. 51% of the incoming calls in 2022 are classified as "Other" with the highest being under "PTAC others" following by "OAA Misc". This indicates that a caller's reasons for contacting the department is not listed in the prompts. This percentage has increased by 10% from prior years
2. 33% of the calls are for Payments, when these calls could be addressed with a web application.
3. IVR functionality is limited. There is opportunity to deflect calls by expanding IVR
4. Tax Collection call volumes may be driven by missed payments on personal income. There is opportunity for enhanced proactive communication

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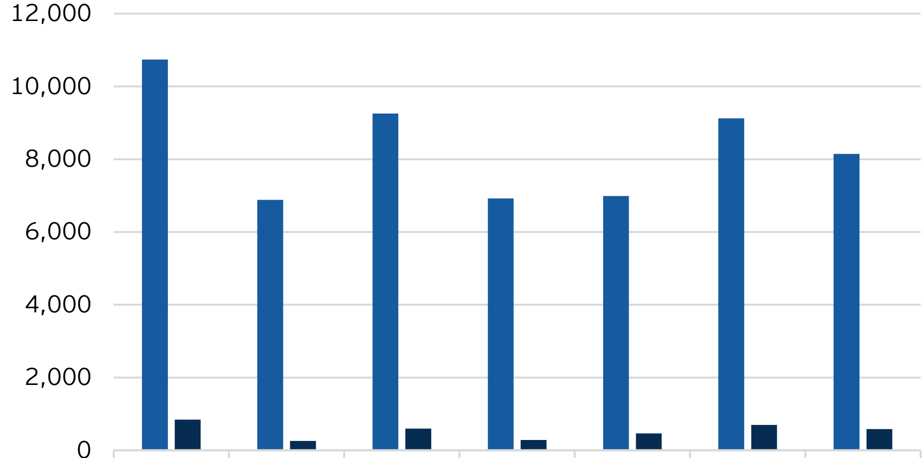
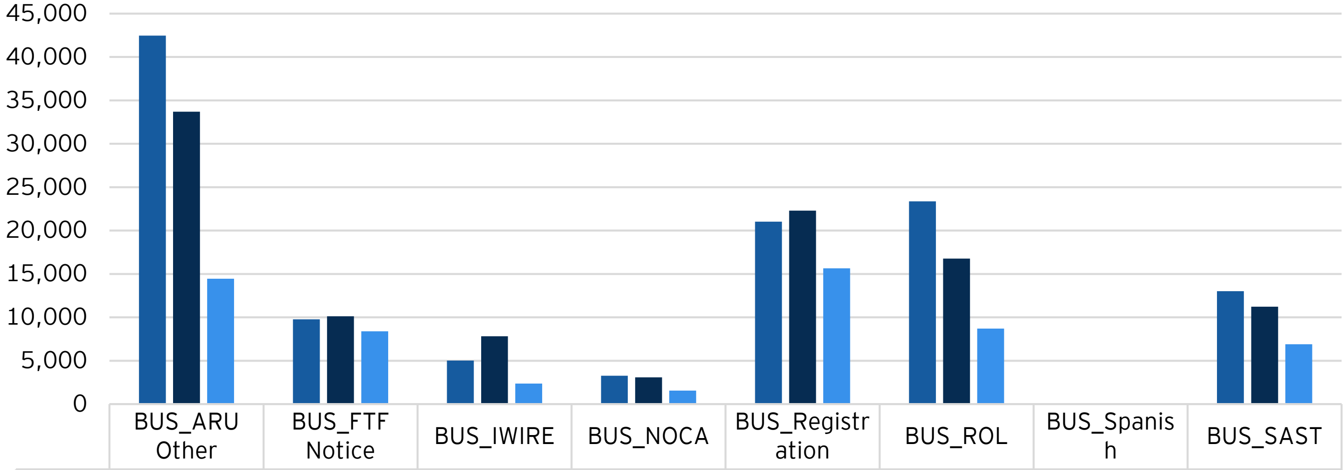
Analysis of Customer Service Data
Call Volumes: Calls Responded By Business

Call Volume Jan - July 2022



	January 22	February 22	March 2022	April 2022	May 2022	June 2022	July 2022
Agent	10,740	6,881	9,254	6,920	6,987	9,123	8,144
Abandon	845	257	596	282	466	698	583

Call Volume by Agent Queue



	BUS_ARU Other	BUS_FTF Notice	BUS_IWIRE	BUS_NOCA	BUS_Registr ation	BUS_ROL	BUS_Spanis h	BUS_SAST
2020	42,461	9,767	5,025	3,278	21,017	23,372	0	13,013
2021	33,694	10,116	7,826	3,085	22,306	16,779	0	11,232
2022	14,445	8,390	2,364	1,561	15,642	8,698	41	6,908

Business Call Volume (BCV) Observations

1. 31% of all calls in 2022 are classified under "Other" (BTCU All Other, ARU Other), indicating that a caller's reasons for contacting the department is not listed in the prompts. Likewise, 34% of abandoned calls in 2022 were classified as "Other" and 20% under "Payroll Transit Tax"
2. Based on interviews, the processing of tax return backlogs is one of the key drivers for high call volumes, opening up opportunities for automation of backend process(s). Additionally, the lack of information given via the "where's my refund" self-service tool drives callers to seek out more information regarding refund status and estimated refund time

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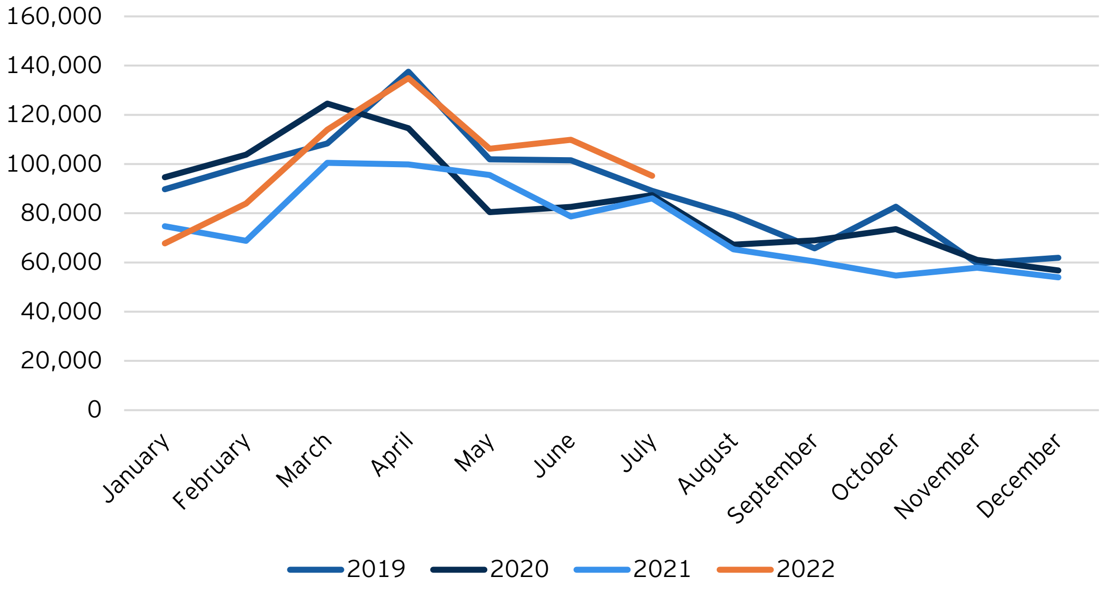
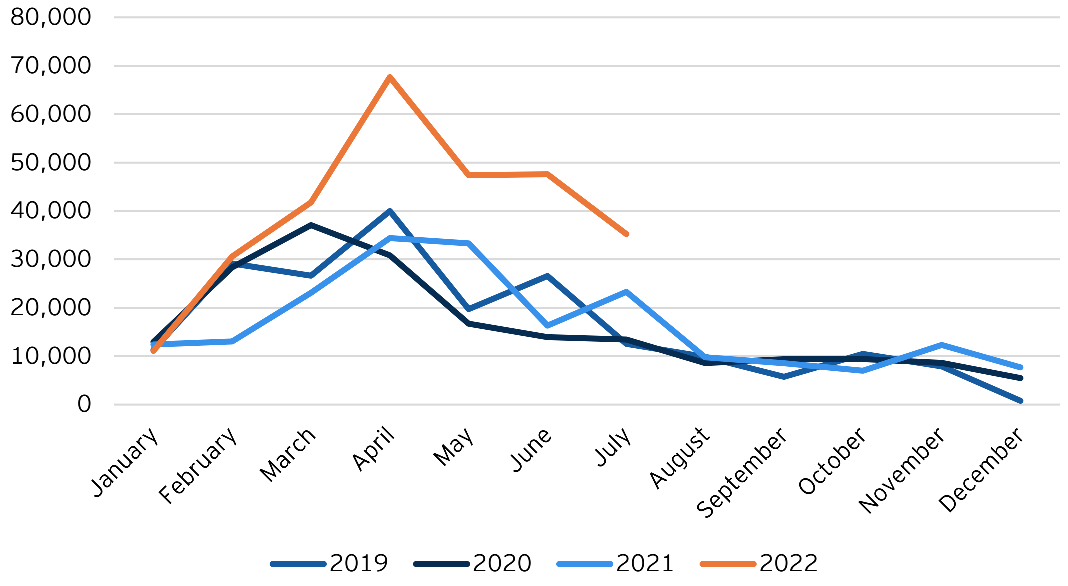
Analysis of Customer Service Data
Seasonal Trends (ST)

Total Agency Call Volume Monthly Comparison



Total Responded by IVR Monthly Comparison



ST - Agency Observations

1. Consistent trending of high call volumes during Mach to June tracks with peak filing season and allows for predictable forecasting
2. Call volume trends are consistent with 2019 patterns (non-pandemic filing year)
3. Some of the key factors for high volumes are:
   - Backlogs from tax filing season
   - Lack of proactive communication around new legislation and filing deadlines
   - Web applications not being intuitive and user friendly
4. Data visualization and tools to evaluate seasonality and trends are not available, which inhibits proactive staffing, training, and planning

ST IVR- Agency Observations

1. Upgrades made to the IVR in 2021 appear to have resulted in positive impacts in 2022. The IVR response rate rose by 11%.
2. IVR self-service functionality is limited to TSU and inhibits other areas from benefitting from IVR benefits

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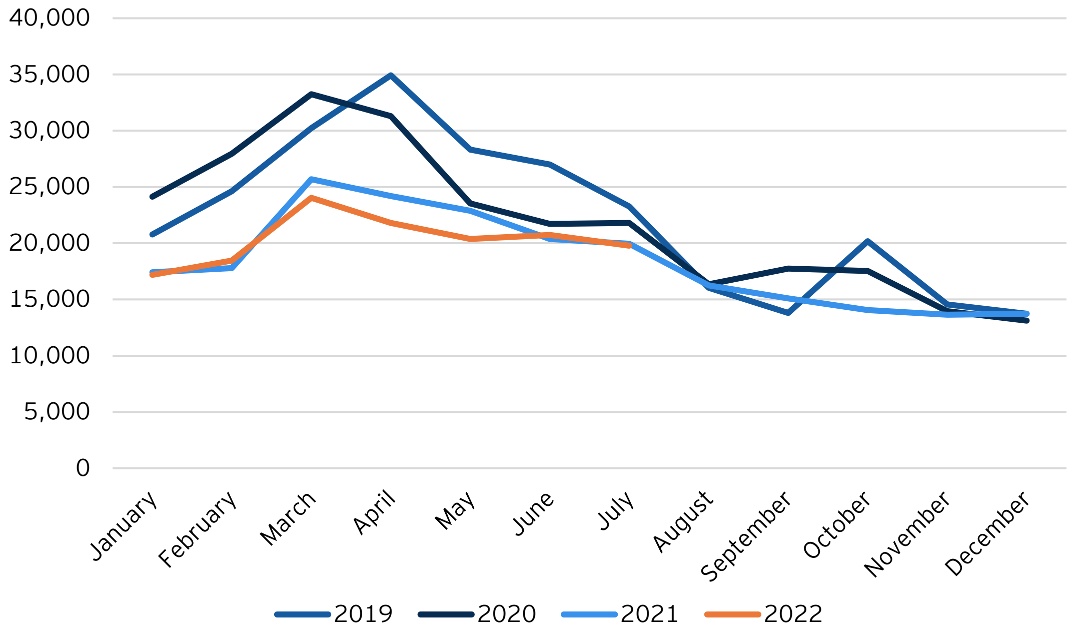
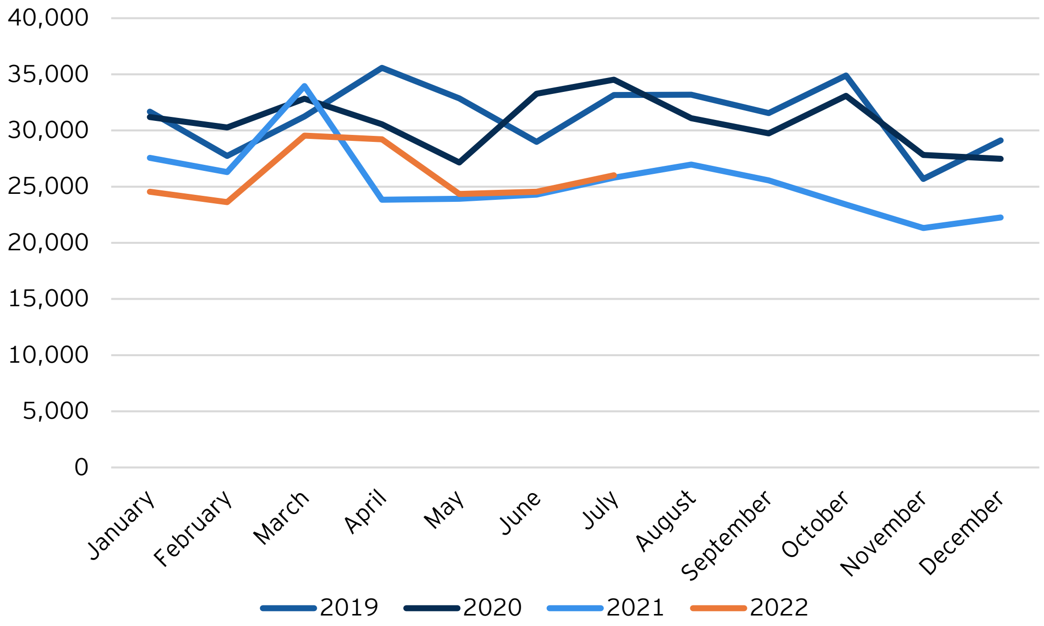
Analysis of Customer Service Data
Seasonal Trends (ST)

Call by TSU Agent Monthly Comparison



Calls by Collections Division Agent Monthly Comparison



ST - TSU Observations

1. Consistent trending of high call volumes during February to June. Personal Income tax accounts for approximately 40% of the call volume during this period
2. Technical upgrades to the IVR in 2021 has helped in reducing the load; however, staffing concerns have led to long wait times, high abandon rates, and the call center being unable calls
3. Data visualization and analytical tools to evaluate seasonality and trends are not available, which inhibits data driven operations management

ST - CD Observations

1. 2019 and 2020 saw higher call volumes due to legislative changes and the COVID-19 pandemic. There is an opportunity for building proactive strategies to communicate legislative changes
2. 2021 and 2022 are following a similar trend showcasing higher call volumes during the March – May period
3. Data visualization and analytical tools to evaluate seasonality and trends are not available, limiting agency's planning and forecasting capabilities, which inhibits data driven operations management

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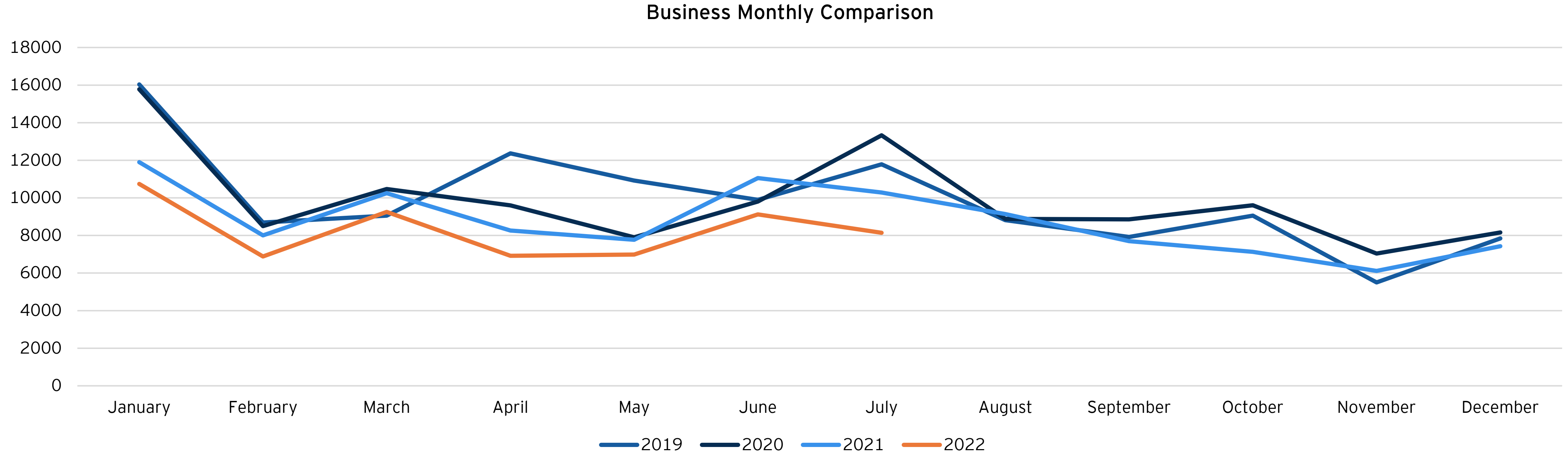
Analysis of Customer Service Data
Seasonal Trends (ST)



ST - Business Observations

1. Consistent trending of high call volumes during the start of each quarter (January, April, July, October), but more pronounced in January and July.
   a. Spikes indicate a need for capacity planning but there is no Workforce Management system in use
2. While 2021 and 2022 follow a similar trend, 2022 shows a decrease in total incoming calls, compared to prior years
3. The IVR functionality is currently unavailable for Business even though the unit is managing two call centers, leading to inefficiencies. There is opportunity for consolidation both at the agency and business unit levels
4. Data visualization and analytical tools to evaluate seasonality and trends are not available inhibiting data driven operations management

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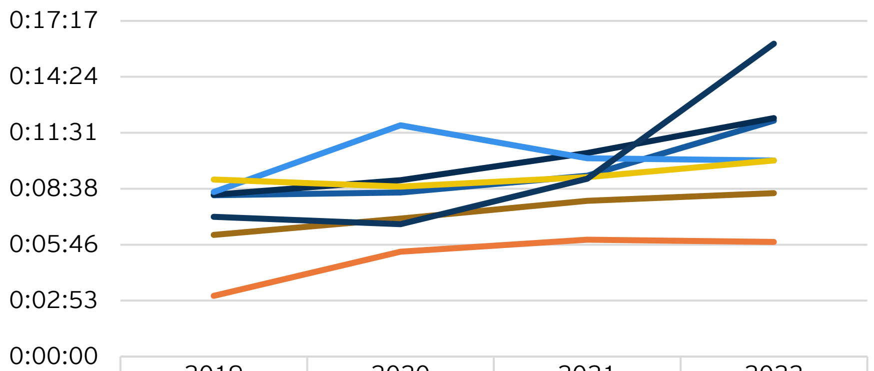
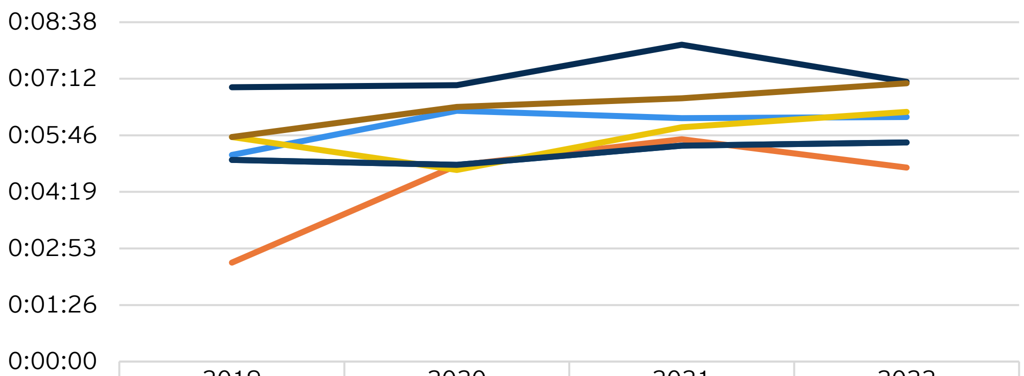
Analysis of Customer Service Data
Contact Time & User Involvement Time (CT-UIT)

Average Contact Time Comparison



	2019	2020	2021	2022
Agency	0:08:18	0:08:27	0:09:18	0:12:09
ADP	0:08:20	0:09:05	0:10:29	0:12:17
Business	0:08:28	0:11:54	0:10:12	0:10:05
CAT	0:03:08	0:05:24	0:06:01	0:05:54
Collections Division	0:09:07	0:08:45	0:09:14	0:10:05
CORP	0:06:16	0:07:06	0:08:01	0:08:25
TSU	0:07:12	0:06:49	0:09:09	0:16:06

User Involvement Time



	2019	2020	2021	2022
Agency	0:05:08	0:05:01	0:05:30	0:05:35
ADP	0:06:59	0:07:02	0:08:04	0:07:07
Business	0:05:16	0:06:23	0:06:12	0:06:13
CAT	0:02:31	0:05:00	0:05:40	0:04:56
Collections Division	0:05:43	0:04:53	0:05:58	0:06:21
CORP	0:05:43	0:06:29	0:06:42	0:07:05
TSU	0:05:08	0:05:01	0:05:30	0:05:35

CT-UIT Observations

1. Contact time includes IVR call time, user involvement time, and wait time. Call back queues are not considered in the calculation
2. Contact time has increased by approx. three minutes at the agency level and by seven minutes for TSU
3. Average Contact time has increased due to an increase in wait times. Please refer to the 'Wait Time Comparisons" page for additional details
4. ADP and CORP have the highest user involvement time
5. User involvement time calculation includes call back queues
6. Metrics at the agency level are currently not computed. Also, computation criteria across each business units is different, leading to inconsistencies in customer experience measurement.

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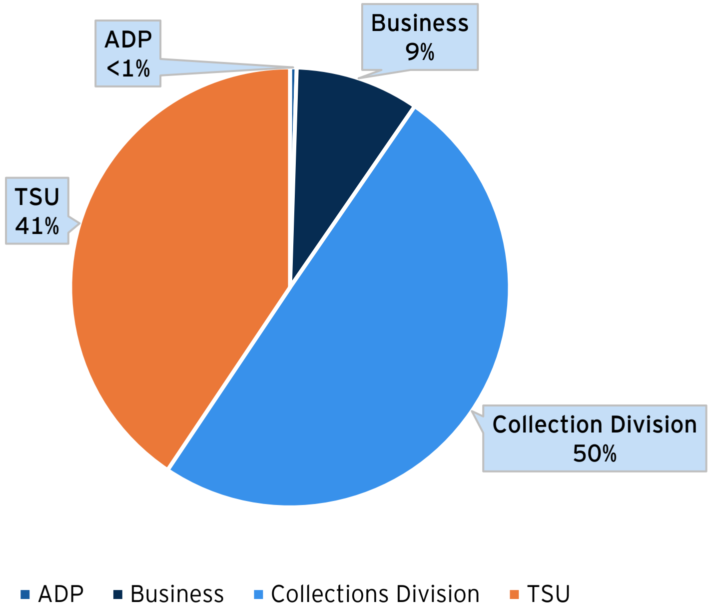
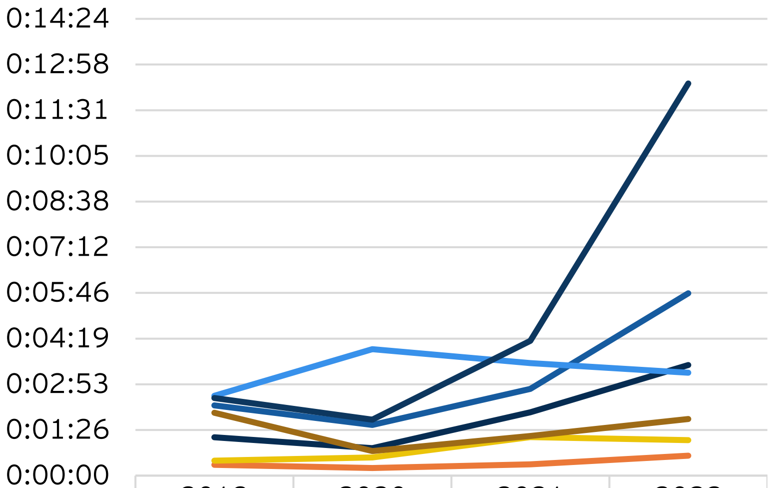
Analysis of Customer Service Data
Wait Time Comparison

2022 Call Back by Business Units



Average Wait Time



	2019	2020	2021	2022
Agency	0:02:13	0:01:36	0:02:44	0:05:45
ADP	0:01:13	0:00:52	0:02:00	0:03:29
Business	0:02:31	0:03:59	0:03:33	0:03:15
CAT	0:00:21	0:00:15	0:00:21	0:00:38
CORP	0:00:28	0:00:35	0:01:13	0:01:07
Collections Division	0:01:59	0:00:47	0:01:15	0:01:47
TSU	0:02:27	0:01:46	0:04:15	0:12:22

Call Back Volume and Wait Time Observations

1. Excessive wait time leads to customers requesting call backs. A build up of call back volume leads to an increase in wait times for subsequent callers and the potential for delayed call backs
2. TSU's average wait time is twice the agency's wait time and has increased 5x since 2019. The wait time computation does not include call back queues
3. TSU and Collections Division have the highest number of call backs indicating higher wait times
4. Metrics at the agency level are currently not computed. Also, computation criteria across all business units are different, creating inconsistencies between customer satisfaction measures

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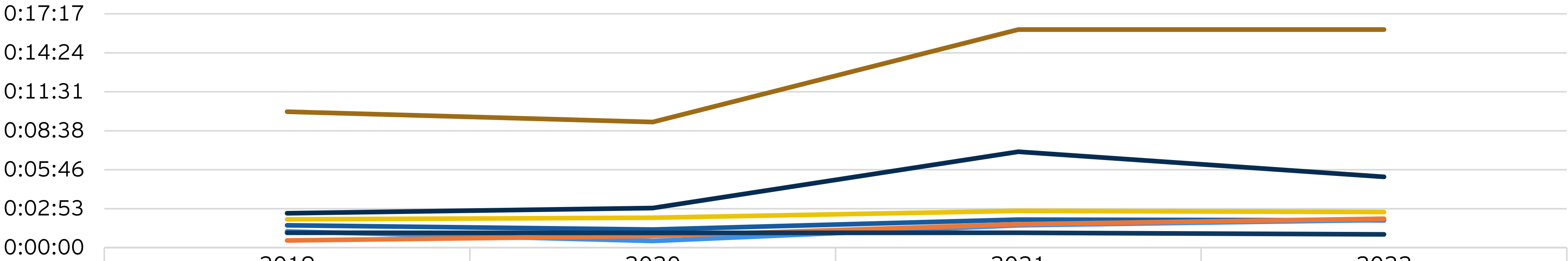
Analysis of Customer Service Data
Post-Processing Time

Average Post Processing Time



	2019	2020	2021	2022
Agency	0:01:39	0:01:20	0:02:04	0:02:01
ADP	0:02:33	0:02:56	0:07:06	0:05:14
Business	0:01:12	0:00:30	0:01:39	0:02:03
CAT	0:00:32	0:00:52	0:01:44	0:02:09
Collections Division	0:02:06	0:02:13	0:02:43	0:02:38
CORP	0:10:03	0:09:17	0:16:07	0:16:07
TSU	0:01:06	0:01:06	0:01:06	0:00:59

Post-Processing Time Observations

1. Post-processing time computations include call back queues. Call centers adhere to varied practices and procedures for call closure. This has led to post-processing times measurement variation. For example, it is mandatory for TSU to populate call warp up reason, but PTAC does not have to populate that reason. ADP and CORP also may need to perform additional steps
2. CORP followed by ADP consistently has the highest post-processing times

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Analysis of Customer Service Data
Staffing Levels

Target Number	Manager	Lead	Agents	Total Staff	Total Calls by agents 2022
Business Registrations 503-945-8091	1	1	9	11	15,642
Other Business Functions 503-945-8100	4	7	48	59	67,433
OAA 503-945-8199	4	7	37	48	59,839
PTAC 503-945-8200	6	7	75	88	96,974

Target Number	Manager	Lead	Agents	Total Staff	Total Calls by agents 2022
TSU 503-378-4988	3	8	34	45	142,376
ADP 503-947-0350	3	-	29	32	2,094
CORP 503-947-0355	1	1	4	6	1,972
CAT 503-945-8005	2	1	7	10	5,568

Staffing Observations

1. Different call centers receive a wide-ranging volume of calls. Total incoming calls does not correlate to number of agents. For example, TSU received 142,376 calls in 2022, with 34 agents while Tax Collections (PTAC) received 96,974 calls in 2022 with 75 agents. Similarly, ADP's 29 agents handle 7x fewer calls than Business Registration's nine agents. Recalibration of agents could increase the level of efficiency within call centers
2. As noted on the 'Analysis of Customer Data Summary' slide, there are several call centers that perform additional activities in addition to answering calls which negatively impacts agent productivity

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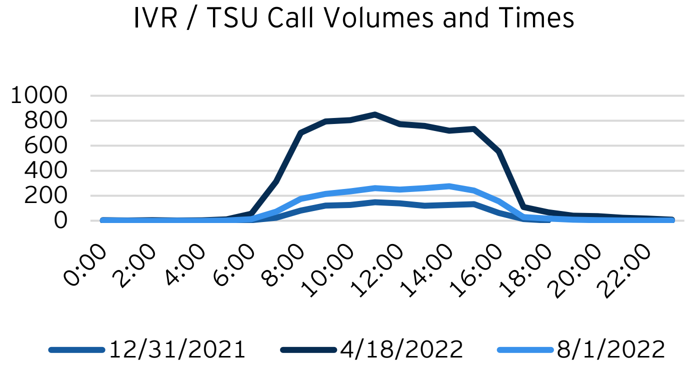
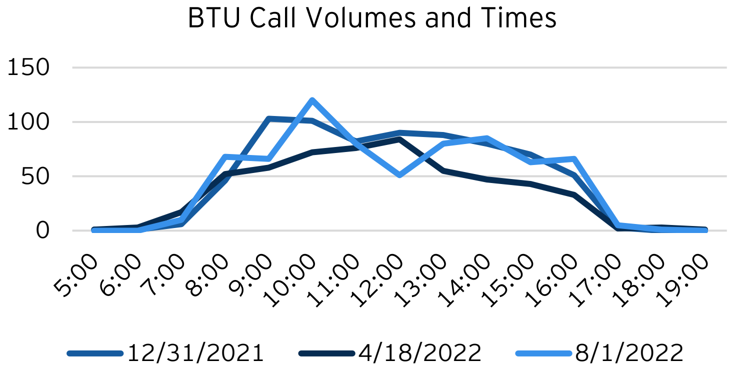
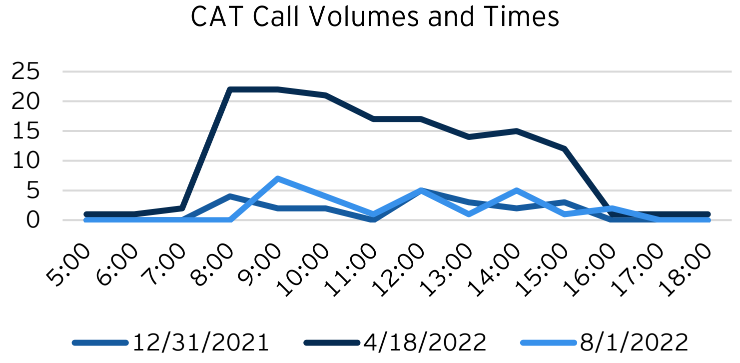
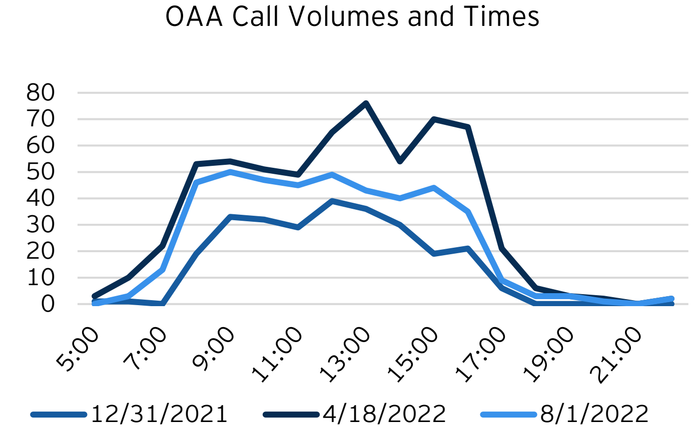
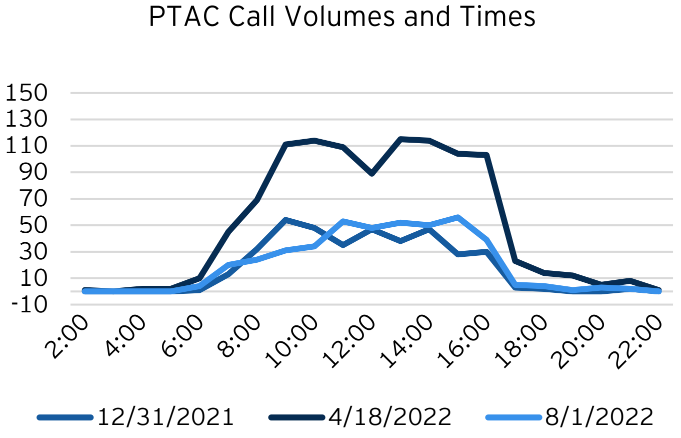
Analysis of Customer Service Data
When Customers Seek Answers – Call Time Analysis

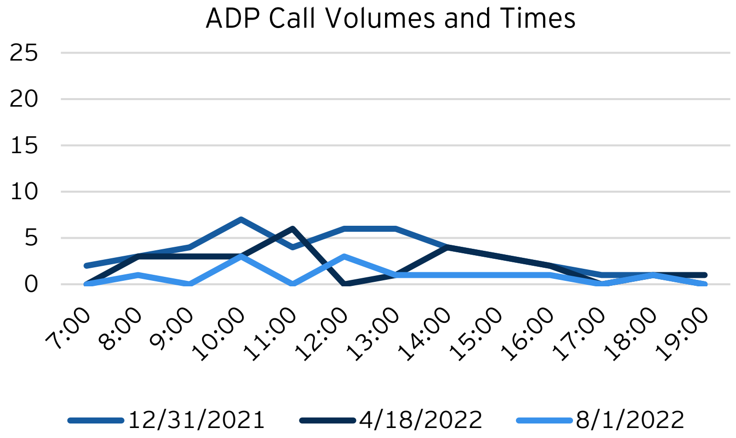












Call Time Analysis Observations (CTAO)

1. Analysis of current business hours in relation to the needs of customers revealed that incoming calls drop substantially when the call centers are closed
2. There does not appear to be a large, underserved population that is unable to contact DOR during working hours
3. Currently, the TSU call center is not available for two hours from 9 -11 on Thursday. This limits the agency’s capabilities to respond to calls during those hours

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5b. Call Center Metrics & Measurements

Call Center Metrics and Measurements Analysis
Summary

Below is a summary of recommended industry metrics compared to DOR's averages for Jan – July 2022 data. Each metric identified is grouped by priority and its current impact level.

Now (quick wins)

Measure	Industry Average+	DOR 2022++
Average Speed to Answer (ASA)	23-27 sec	345 sec
Abandon Rate (AR)	< 4%	5%*
Service Level (SL)	85-87 sec.	#
Average Handle Time (AHT)	336-343 sec.	729 sec.
Total Call Volume (TCV)	Varies	711,899
Agent Attrition	< 11%	#

These metrics are among the most common utilized by call centers use to measure operational performance. DOR has the data available to achieve these metrics **NOW**

Next (7-18 months)

Measure	Industry Average+	DOR 2022++
First Contact Resolution (FCR)	> 78%	**
Customer Satisfaction	> 80%	93%
Available Time	85%	#
Agent Utilization	81-82%	#
Agent Occupancy	82-83%	#

These metrics help take call center operations to the next level by focusing on customer and agent experience

Beyond (18 months+)

Measure	Industry Average+	DOR 2022++
Quality Score	> 90%	**
IVR Containment	> 80%	36%
Forecast Accuracy	90%	**
Schedule Adherence	89%	**
Digital Self-Service %	90%	**
Virtual Assistant Abandonment	< 5%	**

These metrics help measure performance of new call center capabilities as those are added in the future

+ Please refer to the Industry average metrics detailed in the "Call Center Customer Experience Goals and Expectations Report"
++ Data reflected in this report is based on Jan-July 2022 timeframe to account for technology upgrades implemented in late 2021
** Apart from Abandon rate, there are approximately 8% calls not being not being accepted by DOR*
 # Data available but not currently tracked
*** Data not currently available for tracking*

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Call Center Metrics and Measurements Analysis
Customer Experience Metrics and Measurements

In the initial report provided to DOR, "Call Center Customer Experience Goals and Expectations Report", we outlined recommended metrics for DOR's call center use. Here and in the subsequent pages of this report, we have expanded our analysis by comparing metrics initially provided with DOR data.+ We have also included the metrics' impact, priority and utility.

Metric	Industry Average++	DOR 2022	DOR compared to industry average	Measure description	Priority	Metric utility
Average Speed of Answer (ASA)	23-27 sec.	345 sec.	↑	ASA is the average number of seconds it took to answer calls over a defined period. ASA measures call center responsiveness / availability of staff to attend incoming calls	Now	• Time from queue to live agent • Call center responsiveness
Abandoned Rate (AR)	< 4%	5%*	↑	AR is the percentage of inbound calls that abandoned, i.e., hung up, from the queue before speaking to an agent	Now	• "Hang up" rate • Customer satisfaction with wait times
Service Level (SL)	85-87 sec.	Data available but not currently tracked	—	SL is determined by the number of seconds within which 80% of calls are answered	Now	• Percentage of calls answered within set time frame • Wait time of most callers

+ Data reflected in this report is based on Jan-July 2022 timeframe to account for technology upgrades implemented in late 2021
++ Please refer to the Industry average metrics detailed in the "Call Center Customer Experience Goals and Expectations Report"
**Apart from Abandon rate, there are approximately 8% calls not being not being accepted by DOR*

Call Center Metrics and Measurements Analysis
Customer Experience Metrics and Measurements

Metric	Industry Average[++]	DOR 2022	DOR compared to industry average	Measure description	Priority	Metric utility
First Contact Resolution (FCR)	> 78%	Data not currently available for tracking	–	FCR is one of the most important measures of call center experience. It is the percentage of caller issues solved in the first call	Next	• Call was resolved by the first agent • Agent's overall knowledge
Customer Satisfaction (CSAT)	> 80%	93%, based on 2% customer survey response	↑	CSAT is the number of positive responses divided by the total of all responses and represents the overall percentage of satisfied customers	Next	• Customer satisfaction based on agency metrics
Quality Score	> 90%	Data not currently available for tracking	–	QA is an internal measure of the agent's successful handling of an interaction against predefined criteria of technical, process, customer experience and soft skills. This will vary between firms	Beyond	• Agent performance based on agency metrics

[+] Data reflected in this report is based on Jan-July 2022 timeframe to account for technology upgrades implemented in late 2021
[++] Please refer to the Industry average metrics detailed in the "Call Center Customer Experience Goals and Expectations Report"

Call Center Metrics and Measurements Analysis
Operational Efficiency Metrics and Measurements

Metric	Industry Average[++]	DOR 2022	DOR compared to industry average	Measure description	Priority	Metric utility
Average Handle Time (AHT)	336-343 sec.	729 sec.	↑	AHT is the duration of each interaction. AHT needs to be assessed along with other metrics, including customer satisfaction	Now	• How quickly staff finish calls
Total Call Volume (TCV)	Varies	711,899	–	TCV is the count of all of the incoming calls. It should be used to assess trends over time and to build benchmarks for certain periods. TCV varies by industry and firm	Now	• Customer demand for calls; • Whether call reduction strategies work
Available Time (AT)	85%	Data available but not currently tracked	–	A "contained call" is one that is handled completely with in the IVR. IVR containment is the percentage of all calls answered in the IVR. It measures IVR effectiveness	Next	• Time agent is "plugged in" and ready to take calls

[+] Data reflected in this report is based on Jan-July 2022 timeframe to account for technology upgrades implemented in late 2021
[++] Please refer to the Industry average metrics detailed in the "Call Center Customer Experience Goals and Expectations Report"

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Call Center Metrics and Measurements Analysis
Operational Efficiency Metrics and Measurements

Metric	Industry Average++	DOR 2022	DOR compared to industry average	Measure description	Priority	Metric utility
Agent Utilization (AU)	81-82%	Data available but not currently tracked	–	AU is a measurement of the time spent being productive (i.e., actual time spent on call). Utilization (%) as a percentage is the utilization time over the total amount of the time worked	Next	• Time spent on a call • Too high → burn out • Too low → overstaffing
Agent Occupancy (AO)	82-83%	Data available but not currently tracked	–	AO measures how busy the call center is by looking at how much idle time CSRs have between calls. Occupancy that consistently runs above 90% could be an advanced indicator of CSR burnout	Next	• Idle time between calls; • Too high → burn out • Too low → overstaffing
Agent Attrition	< 11%	Data available but not currently tracked	–	Agent attrition is a measure of staff voluntarily leaving; may correlate to agent satisfaction, as well as hiring, training and recruitment practices	Now	• Voluntary departures • Agent satisfaction & onboarding

+ *Data reflected in this report is based on Jan-July 2022 timeframe to account for technology upgrades implemented in late 2021*
++ *Please refer to the Industry average metrics detailed in the "Call Center Customer Experience Goals and Expectations Report"*

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Call Center Metrics and Measurements Analysis
Operational Efficiency Metrics and Measurements

Metric	Industry Average++	DOR 2022	DOR compared to industry average	Measure description	Priority	Metric utility
IVR Containment	> 80%	36%	↓	A "contained call" is one that is handled completely with in the IVR. IVR containment is the percentage of all calls answered in the IVR. It measures IVR effectiveness.	Beyond	• Whether a call can be handled within the IVR, rather than a live agent

Customer Service Data (CSD) Observation:
1. Many metrics notated in previous slides were noted as not measured by DOR staff during interviews (i.e., FCR, AO, AU, Attrition). Data collections confirmed same, which limits staff ability to tell how the team is performing
2. The metric variation included KPIs. Interviews revealed that some units recorded KPIs via legislative mandate and some recorded additional metrics, making it difficult to gather a picture of all the call centers
3. Based on interview and data analysis, metrics are not uniform unit to unit. Metrics vary in how they are measured as well as what metrics are measured, making it difficult to gather a picture of all the call centers
4. Interviews also revealed there is an unclear understanding of legislative/regulatory roadblocks to efficiently measure certain metrics, such as QA, due to PII/FTI concerns; this limits the ability of meaningful QA
5. Staff interviews also indicated that onboarding varied widely from unit to unit, are lengthy in duration, and that no center of excellence (COE) existed. Variations, length, and lack of COE inhibit a thorough and consistent agent training and knowledge pool
6. No utilization of behavioral insights* techniques during the recruitment phase of hiring was indicated during DOR staff interviews. This testing would enhance ensuring the right person is selected for the right job
7. The IVR functionality is only limited to TSU hindering its effectiveness in other business units

+ Data reflected in this report is based on Jan-July 2022 timeframe to account for technology upgrades implemented in late 2021
++ Please refer to the Industry average metrics detailed in the "Call Center Customer Experience Goals and Expectations Report"
**Please refer to Appendix A: Behavioral Insights for additional information on psychometric testing.*

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Call Center Metrics and Measurements Analysis
Additional Metrics and Measurements (AMM)

Metric	Industry Average	Measure description
Metrics to consider when using a WFM tool		
Forecast accuracy (%)	90%	This shows how close the actual call volume matched the prediction. Agent schedules are based on forecasting so that service levels can be met with reasonable consistency
Schedule adherence (%)	89%	Schedule adherence is a measure of the percentage of time that an agent is working vs. their actual schedule

Metric	Industry Average	Measure description
Metrics to consider when implementing digital self-service and AI tools		
Digital self-service percentage	90%	Also referred to as containment, this is the ability of users to be able to complete given tasks through digital channels without the need for human interaction
Virtual assistant abandon-ment	< 5%	An abandoned virtual assistant session is when the user closes the session after seeking information, but before getting relevant answers

AMM Observation:
1. There is currently no WFM system being utilized for forecasting, scheduling, and strategic planning. This work is being conducted via manual process resulting in time inefficiencies and difficulty with planning.

Note: DOR is not tracking the above metrics at present.

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5c. IVR / ACD Custom Call Routing Tree Review

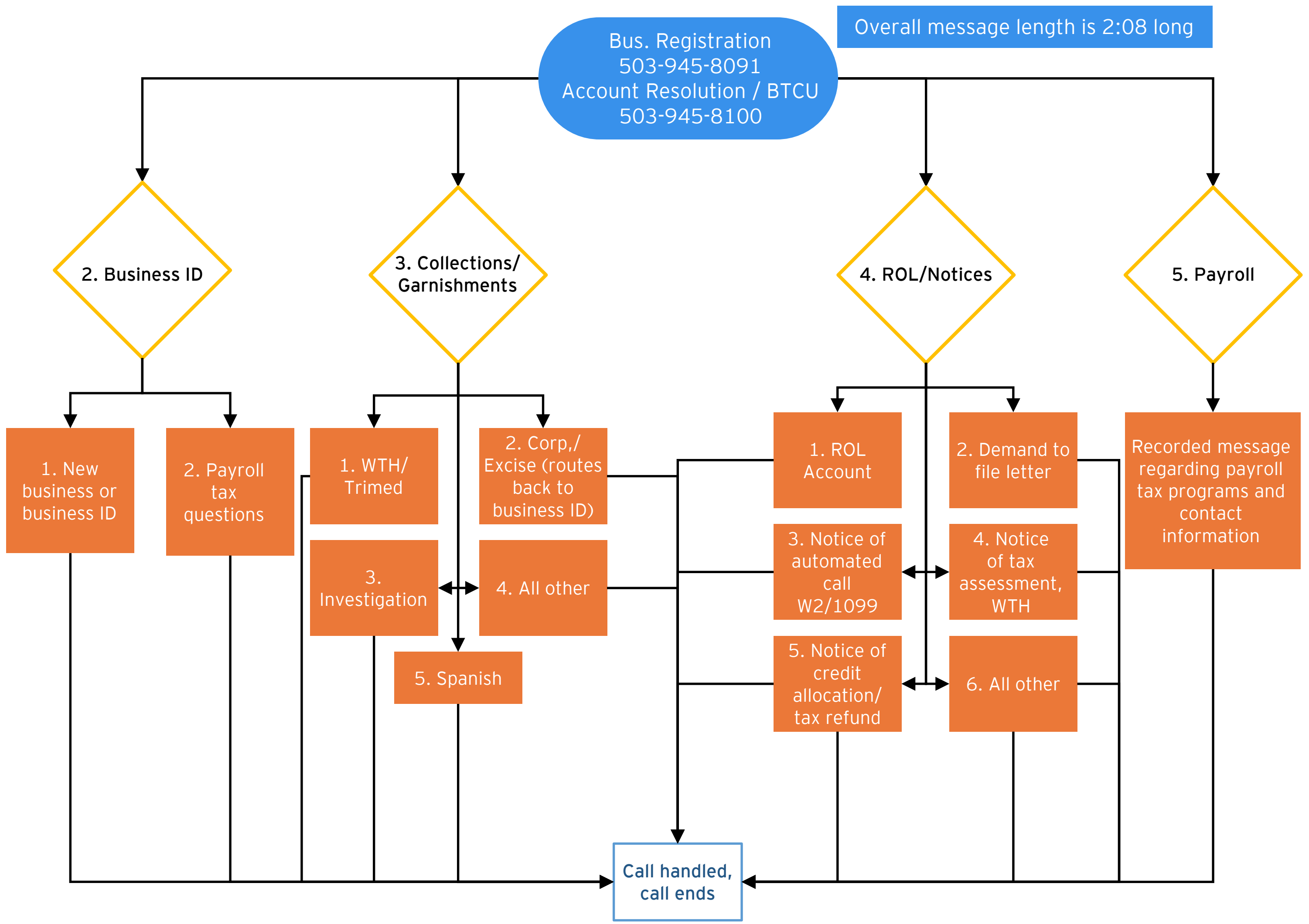
Key Observations from Activities Performed
IVR / ACD Custom Call Routing Tree Review

Items below summarize the key observations based on the IVR Custom Call Routing Tree review.

Multiple call center phone numbers induces complexity and confusion	The customer experience across all the call centers is inconsistent, impacting the level of customer satisfaction	Call Center presents non-DOR related information at the beginning of the message rather than specific call center information listed first, increasing the length of time for customer resolution
No secondary message option in the overall message creates undue burden on select customer base	There is a few seconds delay after the 1:20 min mark and the subsequent message, leading customers to believe the call is over	The selection numbers are out of order. Starts with 2 instead of 1, creating the possibility that a customer believes they may have missed information
The request for survey is inconsistent. In some calls, it is played in the beginning and in some it is at the end, impacting survey participation	Prompts that point back to another option within the same call center and prompts that point back to different call center creates inefficiency	System presents high call volume message even if they are 1st or 2nd in queue, potentially causing the customer to disconnect early

Note: IVR technology items will be further addressed in the Customer Experience Design Report.
Note: IVR was updated in November 2021; however, ACD was not updated at that time.

IVR / ACD Custom Call Routing Tree Review
Current Customer Experience Journey – Business Registration & Account Resolution

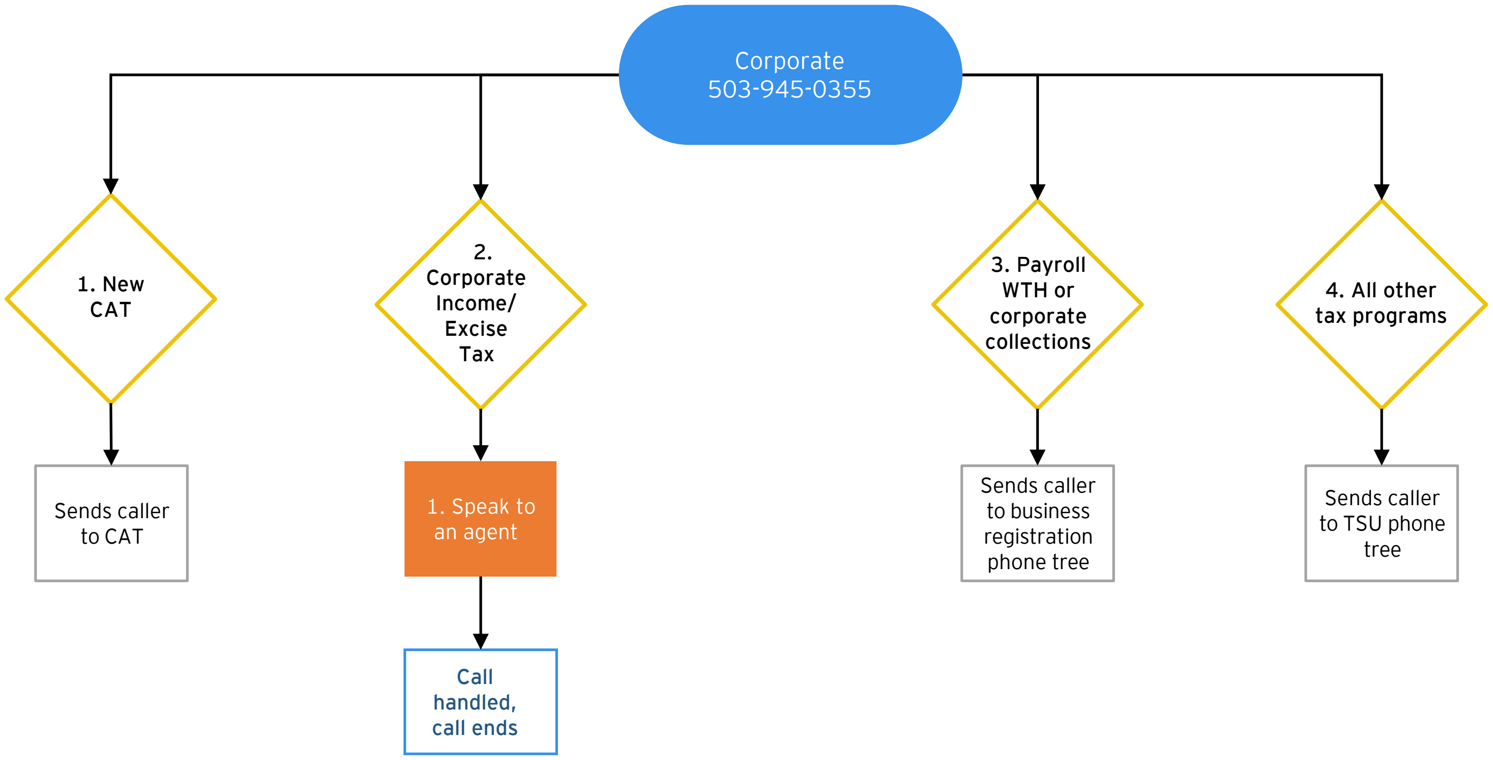


IVR-BR Key Observations

1. Time lag of five seconds between the first and second message makes customer believe that call is over
2. 0:50 seconds before a customer can make a selection which is a lengthy message to wait through
3. All relevant DOR communication comes after other state agencies related information, producing a confusing and lengthy message
4. The comprehensive customer experience with secondary language (ex. Spanish) is missing, increasing a communication breakdown
5. Some segmentation by tax type exists to direct callers to the right call center, which aids in better FCR
6. No routing based on voice recognition leading to potentially misrouted calls and reduced data analytics

Please see Appendix A for how behavioral insights affect customer experience optimization.

IVR / ACD Custom Call Routing Tree Review
Current Customer Experience Journey – Corporate

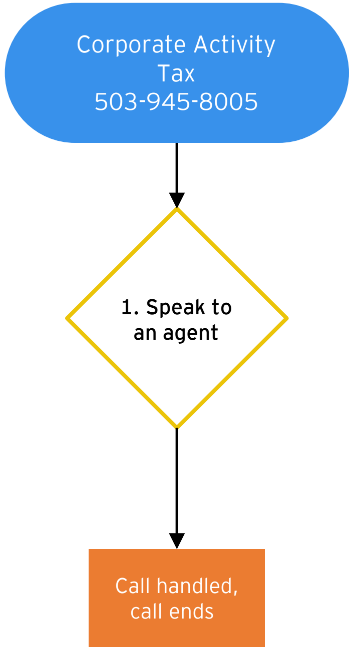


IVR-CORP Key Observations

1. Time lag of five seconds between the first message and second message makes customer believe that call is over
2. The comprehensive customer experience with secondary language (ex. Spanish) is missing, resulting in a communications breakdown
3. High call volume message is inconsistent with the queue number. Customer could be number 2 in queue and will still hear this message causing unneeded frustration
4. No routing based on voice recognition leading to potentially misrouted calls and reduced data analytics

Please see Appendix A for how behavioral insights affect customer experience optimization.

IVR / ACD Custom Call Routing Tree Review
Current Customer Experience Journey – Corporate Activity Tax

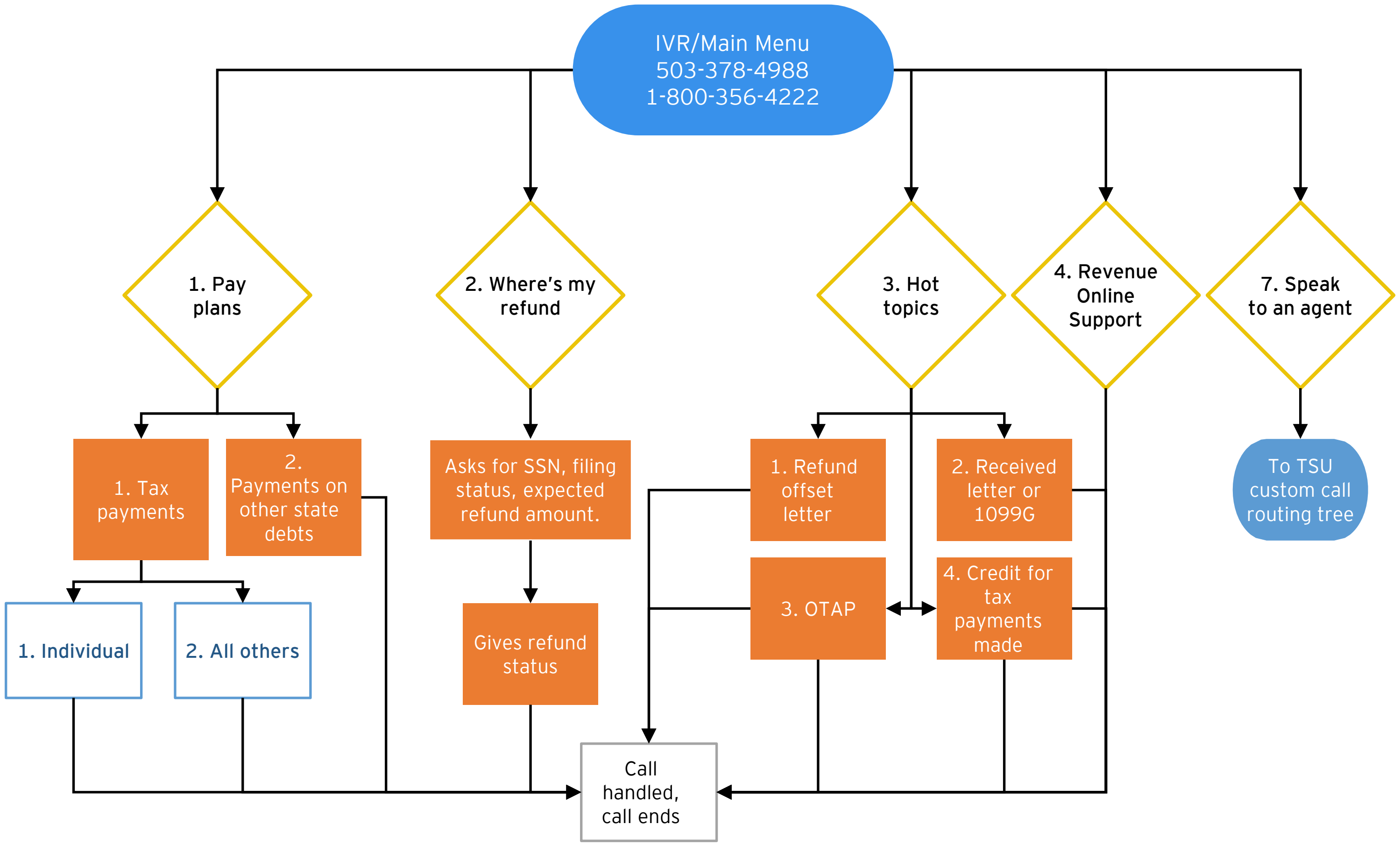


IVR-CAT Key Observations

1. Time lag of five seconds between the first message and second message makes customer believe that call is over
2. The comprehensive customer experience with secondary language (ex. Spanish) is missing, resulting in a breakdown in communication
3. No routing based on voice recognition leading to potentially misrouted calls and reduced data analytics

Please see Appendix A for how behavioral insights affect customer experience optimization.

IVR / ACD Custom Call Routing Tree Review
Current Customer Experience Journey – IVR / Main Menu



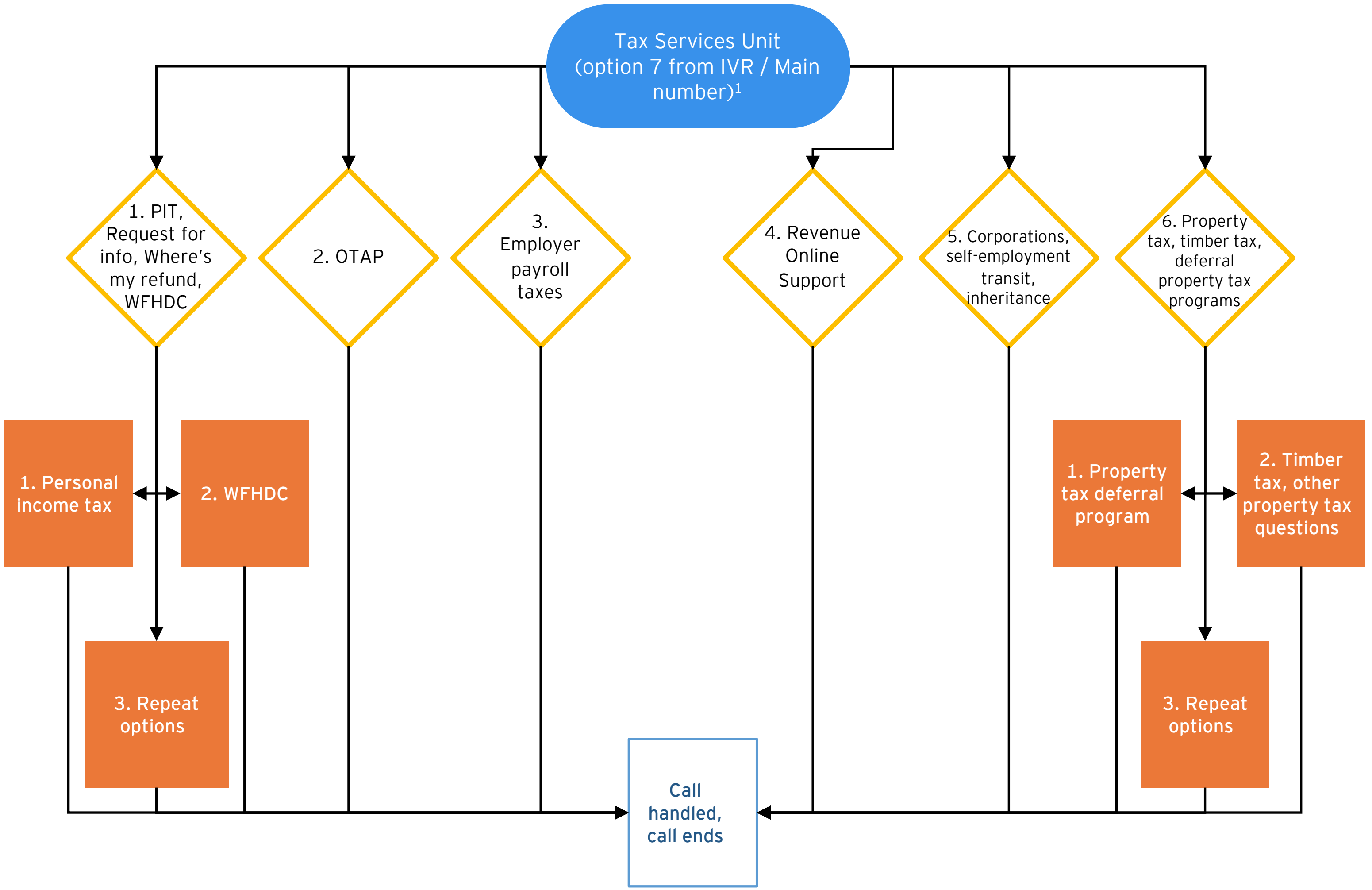
IVR Key Observations

1. Time lag of five seconds between the first message and second message makes customer believe that call is over
2. The "return to menu" option for hot topics does not work properly resulting in potential abandoned calls
3. Sound quality is suboptimal resulting in confusion for the customer
4. The "where's my refund" message is vague on what the status of the refund is and can be misleading and frustrating
5. There is no voice recognition on the "where's my refund" application which inhibits the usefulness of this particular IVR section
6. Self-service limited to "where's my refund?" application creating the needs to speak to a live agent for simple tasks

Please see Appendix A for how behavioral insights affect customer experience optimization.

IVR / ACD Custom Call Routing Tree Review

Current Customer Experience Journey – Tax Services Unit



IVR-TSU Key Observations

1. Option 1 mentions both "where's my refund" and "request for information" but neither are mentioned further along the custom call routing tree in subsequent options potentially causing confusion
2. Overall, the varied call numbers and varied customer experience is confusing to the customer
3. Call backs are offered, but no appointment calling creating time inefficiencies for both the agent and customer

[1] *During this review, we interacted with the call tree using the internal TSU test number 503-945-8298.*
Please see Appendix A for how behavioral insights affect customer experience optimization.

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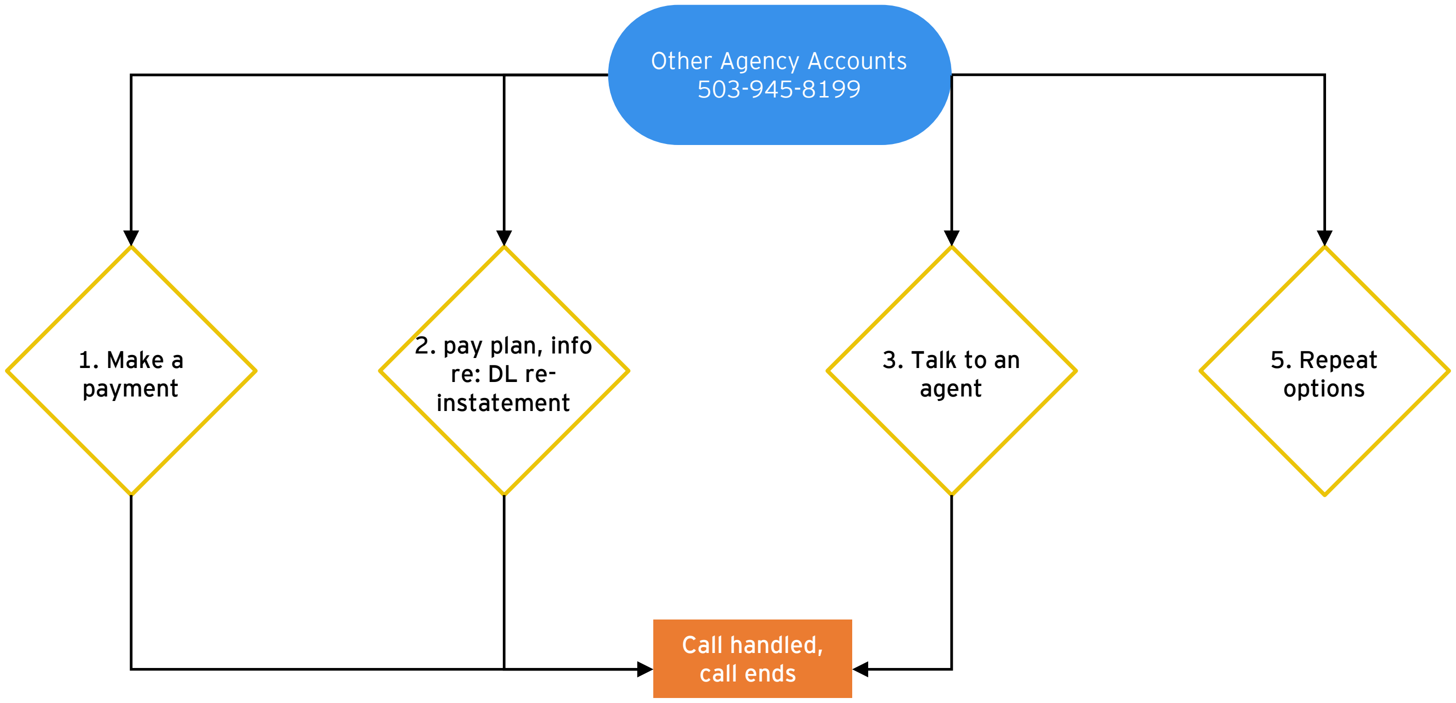
IVR / ACD Custom Call Routing Tree Review
Current Customer Experience Journey – Other Agency Accounts



IVR-OAA Key Observations

1. This IVR Message is fast with 122 words being spoken within ~40 seconds at an average of ~three words per second. This speed makes it difficult for the caller to understand the content.
2. Different voices used through duration of messages. Sound quality is suboptimal, causing confusion for the customer
3. Initial message is only in English and doesn't give an option for alternate language until 45 seconds into the call which means a native Spanish speaker could be confused and frustrated
4. Touchtone option 2 combines two unrelated topics into one queue, which can produce confusion
5. Uses terms (i.e., letter series) customers may not easily understand

Please see Appendix A for how behavioral insights affect customer experience optimization.

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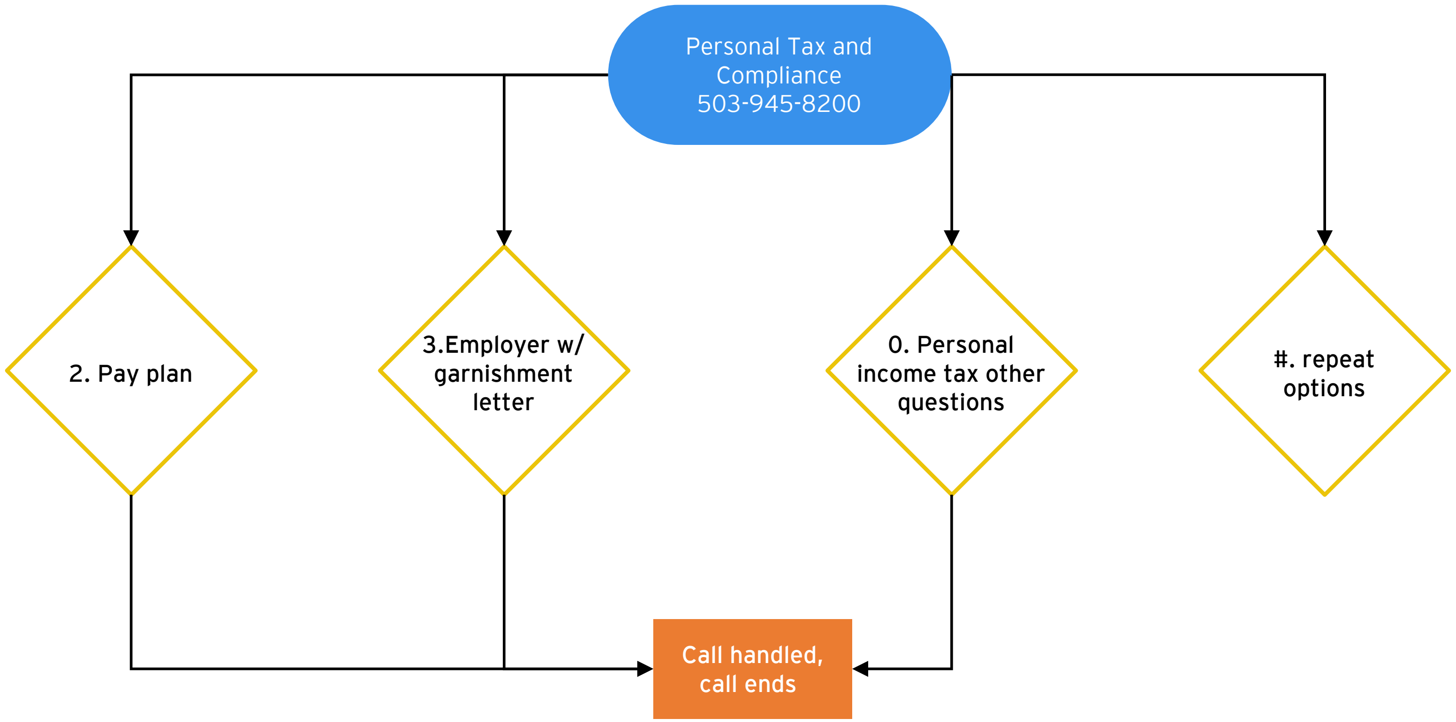
IVR / ACD Custom Call Routing Tree Review
Current Customer Experience Journey – Personal Tax and Compliance

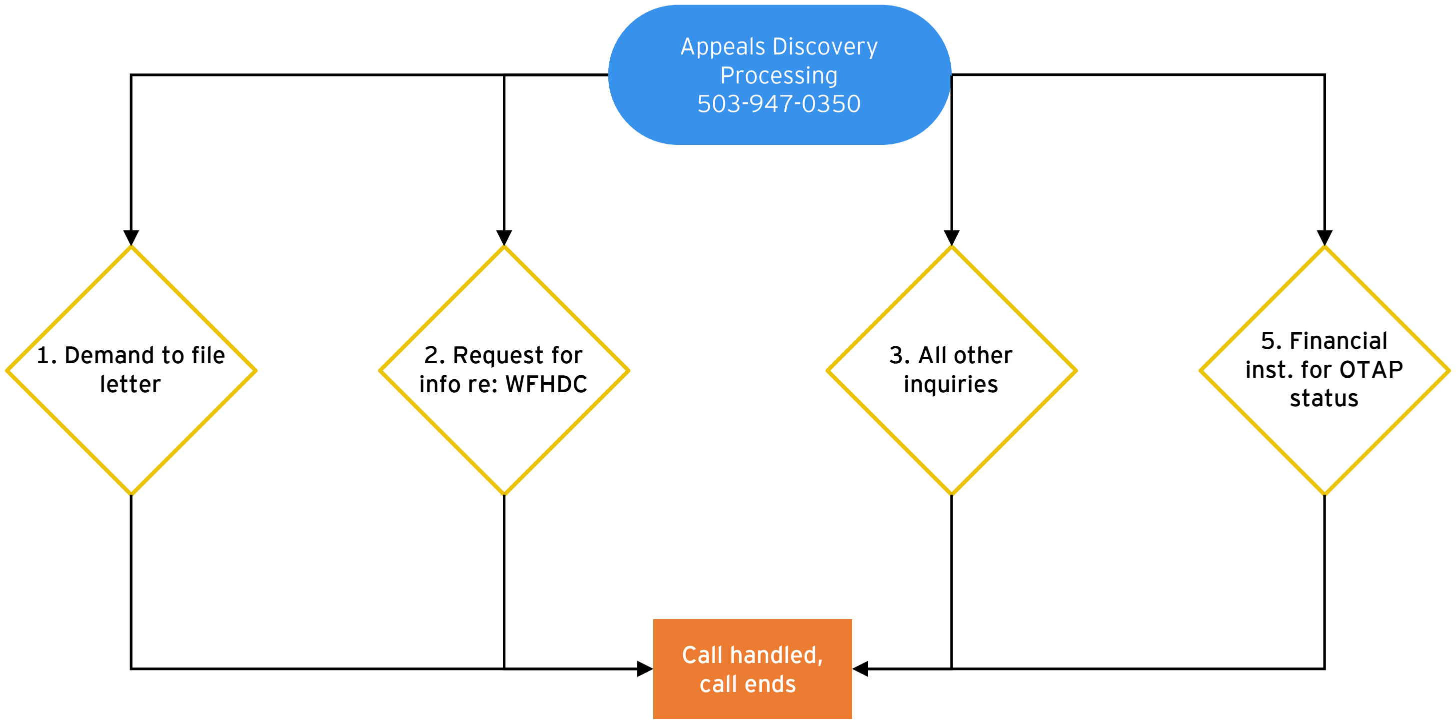


IVR-PTAC Key Observations

1. Initial message is around two minutes long and lengthy for the customer to sit through
2. Uses terms of art (i.e., letter series) that citizens may not easily understand
3. Different voices used through duration of messages. Sound quality is suboptimal which causes confusion
4. Time lag of five seconds between the first message and second message makes customer believe that call is over

Please see Appendix A for how behavioral insights affect customer experience optimization.

IVR / ACD Custom Call Routing Tree Review
Current Customer Experience Journey – Appeals Discovery Processing



IVR-ADP Key Observations

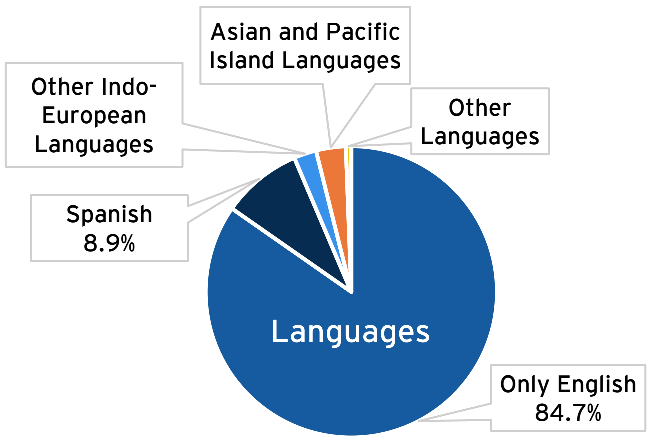
1. Greeting has this number listed as Personal Income Tax and Processing Department instead of ADP. If correspondence has ADP listed in the body of the message, the phone greeting will confuse the customer
2. No prompting of the customer to have letter ID, SSN, ITIN, or any other pertinent information ready producing a slower assistance time
3. Does not have the wording "Spanish press 2" spoken in Spanish potentially causing frustration for Spanish-speaking customers

Please see Appendix A for how behavioral insists affect customer experience optimization.

IVR / ACD Custom Call Routing Tree Review
Languages Beyond English

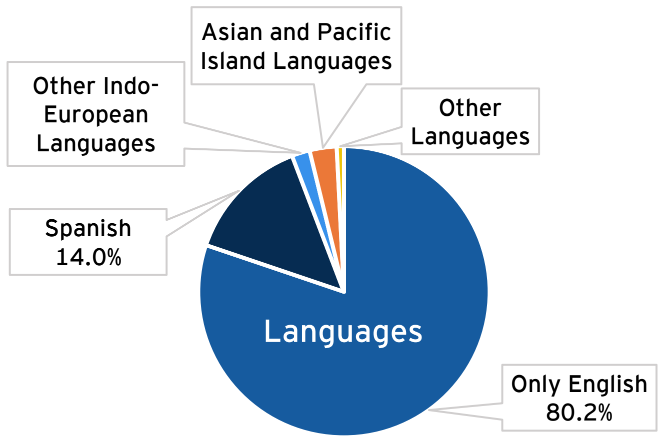
Oregon Language by Age (All Ages)

All Ages | 5–17 | 18–64 | 65+



Oregon Language by Age (5-17)

All Ages | 5–17 | 18–64 | 65+



Key Observations

- ✓ 84.73% of Oregon residents speak only English, meaning the current IVR primary language is accurate
- ✓ Spanish is the largest non-English language spoken population and is spoken by 8.85% of the population, making Spanish the accurate secondary language choice
- ✓ 14% of population between ages 5-17 is Spanish speaking. It is likely the Spanish speaking population between ages 18-64 will increase in the coming years, increasing the need for Spanish as the secondary alternate language

Source: Oregon Population 2022 (Demographics, Maps, Graphs) (worldpopulationreview.com)

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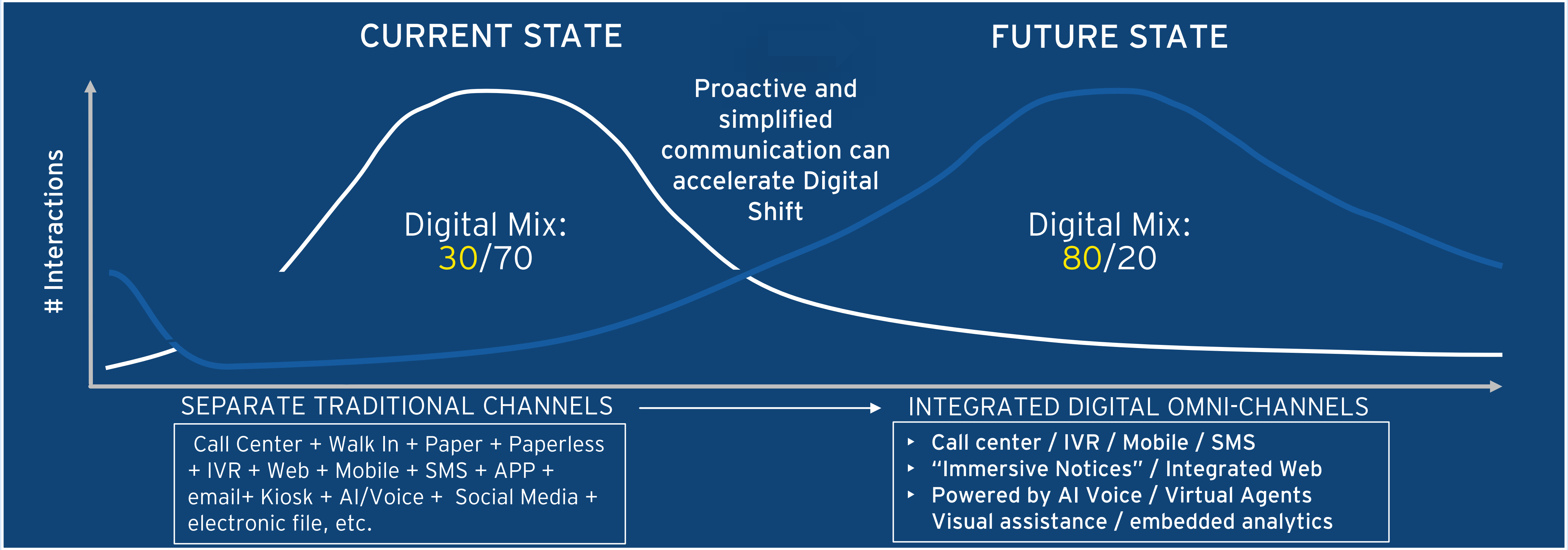
IVR / ACD Custom Call Routing Tree Review
Estimated Trends Over Next 10 Years

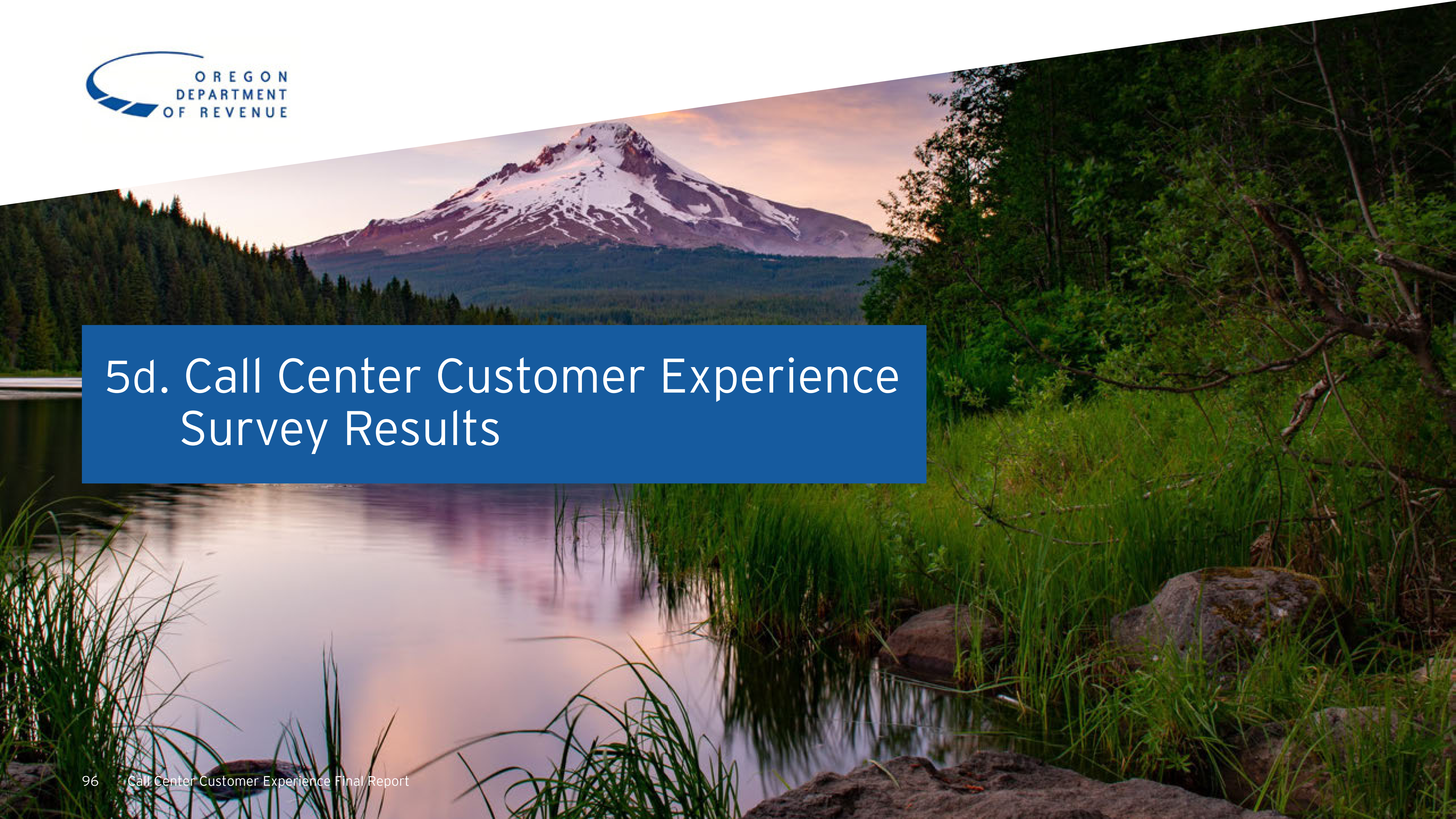
DOR is currently leveraging some of the traditional channels for customer service. While upgrades have been made to IVR functionality, there is an opportunity to leverage digital omni-channels to enhance DOR capabilities as well as the customer experience. As detailed below consumers now prefer digital channels for eight out of 10 primary customer interactions and this number will only increase in the coming years.

Achieving the "Digital Dividend" – Omni Channels Exquisitely Done



Source: Nudge- Richard H. Thayer

5d. Call Center Customer Experience Survey Results



Call Center Customer Experience Survey Results Overview
Summary

Analysis Overview

DOR conducted a customer survey based on contact reason and quality of service during July 1, 2019 – July 1, 2022 for all customers. Over 66K people were prompted with the survey:

- over ~59K (89.2%) of people responded
- over ~7K (10.8%) of people did not respond

As part of our call center project, EY reviewed the survey data provided by DOR which included the following survey categories:

1. Reasons for contacting DOR:
   - Change made to tax return
   - Checking on refund
   - Collection notice
   - Question about form
   - Revenue online help
   - Needed to make payment
2. Language: English and Spanish
3. Survey conducted via phone or online
4. Customer inquiry fulfilled
5. Survey ratings per question

Key Observations

Top five areas of highest (excellent) ratings:

1. Helpfulness
2. Professionalism
3. Listening Skills
4. Accuracy
5. Knowledge

Percentage of excellent ratings year over year:

1. 2019: ~70%
2. 2020: ~71%
3. 2021: ~71.5%
4. 2022: ~33% (matching with poor)

Percentage of customers which followed through with the survey questionnaire – 2%

- ✓ Customers don't appear to have a clear understanding of why they are calling in 2022, with "Other" contact reason increasing to 38%
- ✓ Annual inquiry fulfillment has dropped from an average of 75% to 45% in 2022
- ✓ Over 98% phone volume indicates online user interface limitations
- ✓ Based on survey feedback, the number of survey questions (and time to complete the survey) contributed to nonfulfillment (**17% inquiry not fulfilled**)
- ✓ 75% of customers believe their inquiry has been fulfilled with about 50% contacting to check their status or collection notice
- ✓ Survey data elements were inconsistent between data files which inhibited the ability to capture more informative metrics and enhanced visibility to provide leadership to identify high priority issues[1]
- ✓ Other language options are not presented upfront alongside Spanish
- ✓ Based on interviews, Customer satisfaction (CSAT) survey is standard across all state agencies producing less specified results for purposes of DOR specific reviews

[1]*Referred to as CS 1 in Key Findings & Recommendations Slide*

** 2022 includes only online data*

Call Center Customer Experience Survey Results Overview
Top Survey Results

Questions

What made you **contact** the Department of Revenue today?

Top survey results	2019-2022	2022[1]
Checking on refund status	27.66%	29.01%
Collection notice	23.89%	10.69%
Needed to make payment	12.47%	3.82%
Questions about form	12.03%	9.92%
Revenue online help	11.57%	11.83%
Change made to tax return	11.38%	2.67%
Other	1.00%	32.06%

- How would you rate the accuracy of the services you received from agency staff?
- How would you rate the availability of information you received from agency staff?
- How would you rate the expertise, knowledge and skills of the agency staff?
- How would you rate the helpfulness of the agency staff?
- How would you rate the timeliness of the services you received from agency staff?
- How would you rate the overall service provided by the agency?
- How would you rate the professionalism of the Department of Revenue employees?
- How would you rate the listening skills of the Department of Revenue employees?

Each ranking detailed below represents a unique customer response:

Excellent Ranking 2019-2022	Poor Ranking 2019-2022
Professionalism (49,907)	Availability (6,778)
Helpfulness (50,179)	Timeliness (1,936)
Knowledge (47,507)	Overall (2,147)
Listening skills (48,499)	Accuracy (6,047)
Overall (43,506)	Helpfulness (1,340)
Timeliness (43,931)	Knowledge (1,124)
Accuracy (48,341)	Listening skills (735)
Availability (43,750)	Professionalism (680)

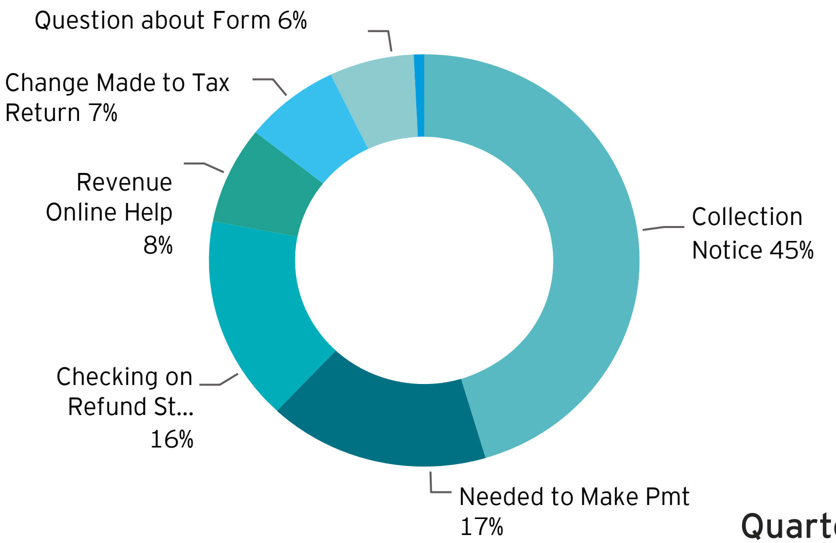
Did you receive what you wanted from your interaction with the Department of Revenue?

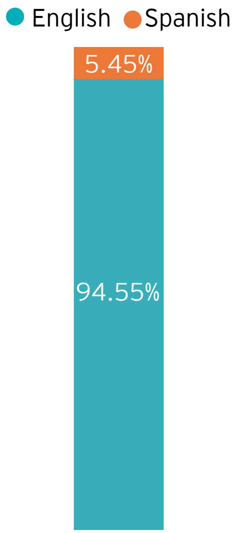
	2019-2022	2022[1]
Yes	74.88%	44.65%
No	7.83%	46.49%
No response	17.29%	8.86%

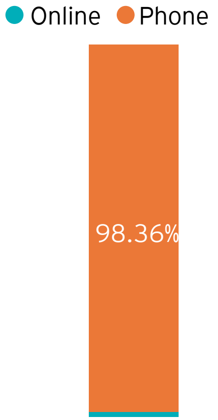
1. Metrics detailed above are based on DOR online survey data from January 2022 - July 2022. Please see Appendix C for reference to the source file names.

Call Center Customer Experience Survey Results Overview
By the numbers: 2019

Reason for Contacting DOR



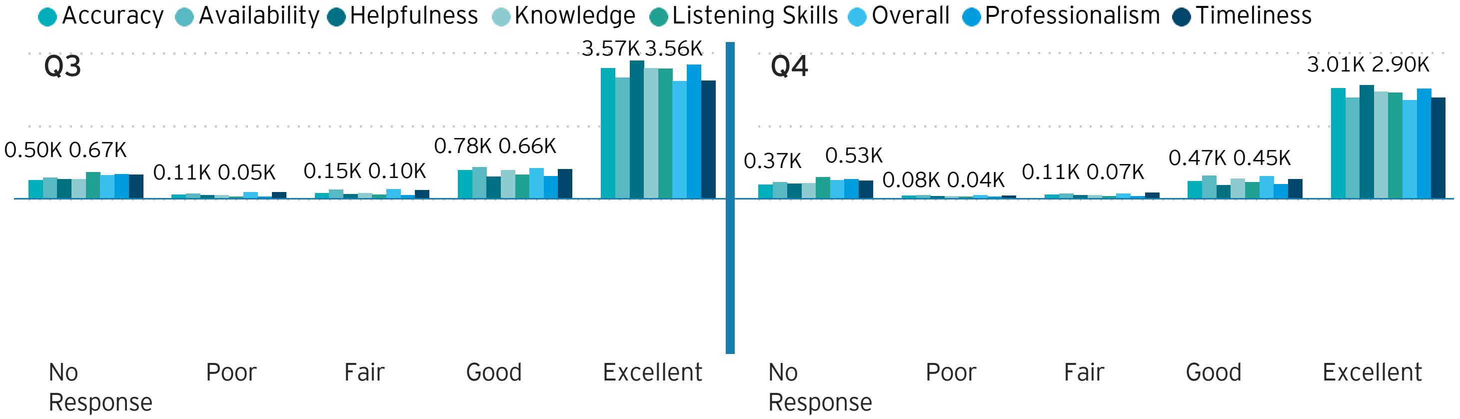




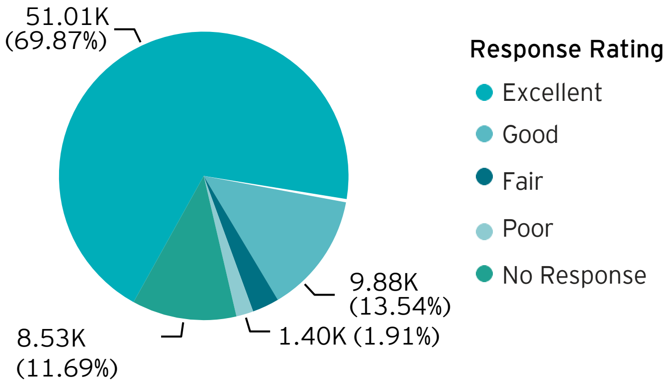
2019 | 2020 | 2021 | 2022

Inquiry Fulfilled

Quarterly Customer Survey Ratings by Category

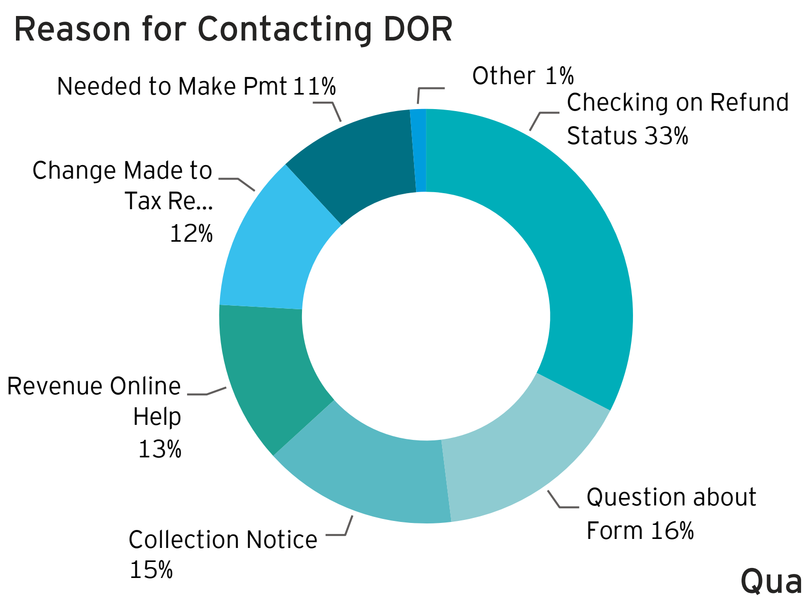


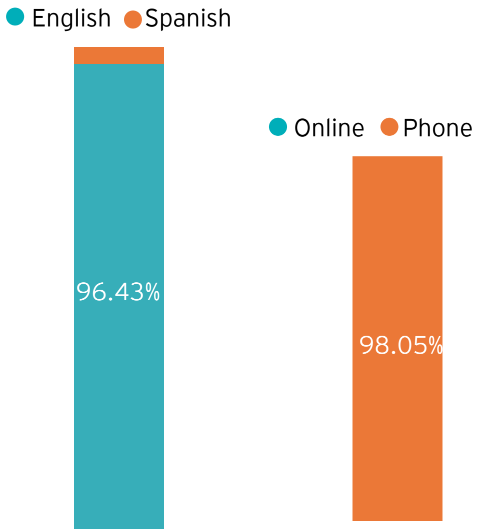
Overall Customer Survey Ratings

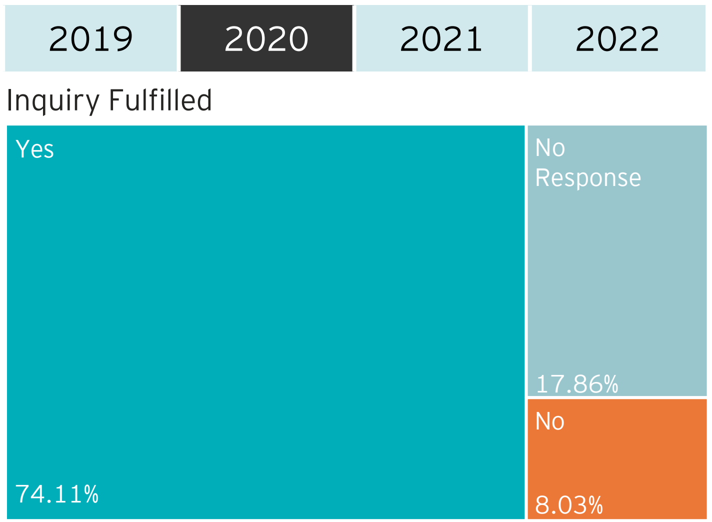


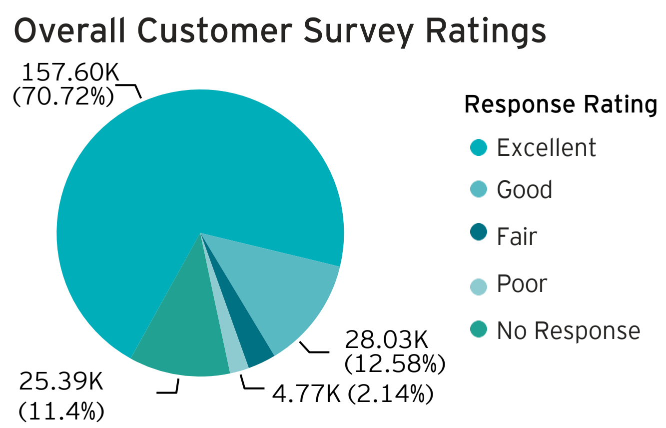
Note: Metrics detailed above are based on results given to the EY team on August 5, 2022. Please see Appendix C for reference to the source file names.

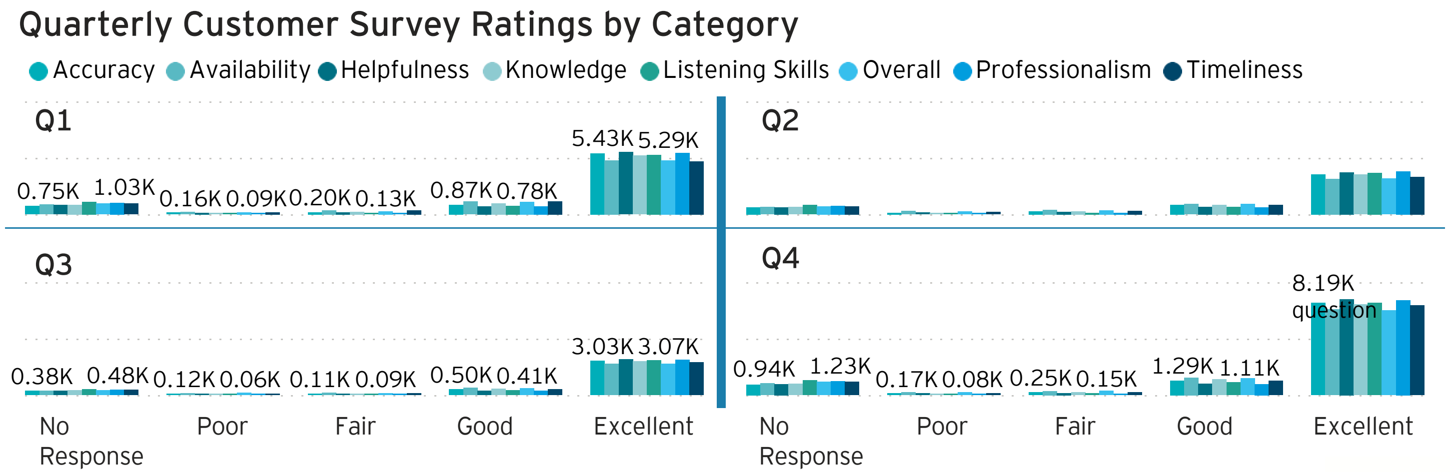
Call Center Customer Experience Survey Results Overview
By the numbers: 2020







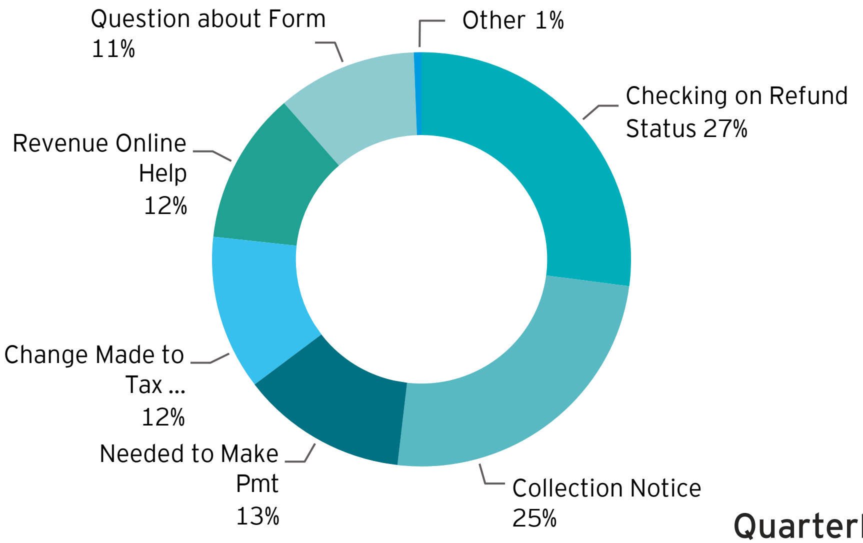


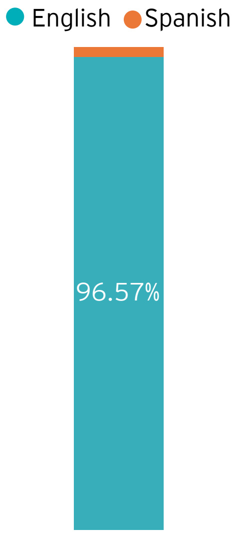


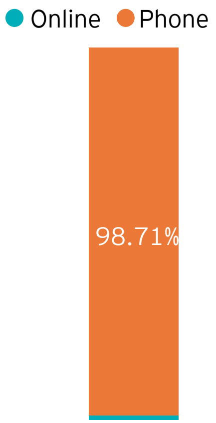
**Note: Metrics detailed above are based on results given to the EY team on August 5, 2022. Please see Appendix C for reference to the source file names.*

Call Center Customer Experience Survey Results Overview
By the numbers: 2021

Reason for Contacting DOR



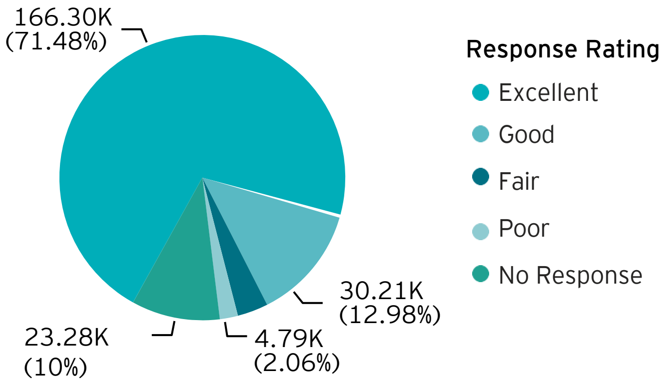




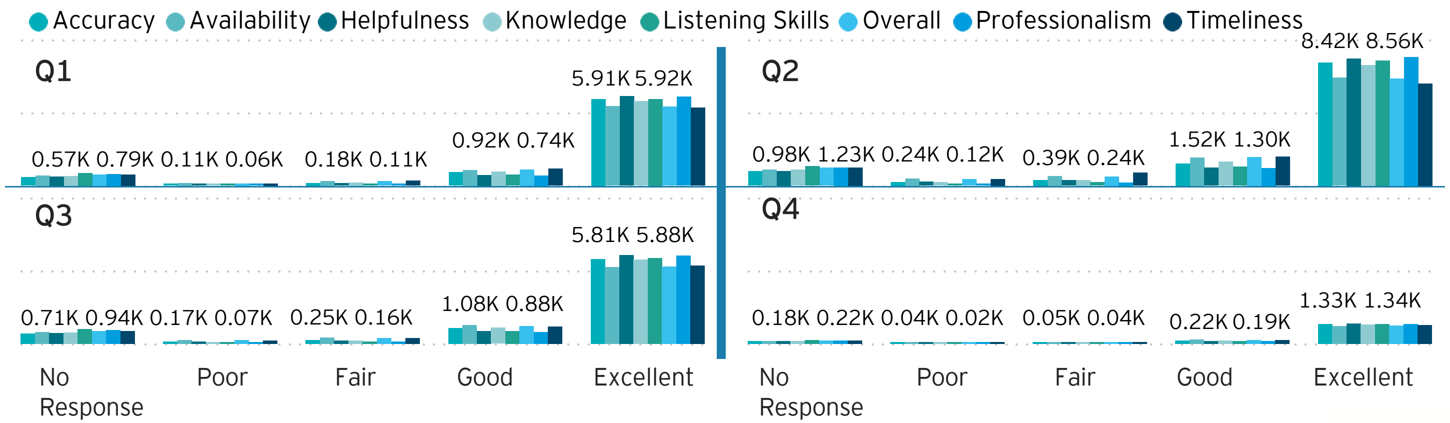
2019 | 2020 | 2021 | 2022

Inquiry Fulfilled

Overall Customer Survey Ratings



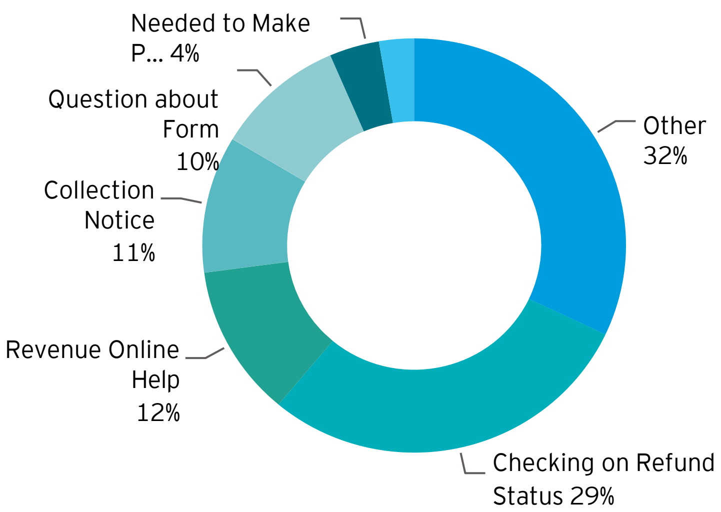
Quarterly Customer Survey Ratings by Category



Note: Metrics detailed above are based on results given to the EY team on August 5, 2022. Please see Appendix C for reference to the source file names.

Call Center Customer Experience Survey Results Overview
By the numbers: 2022

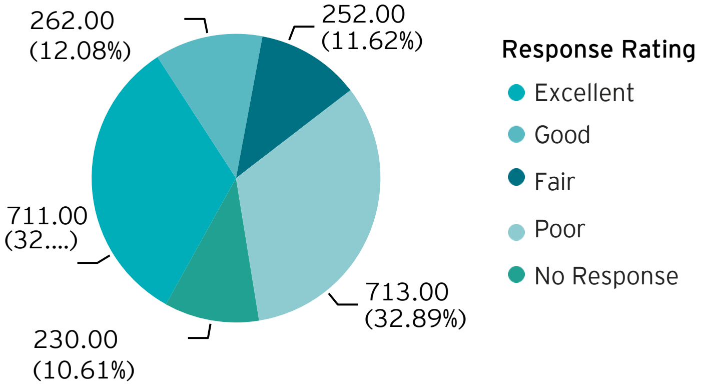
Reason for Contacting DOR



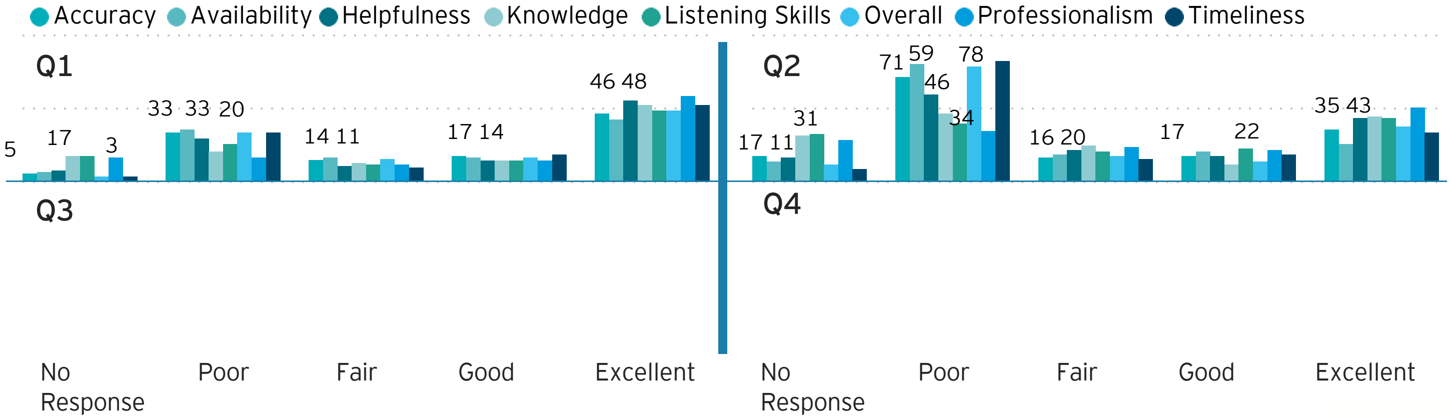
2019	2020	2021	2022

Inquiry Fulfilled

Overall Customer Survey Ratings



Quarterly Customer Survey Ratings by Category



Note: Metrics detailed above are based on results given to the EY team on August 5, 2022. Please see Appendix C for reference to the source file names and explanation on the exclusion of 2022 phone data.

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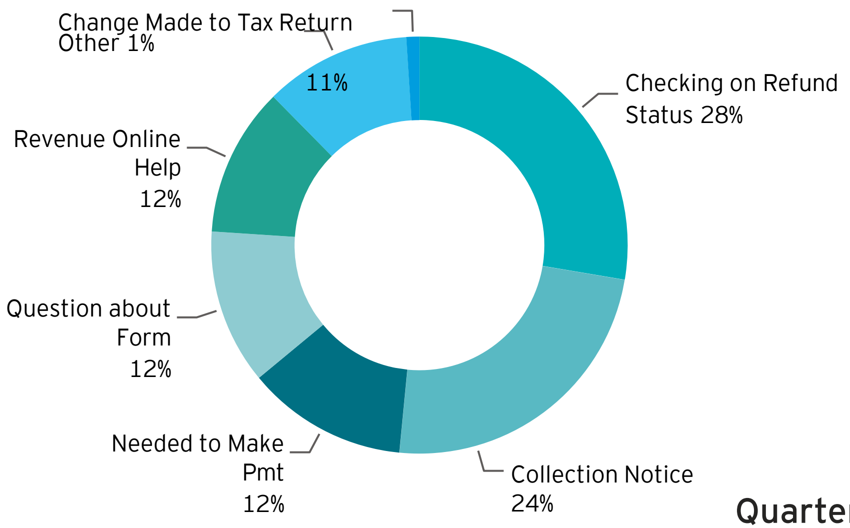
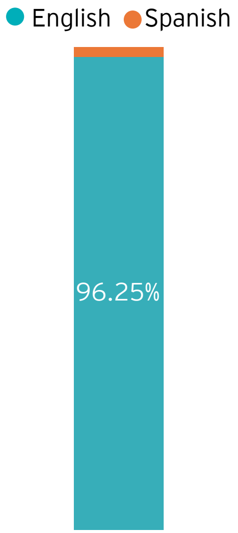
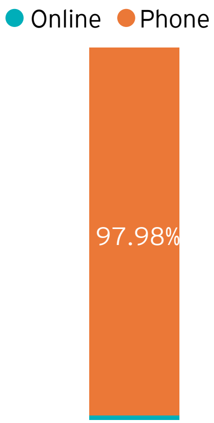
Call Center Customer Experience Survey Results Overview

By the numbers: 2019 - 2022

Reason for Contacting DOR

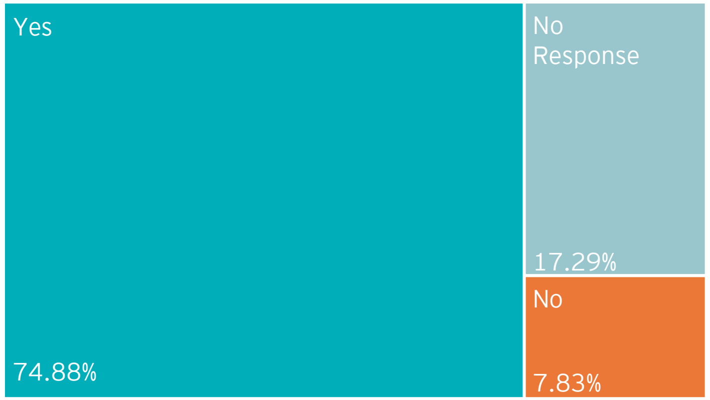




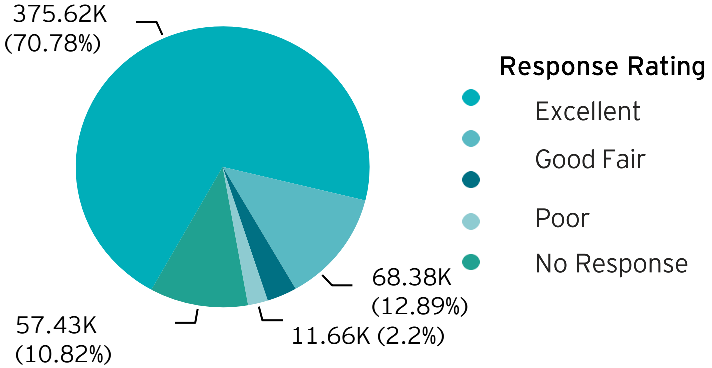


2019	2020	2021	2022

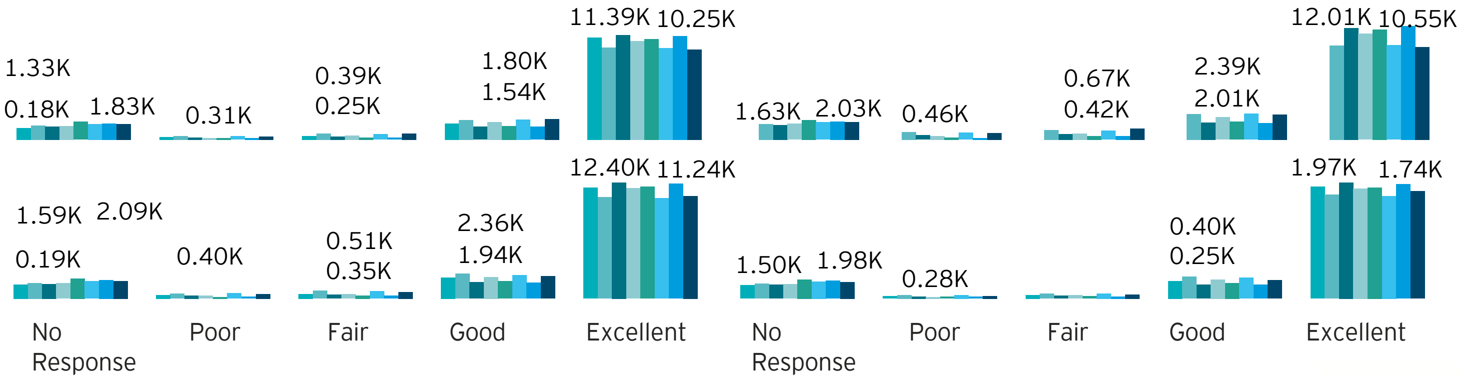
Inquiry Fulfilled



Overall Customer Survey Ratings



Quarterly Customer Survey Ratings by Category



**Note: Metrics detailed above are based on results given to the EY team on August 5, 2022. Please see Appendix C for reference to the source file names.*

Key Findings and Recommendations
Metrics & Measurements

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Metrics & Measurements	▸ Clearly defining leadership, behaviors and metrics that lead to customer-centric customer experience & enable cross- siloed activity ▸ Align dashboards to roles, highlighting KPIs that are defined by key organizational strategies and team objectives ▸ In addition to supervisor and manager dashboards, frontline facing dashboards can be intuitive and interactive to provide actionable insights to better performance, providing staff the needed visibility to meet their objectives; these insights can also help design effective training and development programs that better support staff	▸ Performance metrics are not accessible to leadership to provide visibility and transparency. Additionally, metrics are not shared across call centers or below supervisory levels. (CSD 1 & 2; TCV 2)	**(MM1) Data Strategy and Analytics:** Evaluate and implement a single source of data repository and leverage data analytics tools to provide robust reporting capabilities and on-demand call center status at the agency and business unit level. This will support data driven operations and enhance decision making	High	Now
	▸ Formulate and align the appropriate set of KPIs and industry benchmarks ▸ Focus on root causes to improve metrics – human expectations, technical, organizational process ▸ Track service levels to better meet staffing requirements to handle call volume fluctuations	▸ Lack of KPIs and benchmarking to industry standards and tracking, results in inconsistent customer experiences. (CSD 3) ▸ KPIs that are tracked are not standardized between call centers, meaning different staff are held to different standards while performing the same work. (CSD 3)	**(MM2) Key Performance Indicators:** Implement recommended KPIs based upon industry leading practices and prioritization. Standardize KPIs across all DOR call centers and staff, even if expectations may be different. (Ex. corporate calls may take longer than "where's my refund" calls)	High	Now

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Key Findings and Recommendations
Metrics & Measurements

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Metrics & Measurements	▸ Develop a baseline performance measurement to target high and low performers for coaching focus; in high performing centers, **70-80% of staff perform within the baseline** ▸ **Focusing KPIs on FCR and CX metrics (as opposed to AHT)** can lead to improved morale, happier customers, and lower cost of business ▸ Most Supervisors are responsible for **12-14 staff** (pre-pandemic) ▸ Some states **access recorded calls and behavior-based quality ratings sheets** to monitor agent performance and quality ▸ Top states have data-driven process teams to identify solutions for performance improvement	▸ Most call centers have inconsistent performance measures staff are held to, including abandoned calls, wait time, and answer percentage. This produces an inconsistent customer experience. (CSD 1)	**(MM3) Metrics Standardization:** Standardize performance measurements across all call centers	Medium	Now
	▸ 84% of companies with a customer-centric strategy see an increase in overall performance	▸ Staff planning is reactive, making it harder for call centers to make progress. (ECDS 1)	**(MM4) Forecasting Staff Levels:** Recalibrate forecasting of peak times and staffing levels to optimize the handling of current call volumes	High	Beyond
	▸ Significant # of call centers believe phone channel drives effectiveness of quality assurance ▸ About 30% of public sector call centers (>200) already use interaction analytics	▸ Quality assurance is not done uniformly across call centers, therefore producing an incongruous customer experience (CSD 1)	**(MM5) Quality Assurance:** Perform uniform quality assurance across call centers, in order to expand best practices across the department and enhance the customer experience	Medium	Now
	▸ Service segmentation based upon inquiry complexity will divide the process into no/low- touch and ensure fastest resolution	▸ No division of work based upon complexity, which slows down processing time and can prolong call and wait times. (IVR-BR 5)	**(MM6) Call Close Out:** Call closeout options should be mandatory for all queues and further enhanced along with a continuous monitoring model via analytics to understand the difference between inception and closure of call	Medium	Next

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Key Findings and Recommendations
Customer Experience – IVR / ACD

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Customer Experience – IVR / ACD	▸ Industry benchmark: IVR self-service rate of **70-82%** ▸ **~75% of DORs and related agencies launched a virtual agent** to assist during the pandemic	▸ Limited use of omni-channel, proactive communication leading to higher volume of calls. (IVR 5; BCV 5)* ▸ Self-service is limited to "Where's my refund" questions, requiring live staff to answer simple questions. (IVR 5) ▸ Recordings on custom call routing tree are outdated, fast, and use terms of art that some callers may not understand, producing confusion. (IVR-OAA 3& 5) ▸ Multiple call numbers produce a varied and confusing customer experience. (IVR-TSU 4)	**(CE-IVR1) IVR Message Reduction:** Restructure custom call routing tree to limit the time a customer spends listening to messages	Medium	Next
			(CE-IVR2) IVR Message Recording & Maintenance: Re-record custom call routing tree with one voice, using plain language, at a reasonable speed. The call prompts should be redefined based on behavioral insight guidelines to achieve higher customer satisfaction. Additionally, determine optimal mechanism for maintaining recording updates while maintain IVR quality over time	Medium	Now
	▸ Service segmentation based upon inquiry complexity will divide the process into no/low-touch and ensure fastest resolution	▸ Some segmentation to certain call centers based upon topic, which sends the customers to the staff with the right skills. (IVR-BR 5) ▸ There are still numerous transfers of incoming calls, leading to a decrease in first call resolution and a diminished customer experience. (WUR 2)	**(CE-IVR3) IVR Queue Refinement:** assign calls into categories ranging from complex to simple to allow staff to utilize their expertise appropriately and better employ FCR	Medium	Next
			(CE-IVR4) Payment & Plan Acceptance: Enable more staff to take payment calls and set up payment plans in order to increase first contact resolution, decrease call average handle time and improve the customer experience	Medium	Next
	▸ **83% of large call centers** use call routing based on IVR or speech recognition	▸ No routing based on speech recognition, limiting opportunities for data analytics on why customers are calling. (IVR-BR 6)	**(CE-IVR5) Speech Recognition:** Deploy routing based on speech recognition to enhance data analytics and metrics and direct callers to the correct agents	Medium	Next
	▸ Enable multiple contact methods to meet their customers needs based on preferred language	▸ Overall customer experience with Spanish language is lacking due to limited Spanish language prompts. (IVR 4)	**(CE-IVR6) Spanish Language:** Enhance IVR by offering recordings in the Spanish language in order to enhance the customer experience	Low	Beyond

*Recommendations on exploring technology options to extend customer question response capabilities to 24/7 and alleviate agents from answering simple questions will be covered in the Customer Experience Report (Task 5).

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Key Findings and Recommendations
Customer Experience – IVR / ACD

Pillar	Cross Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Customer Experience – IVR / ACD	▸ Web self-service is **roughly 40-100x cheaper** than a live agent ▸ 55% of large organizations offer **account-specific web self service,** 41% use automated speech recognition and 40% have a virtual agent	▸ Self-service strategy is ill-defined, often producing situations where the technology is ready, but the business unit may not be ready or able for implementation. (IVR 5) ▸ Limited incentives to increase self-service producing low motivation for implementation. (IVR 5) ▸ "Where's My Refund" self-service only provides limited status reports, such as "Your return is in process," leading to an information vacuum for the customer. (IVR 4)	**(CE-IVR7) Self-Service Strategy:** Isolate the most frequent call topics that can be handled through self service. Incentivize staff to look for commonalities in reasons why callers declined self- service. Periodically monitor high volume calls and define areas of improvement in website and/or communications, including the possibility of integrating voice/chat bots into the website/IVR system	High	Now
	▸ Identify common questions that could be handled by different channel ▸ Allow for call scheduling and record customer's preferred contact method ▸ Develop optimal call centers taxonomy and routing tree methodology for capturing granular call reasons and maximize self-service	▸ Simple questions (except for "where's my refund?") are being answered by live staff and can only be answered during work hours. (TCV 4; BCV 4)* ▸ No call scheduling or appointment calling, meaning that callers must wait in queue. (IVR-TSU 5) ▸ Custom call routing tree contains unrelated branches that are not optimized to minimize time in the tree, leading to a diminished customer experience. (IVR-OAA 4)	**(CE-IVR8) Self-Service Scheduling:** Deploy call scheduling to allow for more efficient customer service and better use of time for staff and customers	Medium	Beyond
	▸ Calls are seen as one component of a larger tax administration ecosystem; calls are seen as symptoms rather than root causes	▸ Tax return processing backlogs are one of the key drivers for high call volumes. Additionally, the lack of information given via self-service tools drives callers to seek out additional information regarding refund status and estimated refund time. (BCV 2)	**(CE-IVR9) Return Processing Automation:** Examine return processing for process improvement and technology deployments to meet customer expectations on turnaround time and decrease incoming calls	High	Now

*Recommendations on exploring technology options to extend customer question response capabilities to 24/7 and alleviate agents from answering simple questions will be covered in the Customer Experience Report (Task 5).

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Key Findings and Recommendations
Customer Experience - Survey

Pillar	Cross Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Customer Experience - Survey	▸ 68.71% of organizations across all industries have a formal mechanism to capture user feedback ▸ California measures satisfaction for opening a claim (82% completely or mostly satisfied), after filing (81%), and usefulness of Online Mobile (92% extremely or mostly useful)	▸ The after-call survey contains more than 10 questions and therefore produces a high no response rate due to length. (CS 1 & 2) ▸ Almost half of wrap up reasons provide limited feedback which limits DOR's ability to diagnose problems. (WUR 1-3)	**(CE-S1) Customer Survey:** Restructure and simplify the current customer survey including streamlining the number of questions, optimizing survey placement and updating data fields to increase survey participation and effectiveness of survey data	High	Next
			(CE-S2) Wrap Up Reason Requirement: In order to provide sufficient data to enable staff to make data driven decisions, each call center unit should require wrap up reasons to be documented	Medium	Next
			(CE-S3) Wrap Up Reason Expansion: Expand wrap up reasons to be more detailed in order to better to diagnose call center problem areas	Medium	Next
	▸ Majority of call centers use post call speech analytics primarily to help them identify training needs, improvements to business process	▸ Quality assurance is currently conducted live which limits amount of QA a supervisor can conduct and prevents other staff from learning by example as call recording in not enabled. (CSD 4) ▸ The placement of the customer survey is inconsistent and lengthy, which can lead to inconsistent response rates. (CS 1 & 2)	**(CE-S4) Call Recording:** Confirm regulatory parameters for call recordings and system capabilities to redact necessary regulatory information. If it is determined that implementing recording functionality is feasible, develop a plan for implementation	High	Next

*Recommendations on exploring technology options to extend customer question response capabilities to 24/7 and alleviate agents from answering simple questions will be covered in the Customer Experience Report (Task 5).

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Key Findings and Recommendations
People & Staffing

People and staffing are essential to making a call center operate as effectively as possible. These are our overarching recommendations as a result of the metrics and measurements, customer experience and IVR sections. The full organizational alignment will be reviewed in Task 6: Organizational Alignment.

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
People & Staffing	▸ Following an integrated approach to improving performance by aligning agent training programs with operations, coaching, and QA processes have been proven to improve operational excellence, increase employee engagement and customer loyalty, and decrease costs ▸ Coach the coaches and invest in a culture of coaching by training supervisors on a coaching methodology and related KPIs ▸ The risk of agent attrition is considered highest within their first 90 days, therefore careful design of onboarding programs is necessary ▸ When designing the new agent onboarding experience, 60% of large call centers incorporate transition training and graduation after basic call handling, 55% offer a single online location for all paperwork and policies, and 48% administer employee surveys and 360° feedback to identify improvement opportunities for onboarding programs	▸ Each call center knows how long it takes to train new staff in their areas, enabling them to plan for staffing, respectively. (CSD 5) ▸ Call centers all do training and onboarding in their own way missing out on efficiencies and applying leading practices. (CSD 5) ▸ Time to train new staff is extremely lengthy, limiting opportunities to practice new skills. (CSD 5) ▸ Inconsistent staff performance management, stemming from lack of consistently measured metrics. (CSD 1 & 2) ▸ Formal training programs via center of excellence are missing, hindering leading practices from being shared. (CSD 5)	**(PS1) Training Center of Excellence & Strategy**: Develop a cohesive training strategy and implement a training center of excellence to centralize and streamline new hire and cross agency training including developing career plans/paths and modular learning to provide differentiated experience to staff and encourage tenure with the agency	Medium	Beyond
			(PS2) Onboarding Time: Evaluate and streamline onboarding activities for the call center to reduce onboarding times and to enhance the ability to quickly mobilize new staff	High	Beyond
	▸ Encourage people to move from team to team as required & work across teams – creating a 'network of teams"	▸ Work is often siloed with minimal inter-departmental cooperation, creating a knowledge vacuum and limiting opportunities to help other areas. (CR 2)	**(PS3) Cross-training:** Cross-training staff will aid in quick workforce adjustments and will allow the breakdown of silos to better facilitate the free flow of information	High	Next

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Key Findings and Recommendations
People & Staffing

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Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
People & Staffing	▸ Behavioral, cognitive and competency testing at the recruitment stage reduces attrition risk (#1 reason for agent attrition is hiring "the wrong type of person for the job")	▸ This testing was not mentioned as part of the recruitment process, increasing the possibility of suboptimal staffing. (CSD 6)	**(PS4) Call Center Agent Hiring:** Explore incorporating behavioral insight techniques, including cognitive and competency evaluation, into hiring practices to evaluate candidate compatibility with the call center role	Low	Beyond
	▸ Medium to Large (>200) call centers already use some capabilities of WFM platform ▸ Top 3 WFM capabilities used by a large call centers (>200) are Forecasting, Real time adherence, multi skilling ▸ Based how many staff are needed on service level, productivity, cost of service, and skill levels.	▸ No current WFM employed, leading to unoptimized staffing. (AMM 1) ▸ Schedules are created manually by leadership, taking time away from other initiatives. (AMM 1) ▸ Limited forecasting, which prevents DOR from planning out how many staff are needed at a given time to answer incoming phone calls. (ECDS-1) ▸ Limited strategic planning, which prevents DOR from planning how and when they will cross educate staff to staff up to goals. (AMM 1)	**(PS5) Workforce Management:** Evaluate a WFM tool to streamline the forecasting and strategic planning process	High	Beyond

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Key Observations

The DOR is currently undergoing a website upgrade to shift the website from SharePoint 4.0 platform to SharePoint 4.X. DOR is managing the project internally with support from NICUSA. The new website is currently in prototype build phase and user acceptance testing is planned at the end of September with go live anticipated for later this year (to coincide with the new the GenTax V12 go-live); This rollout will also include an enhanced version of Google Analytics for readability statistics. We have included relevant design recommendations throughout this document that would enhance the customer experience based on our experience and leading practices regardless of designer ownership or state mandate constraints. Below are key observations based upon our review.

Organizing Principle

Organizing Principle & Intuitive Navigation
The website does not consistently apply recognizable organizing principles to the website along with a menu structure with intuitive naming conventions

Better readability, accessibility and searchable content
A collection of reusable components should be created for the website, guided by accessibility standards to build a unified webpage experience and enhance searchability of content

State agency design templates
Other Oregon state agency website design templates and features should be leveraged to enhance website functionality and flexibility

SEO & Analytics
Search engine optimization tools (SEO) including Google Analytics to track and analyze website actions (i.e., number of visitors, number of page views, etc.) is not currently being utilized by DOR

Website Content

Education Options
Enhanced 'how do I' videos and tutorials to provide customers additional instructions and support to reduce call volume does not currently exist

FAQ Section
Enhance FAQ's information and utilize as a primary source for customers to answer common questions based on survey responses, call reasons, etc. is easily accessible to customers

Public Dashboards
Publicize dashboards to inform customers of wait times, refund processing timelines, etc.. to support customer transparency do not exist

Communications Strategy
An overall communications strategy to confirm customer communication strategy across the website and other channels to optimize the customer experience is not in place

Self-service

On Demand Answers
Technology to provide 24/7 questions / answers to frequently asked questions and navigational assistance has not been implemented

Encourage and reward self-service
There is a need to empower users to complete tasks in a secure, logged-in site experience (payments, filing and correspondence) including driving customers to the website while on hold for call center agents

Revenue Online
There is an opportunity for revenue online to simplify customer access to account login, payments and have a more integrated look and feel with DOR website to improve the customer experience

Prioritize Mobile
The website's core functionalities are not easily accessible and responsive across mobile, tablet and desktop devices

6. Customer Experience Design

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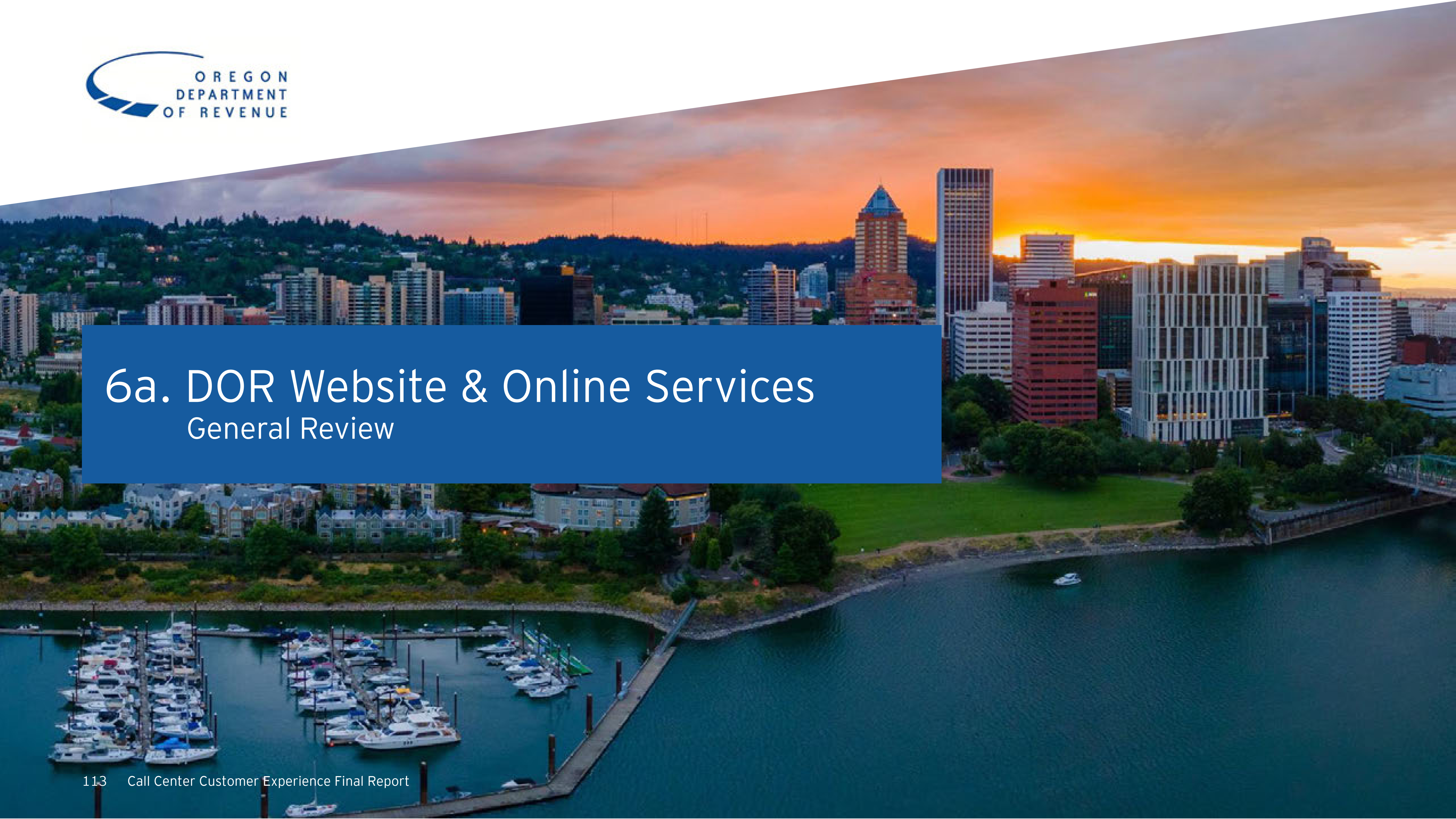
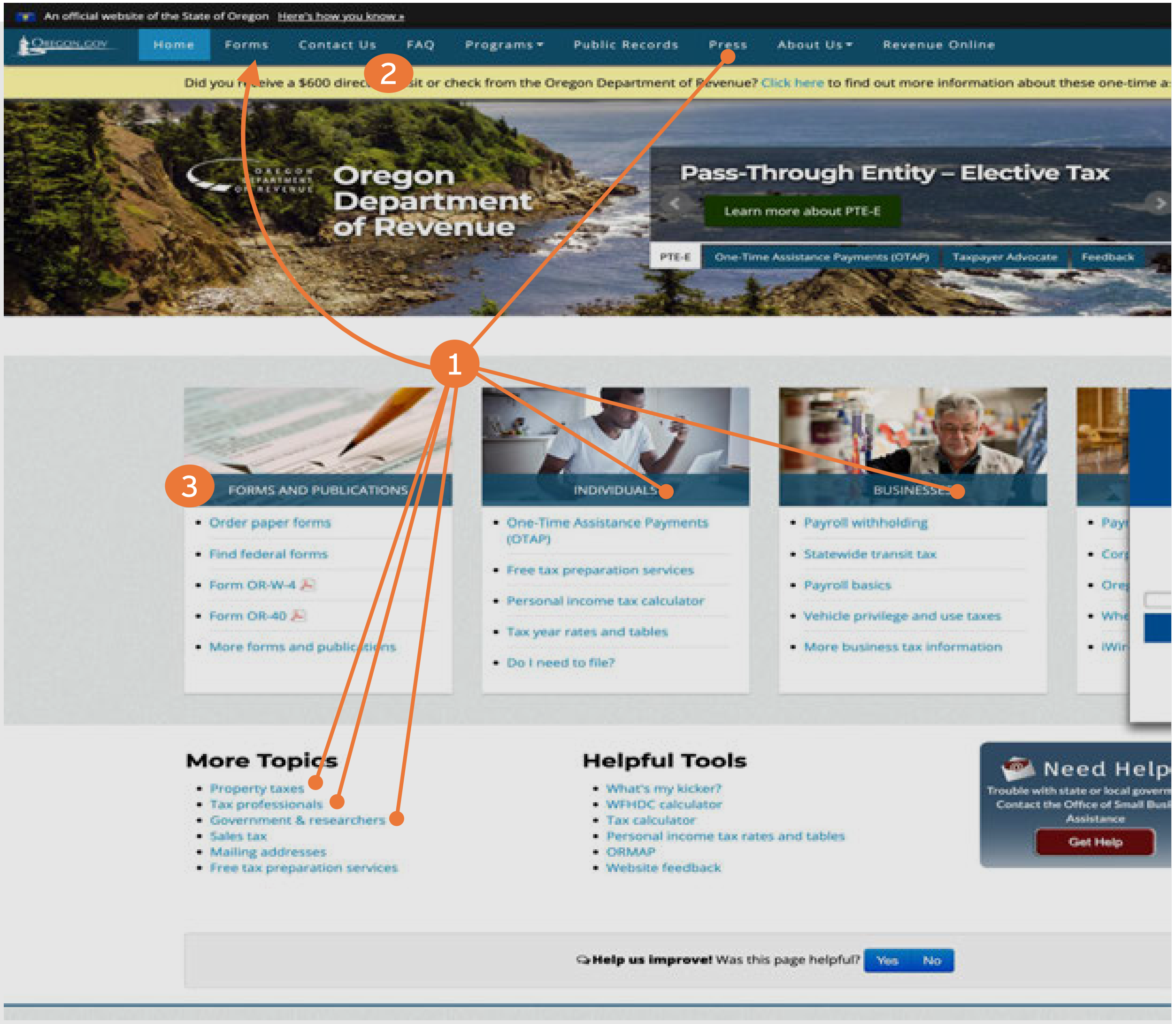


6a. DOR Website & Online Services

General Review

DOR Website Review
Organizing Principle

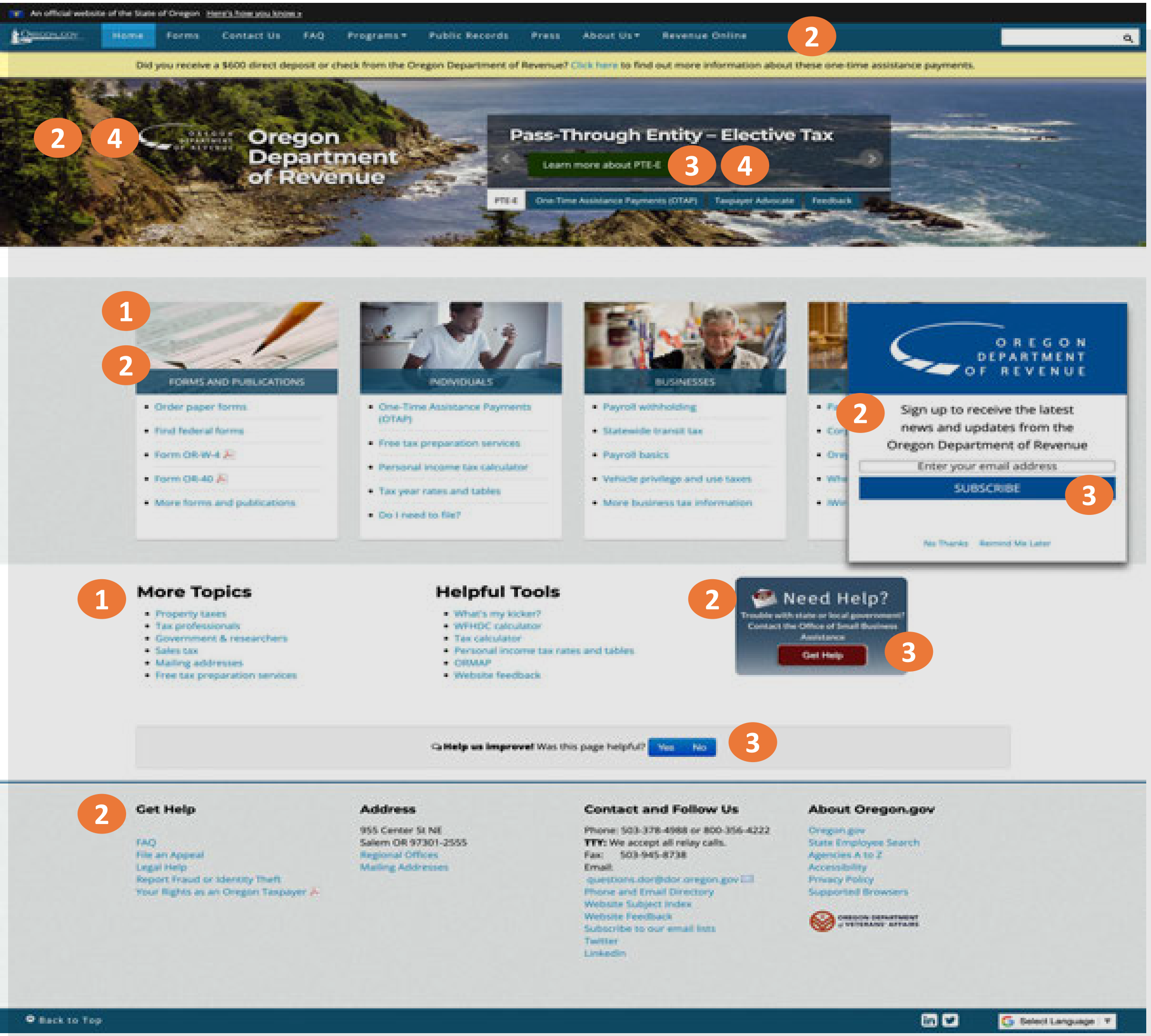


Elevating popular destination links to highest level navigation

1. Adopt a primary organizing principle based on user's self identification, then secondarily by task to narrow options to those most relevant
2. Focus high-level menus to user's self-identified role & needs. Aim for users to find their desired content/alternative in 3 clicks
3. Maintain consistent navigational naming and ordering throughout entire site

Source: State of Oregon: Oregon Department of Revenue - Home

DOR Website Review
Better Readability and Accessibility



Creating a collection of reusable components, guided by accessibility standards to build a unified webpage experience

1. Create design system for different information components
2. Create a style guide for font size, color and spacing for universal use cases across site
3. Define a style guide for areas of interactivity (ex: button, links)
4. Ensure there is enough contrast between text / component colors and its background color

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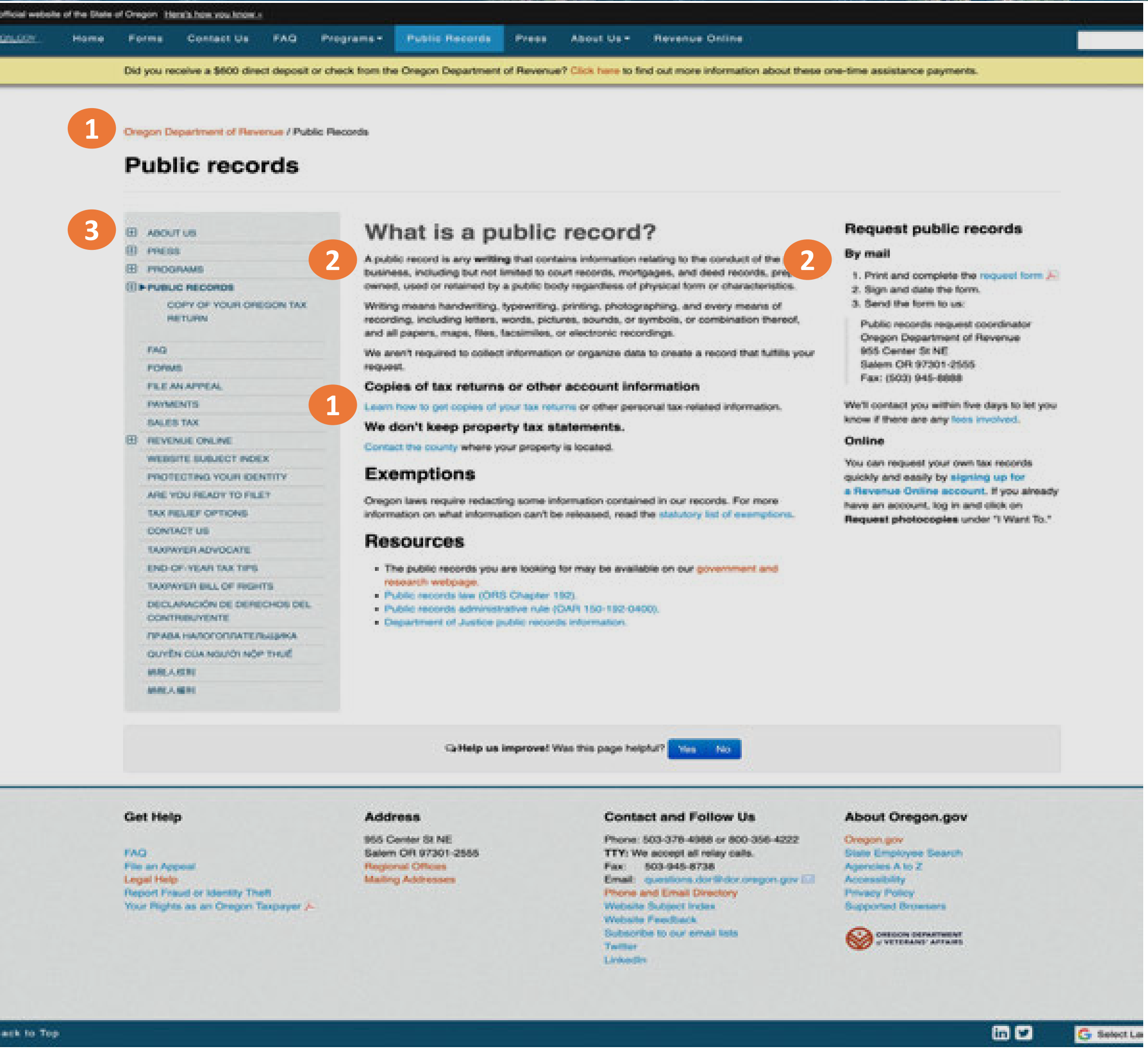
Source: [State of Oregon: Oregon Department of Revenue - Home]

DOR Website Review

Better Readability and Accessibility



Creating a collection of reusable components, guided by accessibility standards to build a unified webpage experience

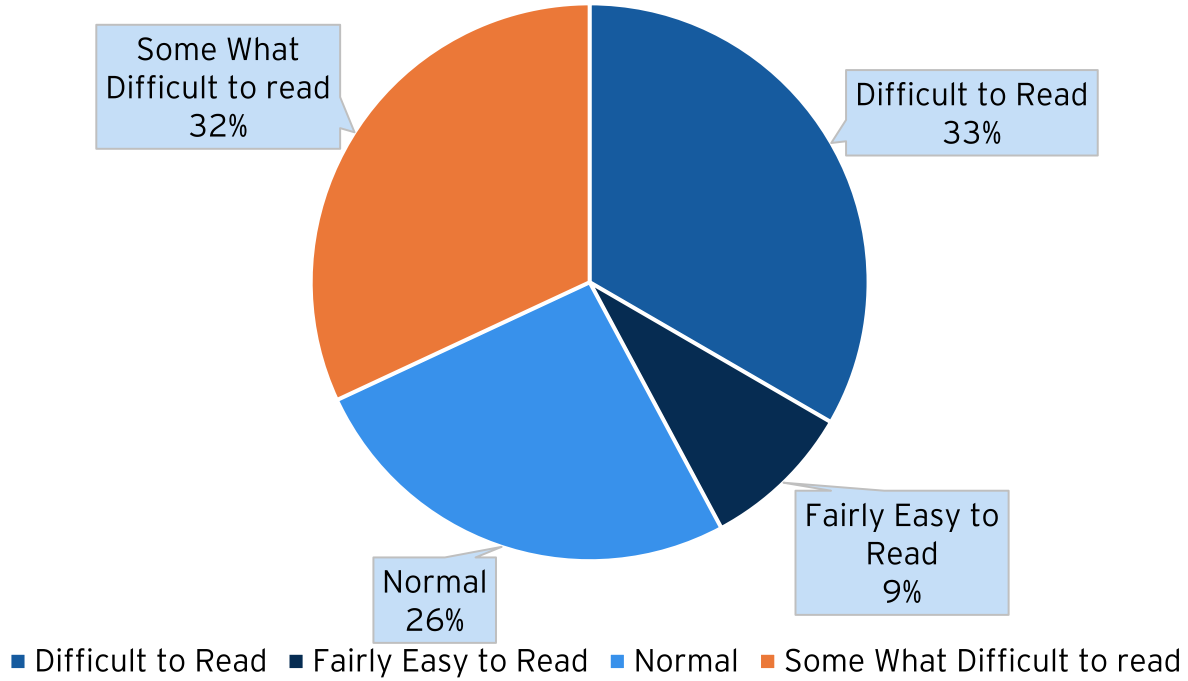
1. Avoid usage of all caps in long lists with little spacing, text and using more than one color as a link color on the same background color
2. Incorporate relevant color, imagery, iconography or increased spacing between sections to break up monotony of black text on page
3. Adopt a grid that allows for use of full-page real estate instead of sandwiching information in middle column of page
4. **Website not in compliance with World Wide Web Consortium (W3C) and Web Content Accessibility Guidelines (WCAG) standards. 4 critical or serious problems that will affect people with Blindness and Mobility/Dexterity problems

Source: *State of Oregon: Public Records - Public records* **Deque - Accessibility Assessment Summary*

DOR Website Review
Better Readability and Accessibility

Oregon Department of Revenue's website was evaluated for readability standards.

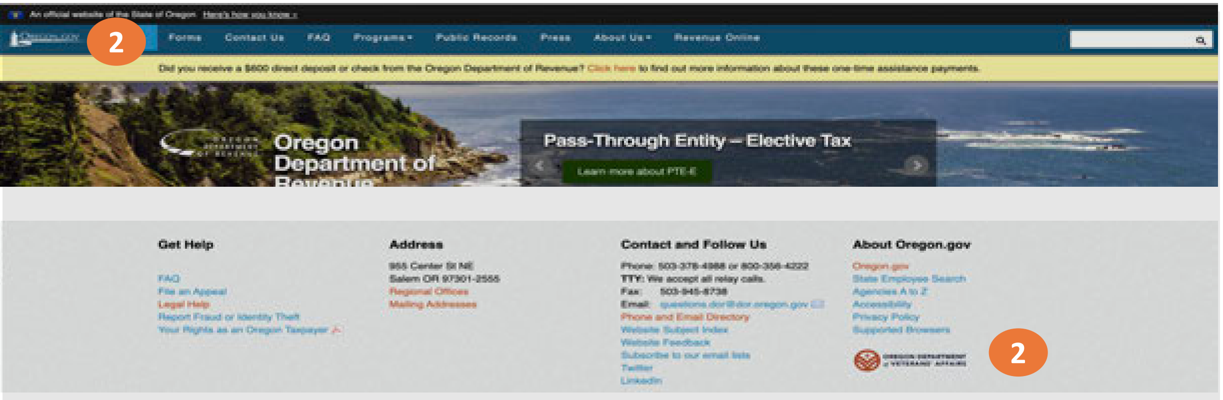
Webpage content readability Standards

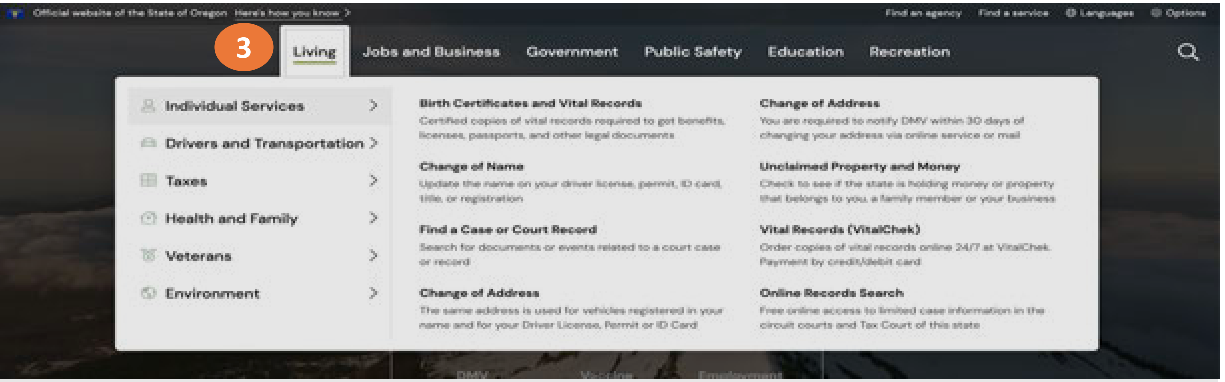


1. The overall Flesch Kincaid Reading Ease is 44.5, which indicates the content over all is difficult to read
2. 65% of the webpages are categorized as difficult or somewhat difficult to read

Source: https://www.experte.com/readability-checker; https://www.webfx.com/tools/read-able/check.php?uri=https%3A%2F%2Fwww.oregon.gov%2Fdor%2FPages%2Findex.aspx&tab=Test+By+Url&imahuman=16749697

DOR Website Review
Accepted Header Design Principles





Maintaining a structured and simple navigation with core user tools

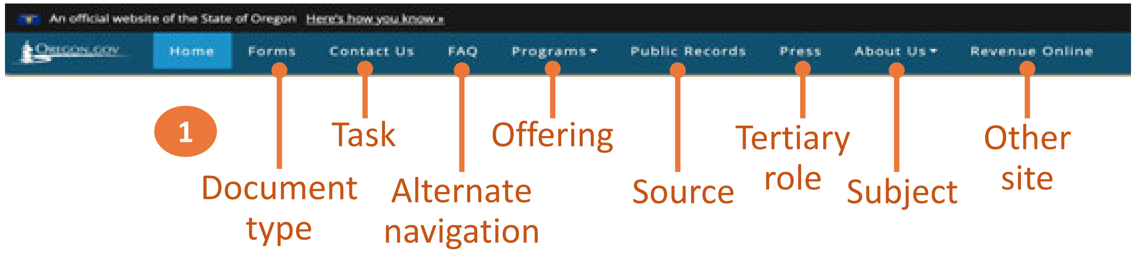
1. Display surface language selector more prominently (see oregon.gov), and display choices in native language/alphabet

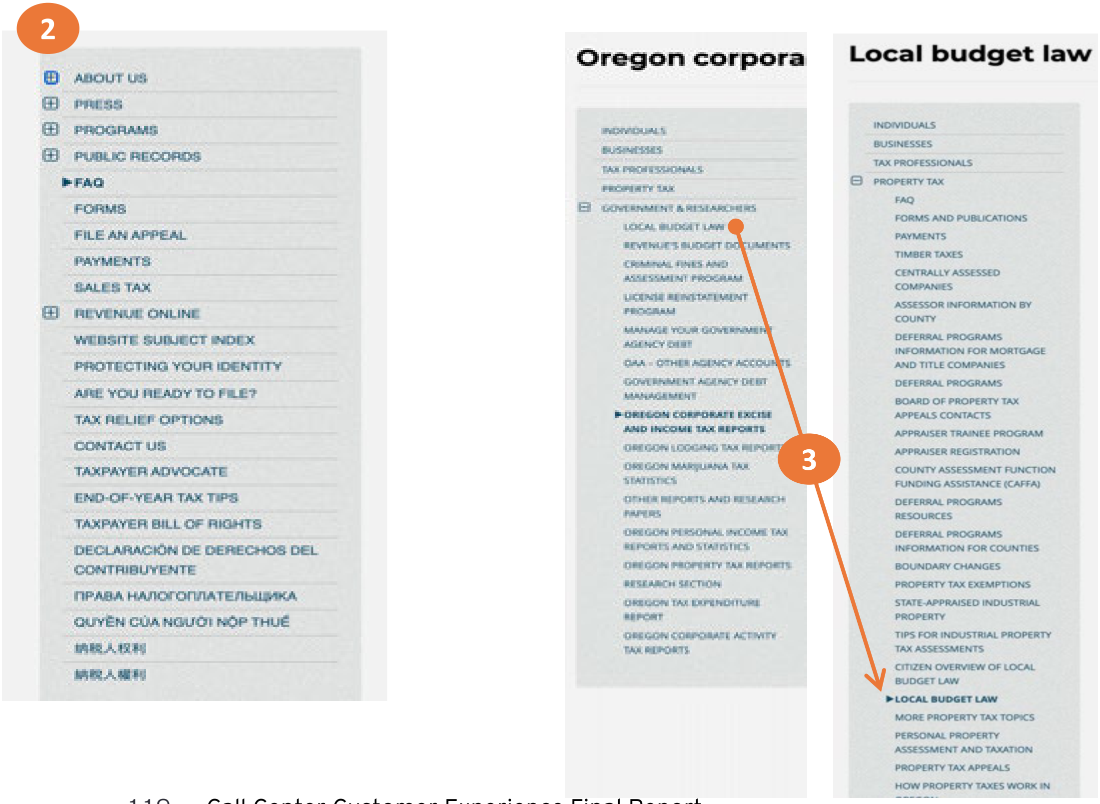
2. Use DOR logo as the DOR site "home" link in header to associate with site navigation. Provide Oregon.gov logo and link in footer, or as link only in alternate space in band above

3. Lead with primary organizing principle for highest level navigation choices. Consider tiered navigation (as on Oregon.gov) to expose complicated secondary and tertiary choices

Source: Oregon.gov : State of Oregon

DOR Website Review
More Intuitive Navigation





Keeping a consistent menu structure with intuitive naming conventions

1. Non-parallel terms impede decision-making by requiring complete review and consideration
2. Extra-long, comprehensive menus challenge way-finding. Take advantage of interactive functionality to avoid "complete index" approach
3. Inconsistent ordering of menus demands tiresome close reading and leads to confusing context-jumping

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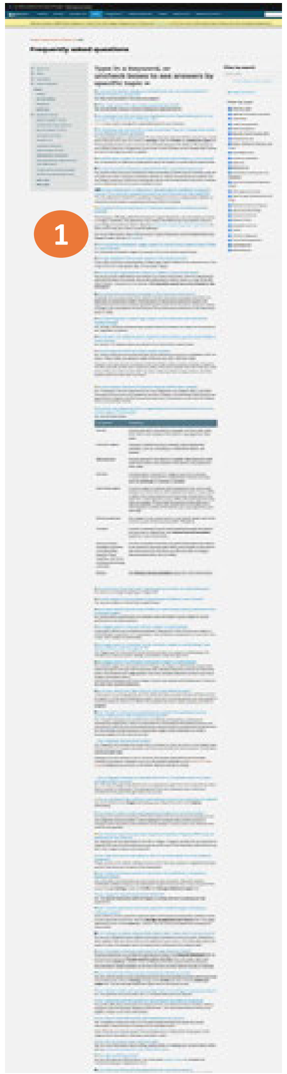
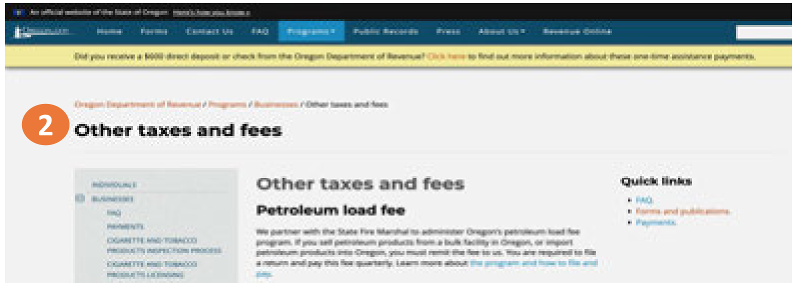
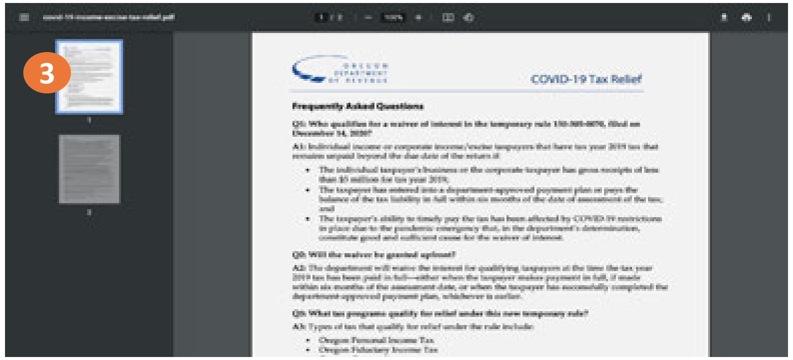
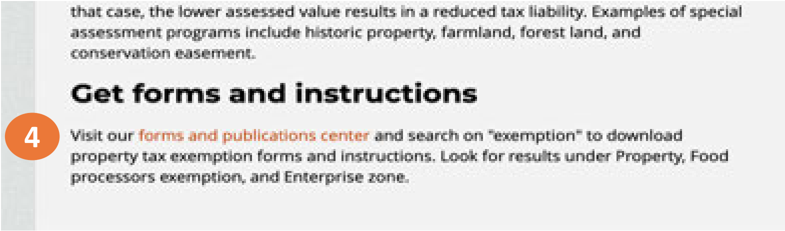
Source: *State of Oregon: FAQ - Frequently asked questions*

DOR Website Review
Searchable, Scannable Content Presentation









Resorting content under descriptive and informative categorizations

1. Use a FAQ repository as a navigational option of last resort–not as a primary information source. Nothing in an FAQ section that cannot be found via other navigation or search choices. Limit FAQs to only those that defy easy categorization or search
2. Provide descriptive, informative section headings and subheadings for easier scanning and better SEO
3. Convert PDFs to html to optimize search-ability and enable responsive displays. Brochure layouts make no sense on the web
4. Reward users with actual information, not instructions for search criteria

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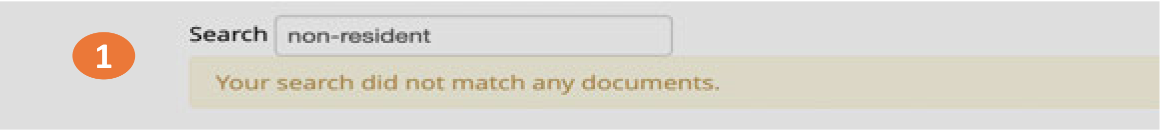
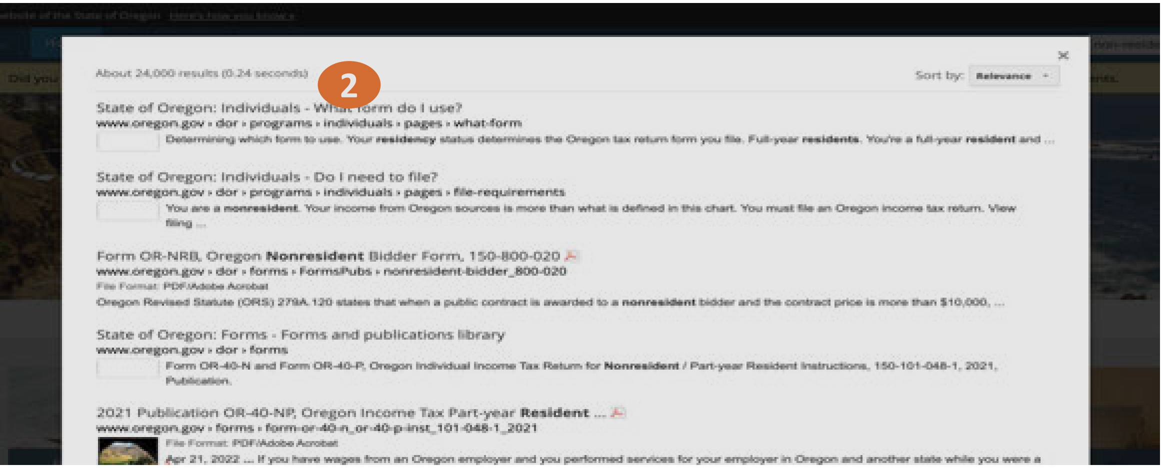
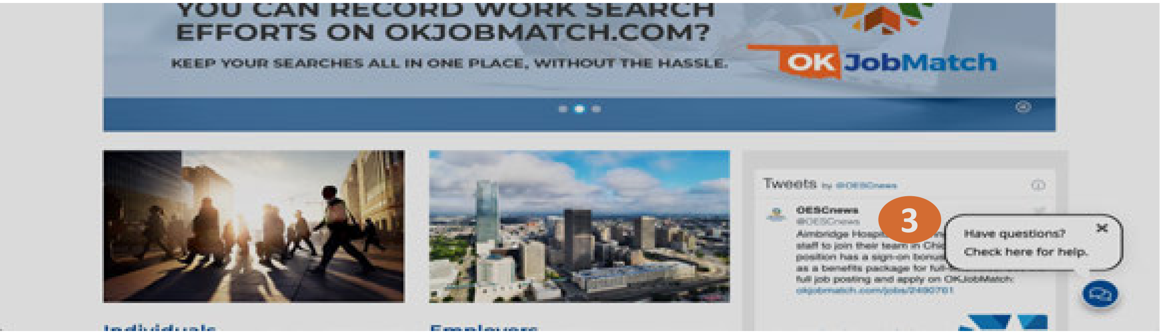
Source: *State of Oregon: Businesses - Other taxes and fees*

DOR Website Review
Searchable, Scannable Content Presentation







Resorting content under descriptive and informative categorizations

1. Include synonyms and file names—especially for forms—in search engine crawl to avoid confusing null results

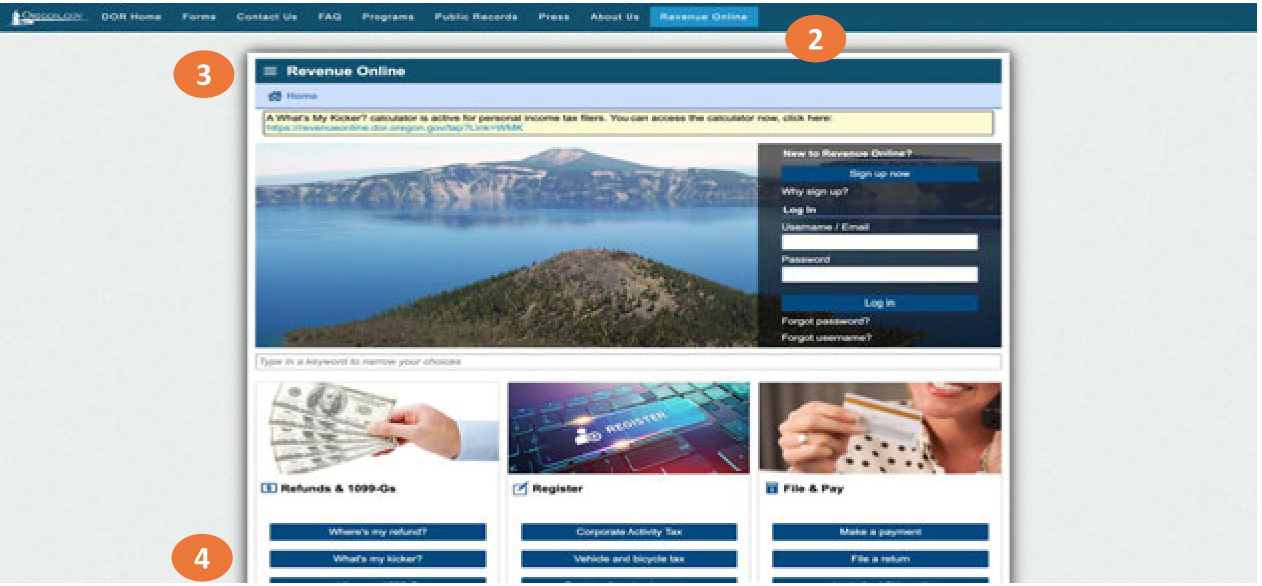
2. Allow filtering of search results by content type, file format, topic or source to narrow results without need for another search attempt

3. Once better SEO is established, consider contextual virtual agent to serve users who prefer a natural or near-natural language search experience. Contextual virtual agent will help in reducing call volumes, provide 24/7 support and improve data quality. *Sample from Oklahoma Employment Security Commission*

4. EY recommends implementing screen pops by integrating call center application with GenTax. Screen pops can save 30-45 seconds in AHT by sending the agent information that the customer has already provided

Source: *State of Oregon: Oregon Department of Revenue - Home*; *Frequently Asked Questions (oklahoma.gov)*

DOR Website Review
Encourage and Reward Self-Service



Empower users to complete their tasks in a secure logged-in site experience

1. Emphasize on-line, self-service options over all others for requests and data entry (see example on following slide)

2. Clarify purpose and benefit of Revenue Online enrollment on the public site. Feature it as an alternate destination, not part of the DOR site navigation

3. Consider a name change to something more distinctive relative to the DOR site

4. **For the short term**, consider integrating Revenue Online functions that do not require log-in into the DOR site. **For the future**, consider positioning Revenue Online not as a separate experience, but as a secure logged-in dashboard that combines targeted instructions, data submission, transactions, and status updates, and becomes the primary DOR experience for enrolled citizens and businesses

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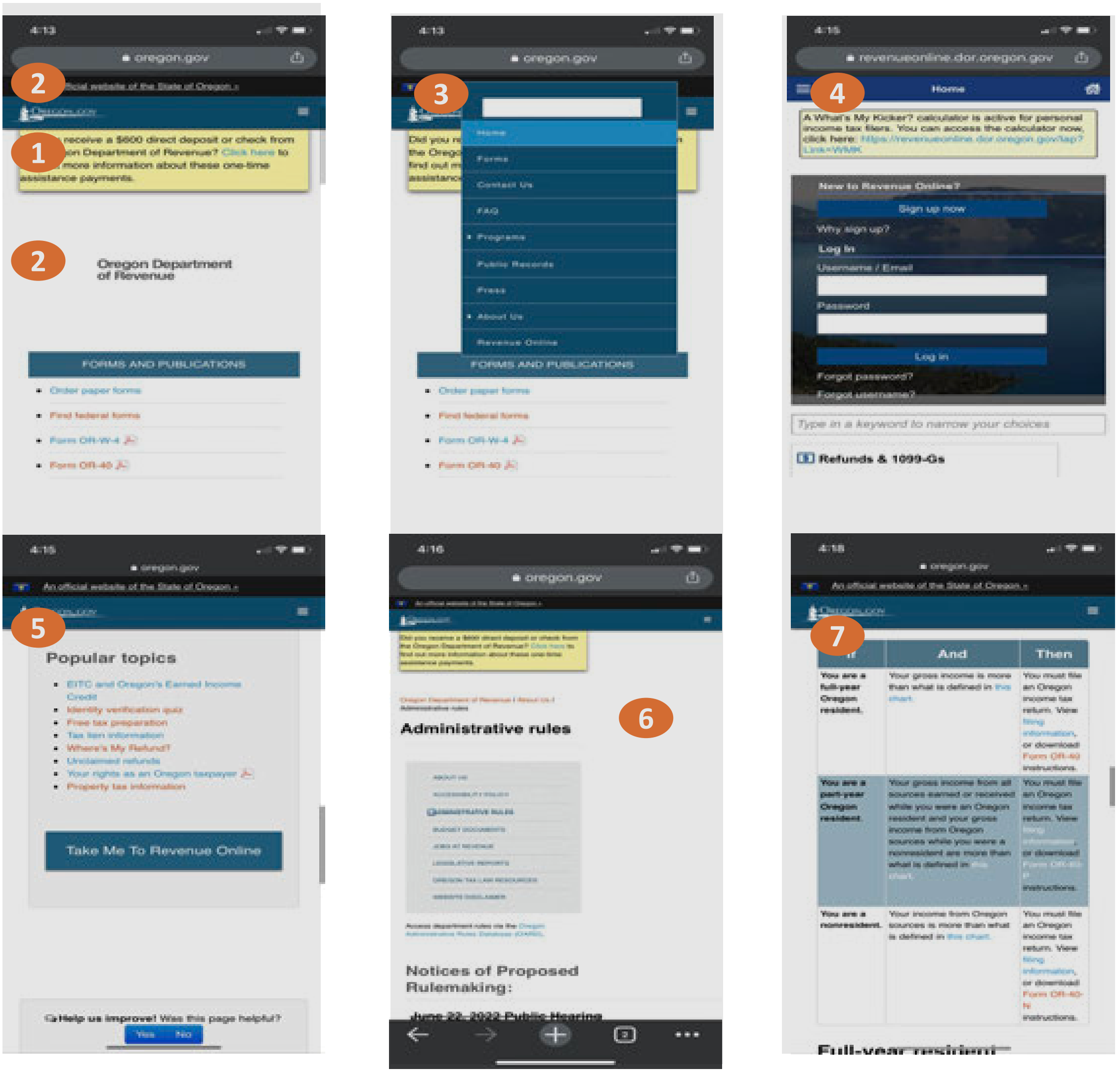
Source: *State of Oregon: Public Records - Public records*

DOR Website Review
Prioritize Mobile



DOR already has a mobile option for customers; however, for optimal utilization, ensure that the site's core functionalities are accessible and responsive across mobile, tablet and desktop devices

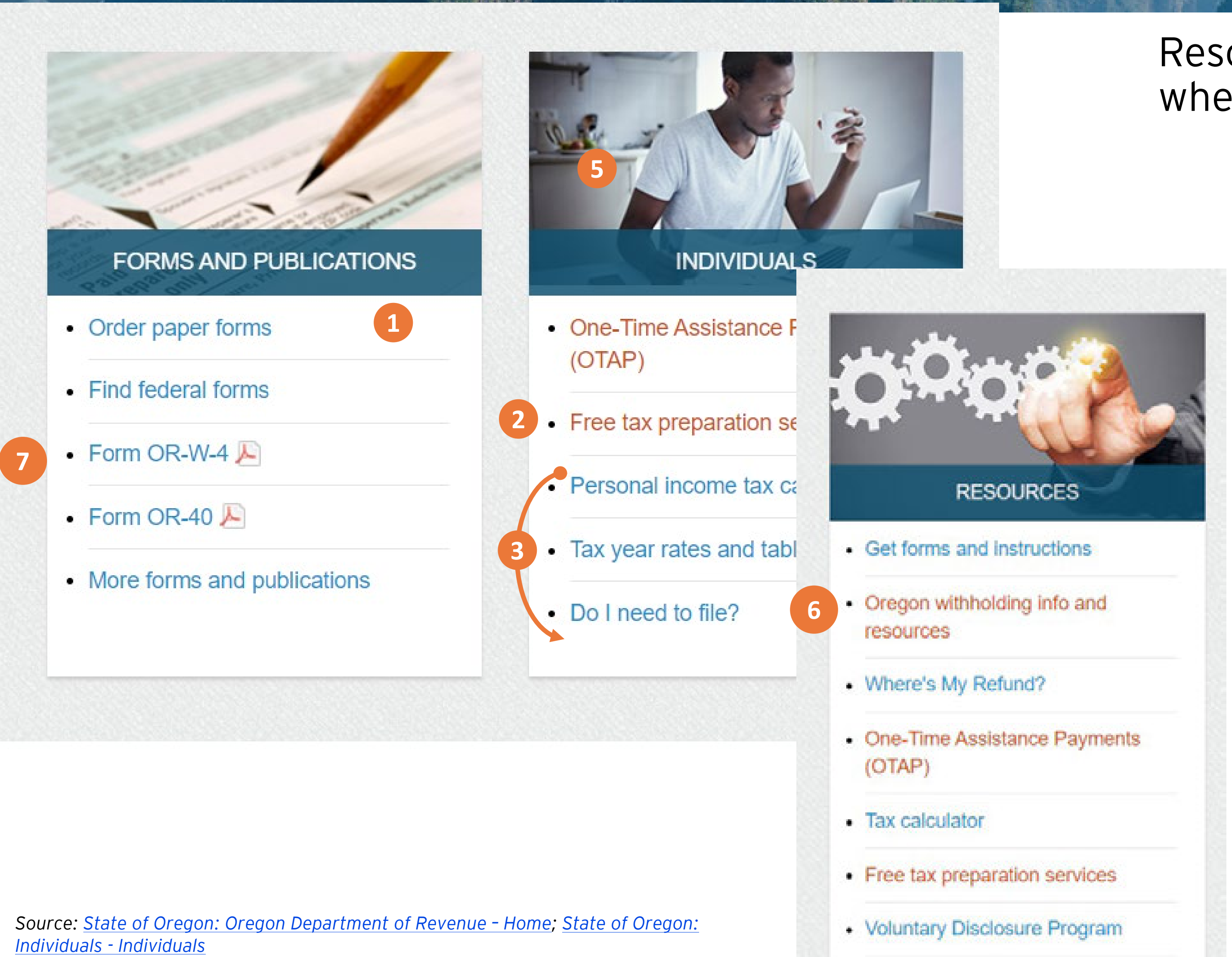
1. Notifications should be closable and span full width
2. DOR logo and name should be more prominent and readable upon reaching the homepage
3. Display complex menus as sliding menu "drawers" or screen take-overs
4. Let Revenue Online be L1 nav. that takes over as main once the user scrolls past initial landing
5. "Popular topics" work better when they appear more prominently—not at page bottom—on mobile devices
6. Adopt a consistent page grid and sizing across related pages to avoid jolting text shrinks or margin shifts
7. Convert multi-column tables to simpler lists

Source: State of Oregon: Oregon Department of Revenue - Home; Revenue Online (oregon.gov); State of Oregon: About Us - Administrative rules; State of Oregon: Individuals - Do I need to file?

6b. DOR Website & Online Services

Customer Resources

DOR Website Review
Taxpayer Resources

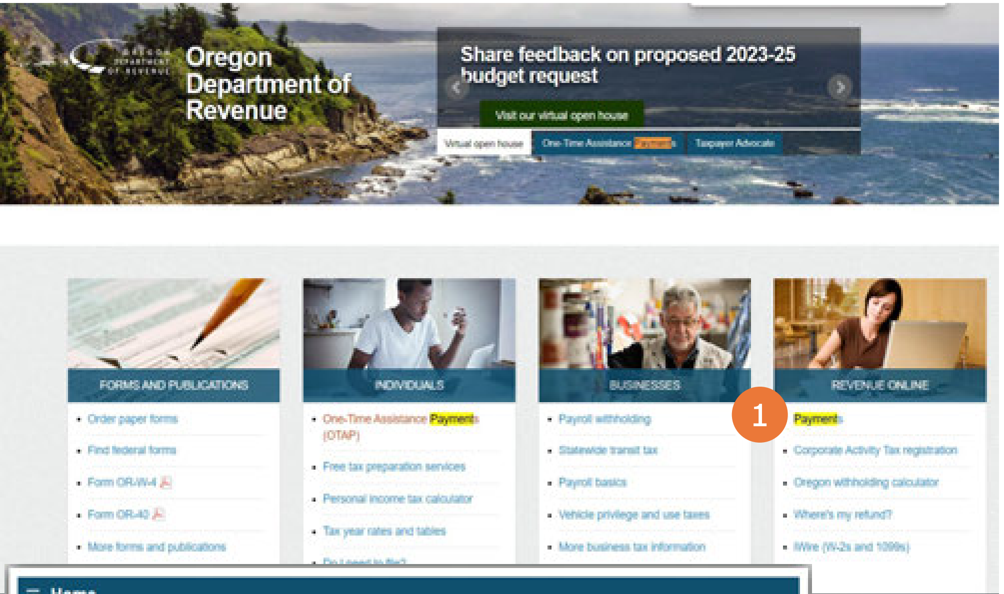


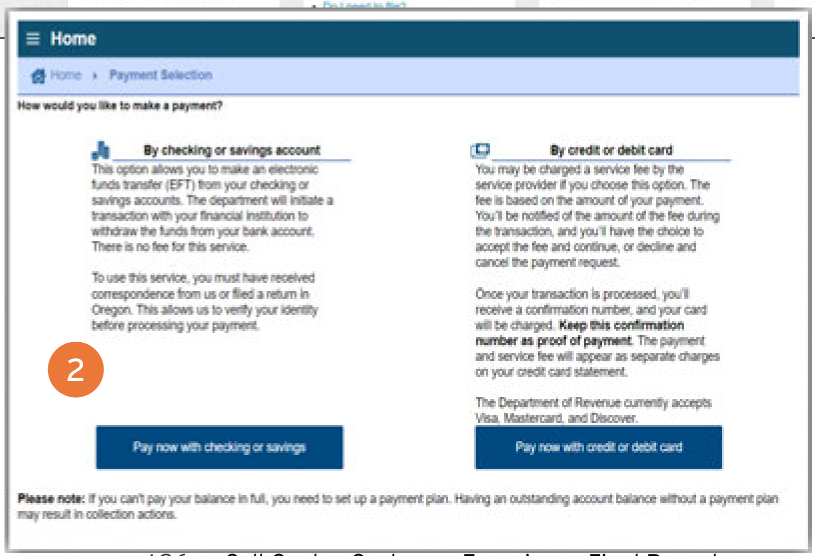
Resources for customers regarding how to file / when to file are currently on DOR website.

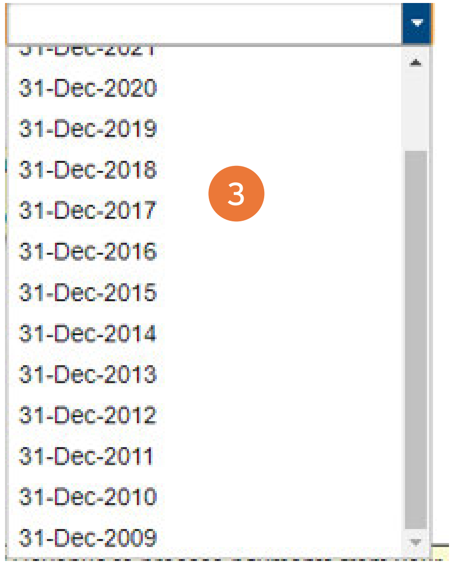
1. Home page gives links to paper forms but does not offer links for electronic filing, instead driving customers to paper processes
2. Lists out companies that offer free tax preparation services but is listed after paper forms pushing customers towards paper processes instead
3. Lists out other relevant information for individuals (tax year rates, etc.), but no videos or tutorials on how to accomplish filing
4. No links to social media for quick resources or updates
5. The ability to get to resources is not intuitive. You must click on the "individuals" or "business" link
6. Some links under resources do not work
7. No Revenue Online offering for completing and e-filing OR state individual tax returns, reducing the ease of electronic filing mandate for customers

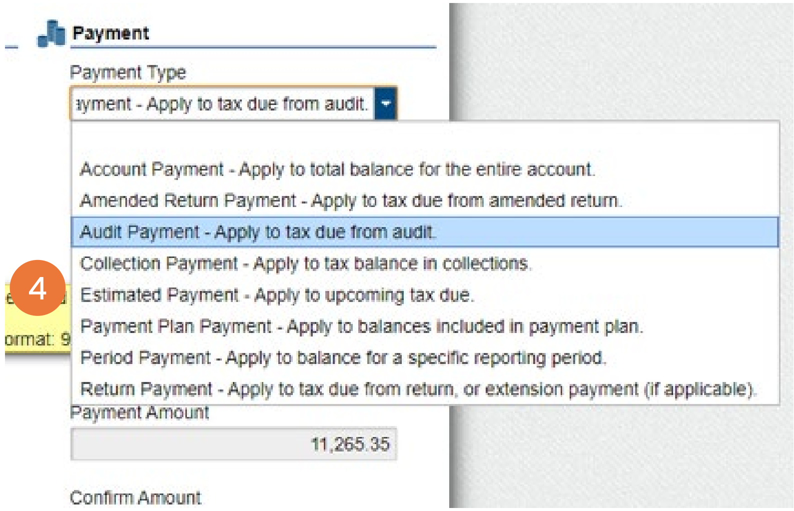
Source: *State of Oregon: Oregon Department of Revenue - Home*; *State of Oregon: Individuals - Individuals*

DOR Website Review
Expanded Payment Options

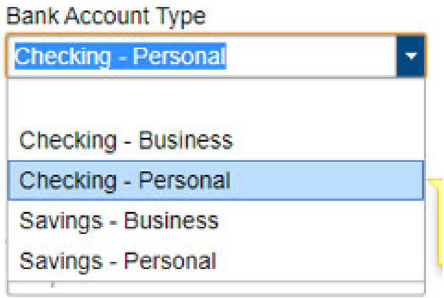








1. Payments are hidden on the home page making a customer search more than needed
2. Customers have the option to pay on ROL via logged in and non-logged in method which may generate misapplied payments
3. The available payment periods to apply payments go all the way back to 2009, which can produce payments being misapplied
4. The "payment type" has a multitude of options that could confuse customers
5. When paying via check logged into ROL, there are multiple payment account options which can produce confusion and errors



Source: State of Oregon: Oregon Department of Revenue - Home

DOR Website Review
Contact Us

Contact and Follow Us 1

Phone: 503-378-4988 or 800-356-4222
TTY: We accept all relay calls.
Fax: 503-945-8738
Email: questions.dor@dor.oregon.gov
Phone and Email Directory
Website Subject Index
Website Feedback
Subscribe to our email lists
Twitter
LinkedIn

- ABOUT US
- PRESS
- PROGRAMS
- PUBLIC RECORDS
- FAQ
- FORMS
- FILE AN APPEAL
- PAYMENTS
- SALES TAX
- REVENUE ONLINE
- WEBSITE SUBJECT INDEX
- PROTECTING YOUR IDENTITY
- ARE YOU READY TO FILE?
- TAX RELIEF OPTIONS
- ▶CONTACT US
- TAXPAYER ADVOCATE
- END-OF-YEAR TAX TIPS
- TAXPAYER BILL OF RIGHTS
- DECLARACIÓN DE DERECHOS DEL CONTRIBUYENTE

How can we help you today?

As of July 12, 2021, the Revenue Building in Salem and all regional field offices are **open** to the general public. No appointment is necessary, but it is still appreciated.

You can schedule an appointment in Salem or in our regional field offices by using our self-service tool or calling 800-356-4222 toll-free.

2

Contact list

- Director's Office
- Amusement Device Tax
- Business & Corporate Tax
- Cigarette & Tobacco Tax
- Corporate Activity Tax
- Electronic Funds Transfer (EFT)
- Emergency Communications (E911)
- Heavy Equipment Rental Tax (HERT)
- Human Resources
- Legal Help

General assistance

Phone: 503-378-4988 or 800-356-4222
Asistencia disponible en español
Fax: 503-945-8738
TTY: We accept all relay calls

You can also send us documents electronically through your Revenue Online account.

Open Monday-Friday, 7:30 a.m. to 5 p.m.

Phones lines are closed 9 to 11 a.m. Thursdays and on holidays.

955 Center St NE
Salem OR 97301-2555

Schedule an appointment.

Mailing addresses

View our mailing addresses. 3

Regional offices

View a list of our regional offices.

Resources for customers who have additional questions are currently listed on DOR website

1. Contact information is buried at the bottom of the home page creating a suboptimal experience
2. Contact list is disorganized and unclear about who to contact for what issue
3. Contact us page does not include general inquiry email inbox, instead directing customers to the general assistance phone line and mailing addresses, which can produce higher call volumes and more paper correspondence

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Source: *State of Oregon: Oregon Department of Revenue - Home*; *State of Oregon: Contact Us - Contact and follow us*

DOR Website Review
Online Customer Service Survey

Contact and Follow Us

Phone: 503-378-4988 or 800-356-4222
TTY: We accept all relay calls.
Fax: 503-945-8738
Email: questions.dor@dor.oregon.gov
Phone and Email Directory
Website Subject Index
1 Website Feedback
Subscribe to our email lists
Twitter
LinkedIn

2

Contact us

Tax professionals survey

Take The Survey

Licensed tax professionals only

To reach our dedicated practitioner specialist:

Email:
prac.revenue@oregon.gov.
Phone: 503-947-3541.

Tell us about your experience using the Department of Revenue's website

* 1. Overall, how would you rate the quality of your experience on the website?

Very helpful	Somewhat helpful	Neither helpful nor unhelpful	Somewhat unhelpful	Very unhelpful
○	○	○	○	○

Next

Thank you for taking the time to provide feedback to the Oregon Department of Revenue. We've designed this survey to take less than three minutes because we know your time as a tax professional is valuable. Your input will help shape our services so we can better serve Oregonians.

Why did you contact the Department of Revenue today?

Were you satisfied with the service received today?
○ Yes ○ No

Please explain why you answered yes or no to the previous question.

What suggestions do you have to make your experience better?

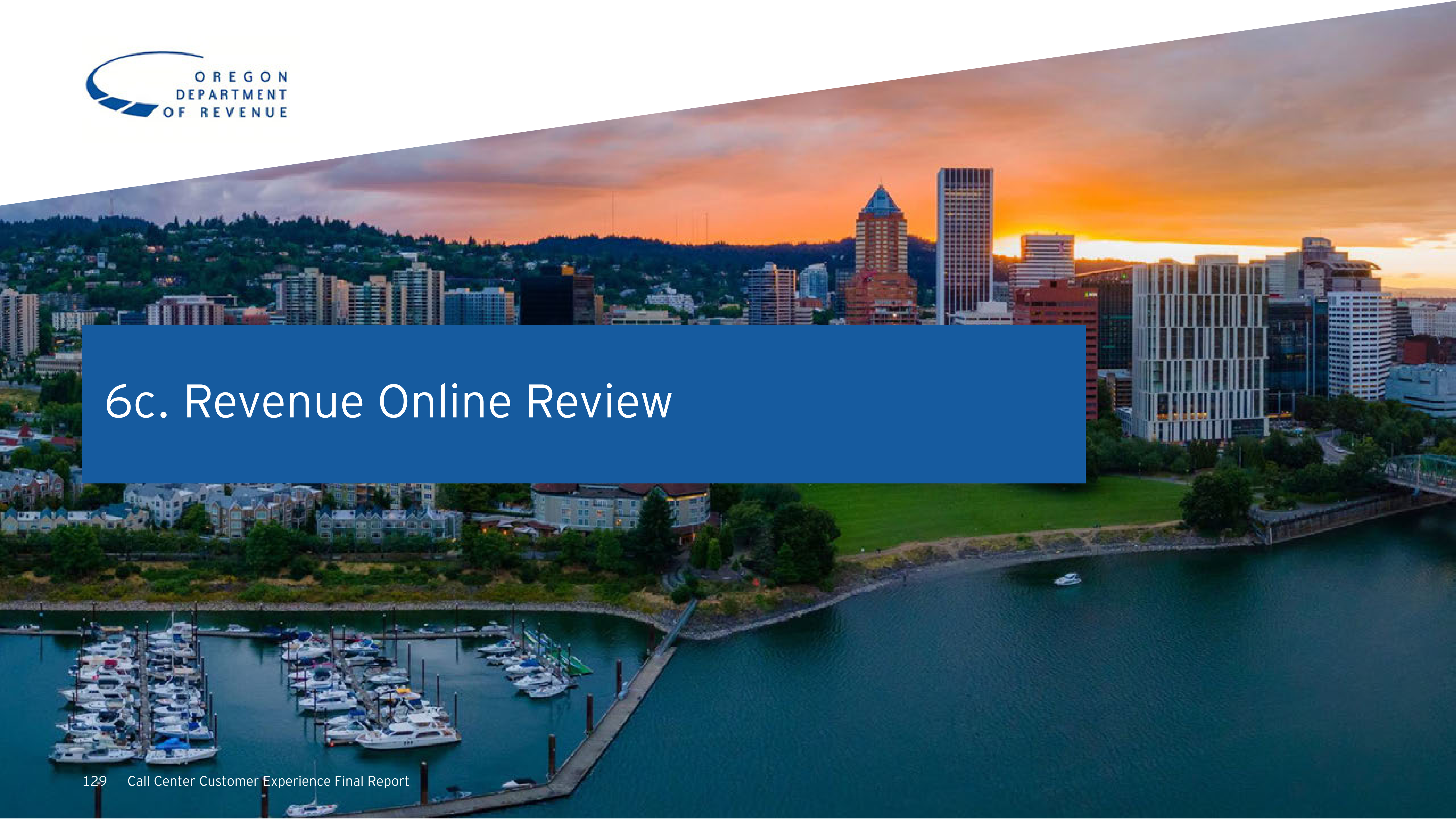
Two customer service surveys exist on the DOR's website.

1. Customer service survey is hidden at bottom of home page reducing the likelihood of participation

2. Tax professional survey is very different from other customer service survey which produces varied answers

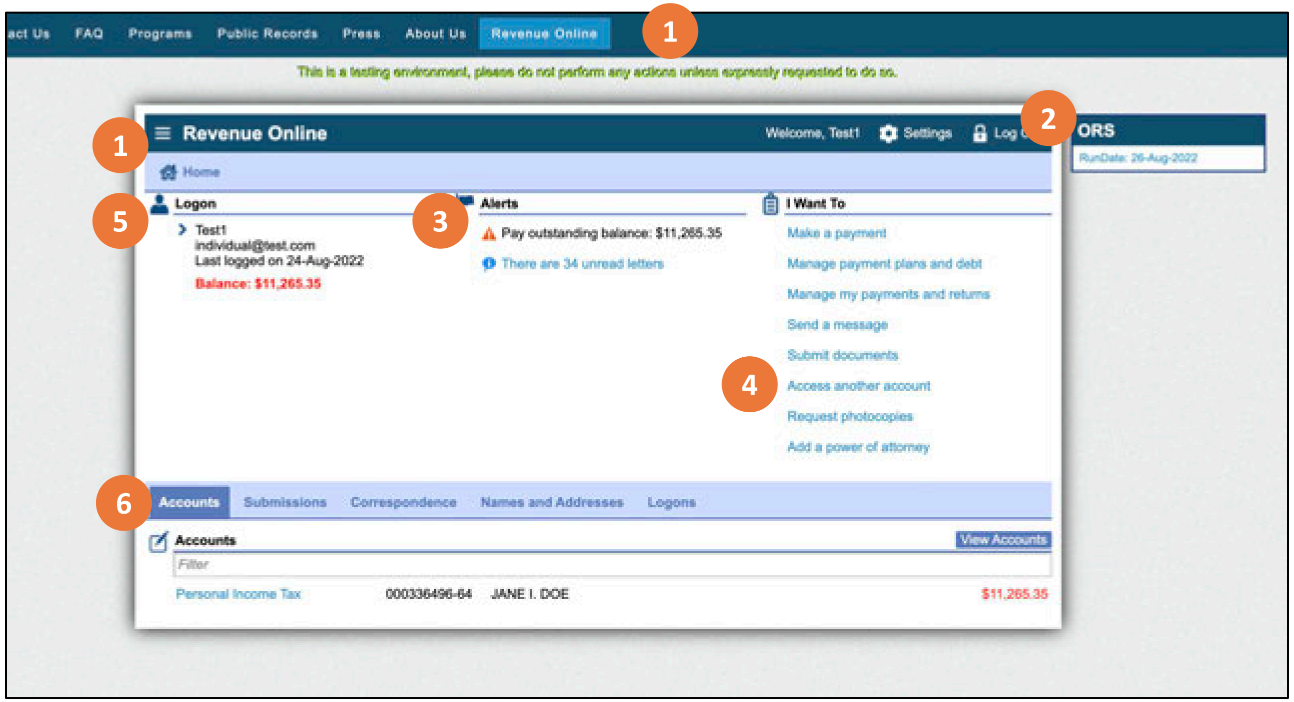
Source: *Tell us about your experience using the Department of Revenue's website Survey (surveymonkey.com)*; *State of Oregon: Tax Professionals - Tax professionals*

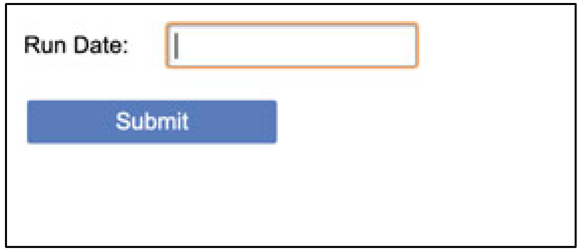
OREGON DEPARTMENT OF REVENUE



6c. Revenue Online Review

Revenue Online Review
Elbow Home Profile





1. Competition (and possible confusion) between logged-in and non-logged in state menus: Should feel like separate sites with clear and easy navigation between
2. Revenue Online should not be an overlay. The area for Revenue Online interactivity and information viewing is small. Give full real estate to transactional, logged-in, and preferred user view
3. Non-actionable alerts. Urgent alerts for paying a lump outstanding balance is neither clickable, nor likely the next action (since it covers multiple aged returns). Users should be able to initiate the next likely action without working to discover “what” or “how”
4. Multi-account overkill. Consider whether an account listing/search is appropriate for average individuals. A simple list with common options may be more intuitive
5. Poor information hierarchy. History should be about last action taken or last notification received, not merely last log-in. This will help give answers to questions from a user point of view

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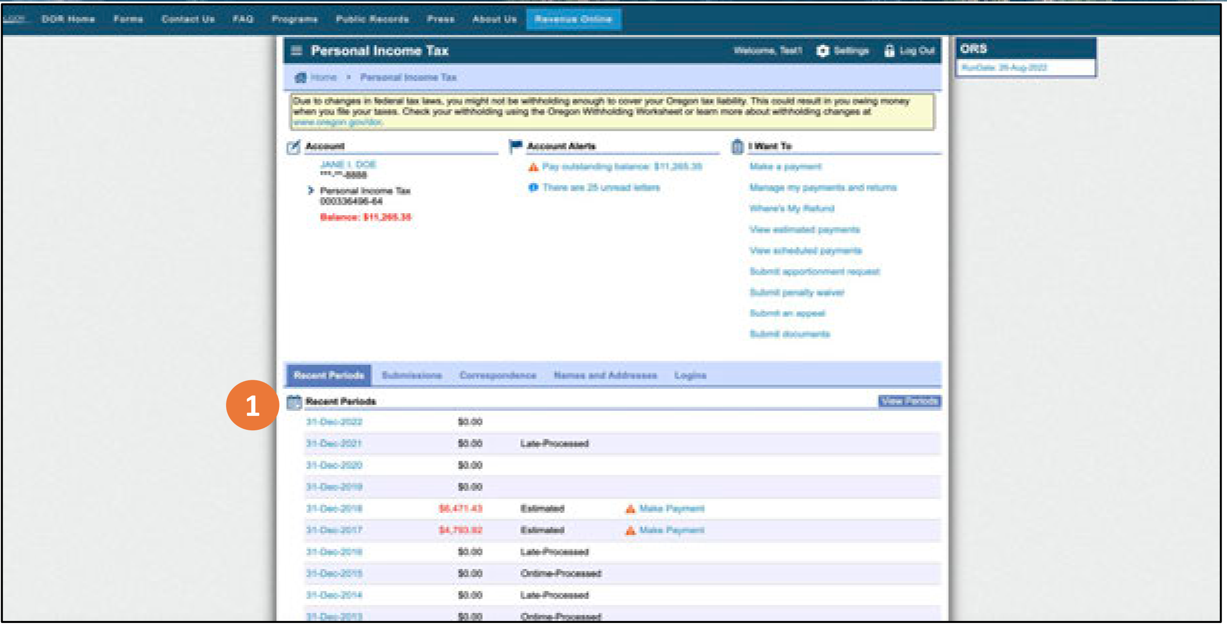
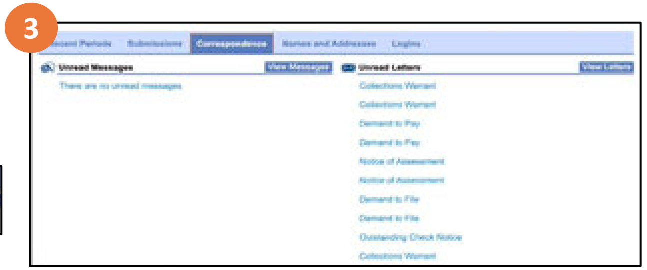
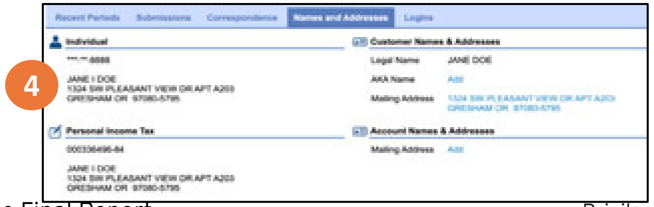
Source: [Revenue Online (oregon.gov)]

Revenue Online Review
View Outstanding Payments



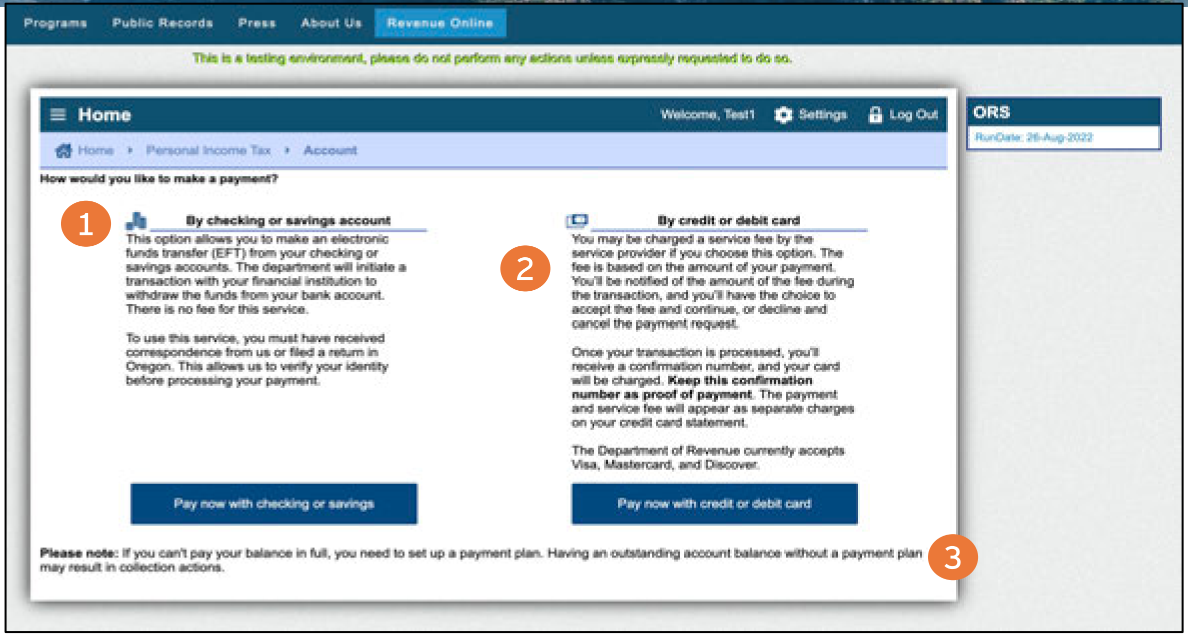


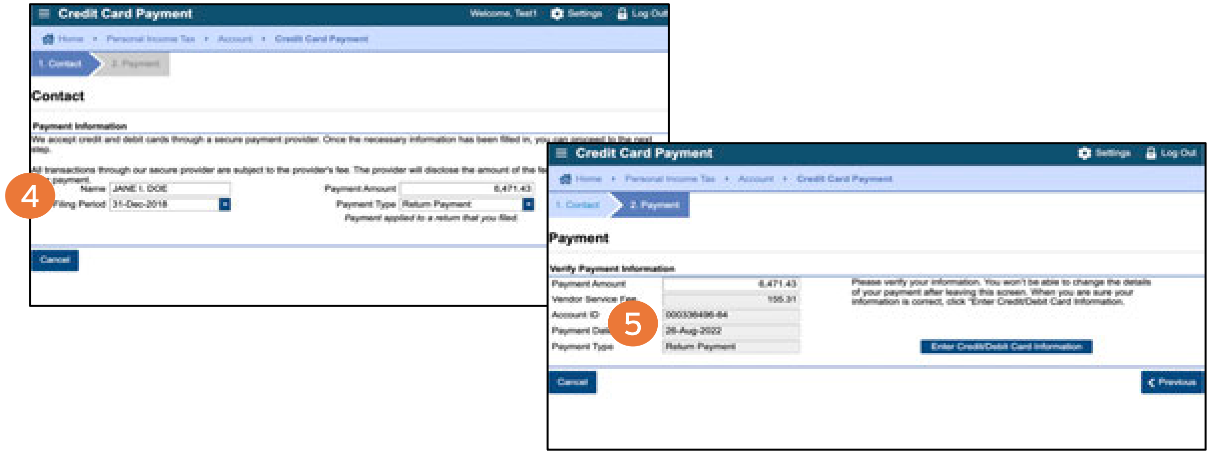


1. It's difficult for a user to identify which payment needs action at a first glance. A better experience would be to break the list into two sections. Another alternative would be to re-structure with one section for pending payments and one for historical payments
2. Unclear what submissions content is. Perhaps renaming to past payments or another name that accurately reflects what the content represents
3. Confusing to segregate messages from letters. No clear indication of what separates a message from a letter. As in any modern messaging interface, including email, read messages should be differentiated, but not isolated by an additional click
4. There is no apparent ability to edit information labeled in this category. Field names like 'AKA name' reflect jargon and may confuse users unfamiliar with that terminology. There's also an unclear relationship between mailing address under Individual, personal income tax and customer names, and addresses categories
5. The term "logins" appears to have different meanings in different context. Differentiate whether this is a list of historical logins to ROL itself or additional account access created for other users

Source: [Revenue Online (oregon.gov)]

Revenue Online Review
Make a Payment

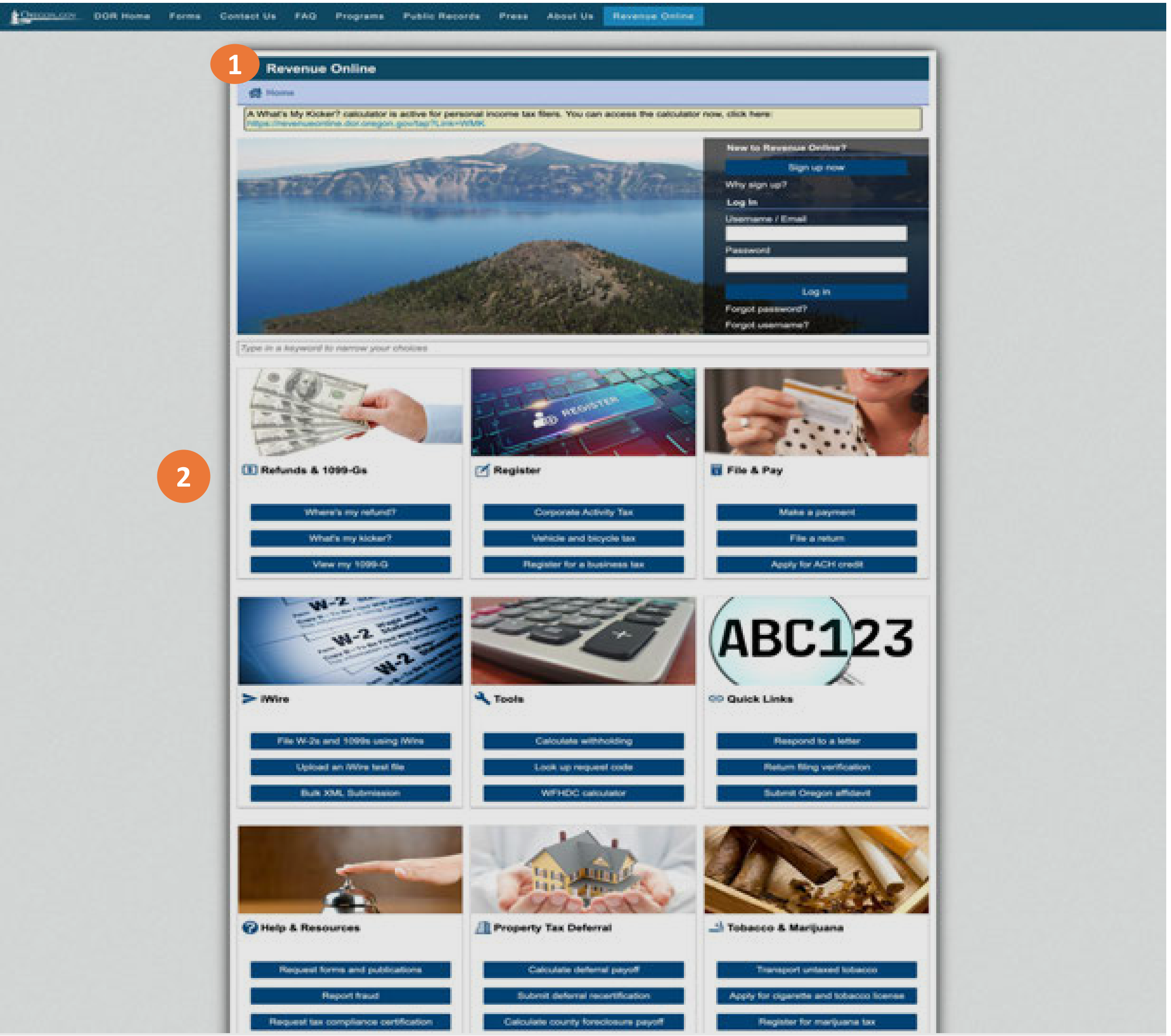




1. Avoid long paragraphs with multiple points. The are restrictions for when a user can or cannot use a certain payment option that isn't easily obvious or digestible in the paragraph of text. Breaking out and highlighting those conditions in a scannable list would be more digestible and apparent
2. Give the user the equation. There is a frustrating lack of transparency about actual fees or fee percentages requiring the user to do extra work to consider their options
3. Non-actionable warnings. Notice of option to create a payment plan, and repercussions of maintaining a balance without one should more prominent, have an actionable link, and come earlier in the experience
4. Edit options. It is misleading and confusing that the user can change the fields for payment types, amount, and filing period when they've selected to pay for a specific pending balance. These should be made into fixed and unchangeable field types
5. Clearly disable non-changeable data. Disabled fields look clickable and may cause confusion. Swapping the text to pure text on the screen or greying out the text to emphasize it can not be modified can help differentiate non-changeable data

Source: *Revenue Online (oregon.gov)*

Revenue Online Review
Readability and Accessibility

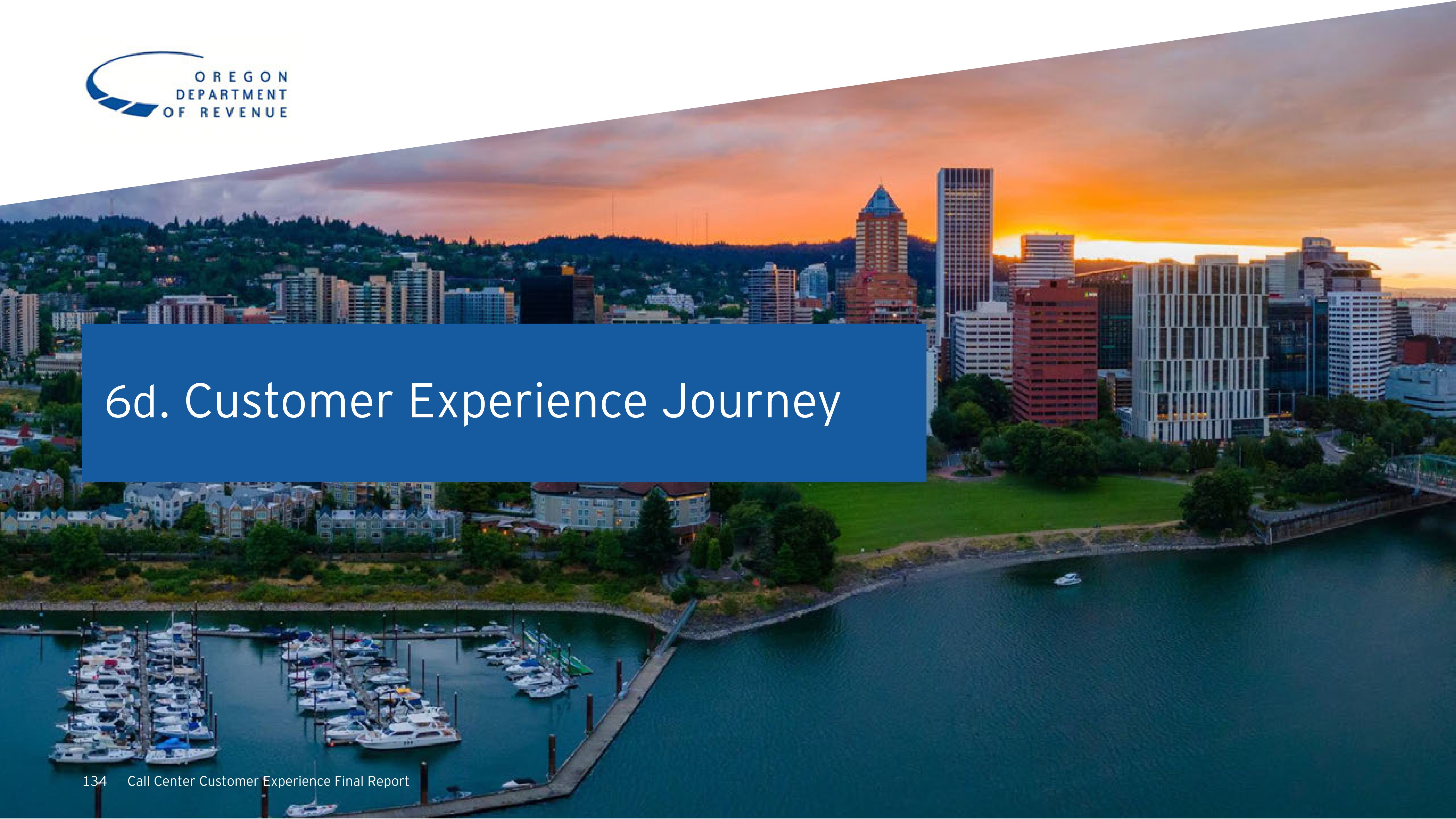


Creating a collection of reusable components, guided by accessibility standards to build a unified webpage experience

1. Ensure Revenue Online uses the same design component language as rest of site instead of feeling like a separate destination

2. Anticipate responsiveness, mobile, and accessibility issues for transactions. Better separate data entry fields and navigational items in anticipation of touch navigation. Better align fields, instructions and action buttons to signal task order and tab navigation

Source: Revenue Online (oregon.gov)



6d. Customer Experience Journey

Customer Personas Overview

Customers may prefer to interact in different ways to resolve their situations. Understanding those differences will help DOR improve the overall customer experience, optimizes engagements and reduce call volume. As part of our call center and website review, EY has developed two personas to represent different requirements and individual attributes, in order to highlight current pain points experienced through various DOR journeys.

The first persona, Maria, has high digital skills and prefers to utilize the technology tools available to conduct their business needs. This customer prefers communications via text, virtual assistants, and emails.

The second persona, John, is a people person and prefers to conduct business through human interactions. However, this individual is slowly becoming digitally enabled. Currently, his digital skills are limited; thus, he occasionally utilizes more traditional technology tools such as the website.

These journeys go hand and hand with the DOR and ROL websites and Call Center IVR/ACD observations to provide a complete picture of the overall customer journey and experience. The three journeys highlight below are: 1) information on how to register a business, 2) a question regarding personal income tax, and 3) personal income tax debt

Maria
Digital-Enabled

John
Human Assisted / Limited Digital

Preferred communication methods:

SMS | Virtual assistant | Email

Phone | Website | Email

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Maria
Customer: Digital-Enabled Persona

About me

Maria has worked as a registered nurse for a large healthcare employer in Medford, Oregon for the past 10 years. She enjoys recreation and is very active in her community. She is very active on social media and well-versed in the digital world. She and her best friend, a physician, are in the initial stages of starting up a new online telehealth business. Together, they have been researching the necessary steps and have engaged with various state agencies on the specific requirements to start up the business.

My experience now

- Call-in for assistance when filing state tax returns
- Check my return status on my desktop computer
- Wait to receive my refunds in the form of a direct deposit
- Email sensitive documentation back and forth with agencies, in order to set up/modify account

My future experience

- Uses virtual assistant to answer pertinent questions
- Notified by text message that quarterly returns need to be filed
- Submits quarterly payments through ACH
- Utilizes online portal to file necessary returns/forms, following guidance from a New Business wizard

Core needs

- Self-service capabilities
- Resources all in one place
- Digitally-accessible resources
- Straightforward processes

Enabling resources

- Mobile-friendly portals and apps
- Video-based instructional resources
- Virtual agents and self-serve, self-help materials
- SMS-based notifications and reminders

"My lifestyle is fast paced, and I need quick resolutions to my questions and convenient, 21st century ways of conducting business."

About me

Job/industry: Nurse/Healthcare

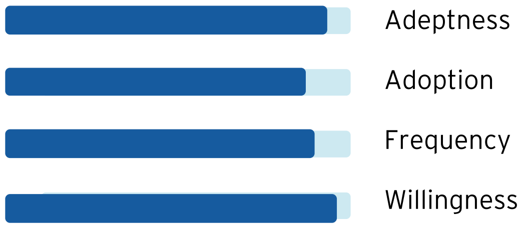
Location: Medford, Oregon

Age: 35 | Gender: Female

Family Size: 4

Income: $80K

Technology maturity



Preferred communication methods

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John
Customer: Human Assisted Persona

About me
John is a manager for a company in the logging industry and currently resides in Banks, Oregon. He has worked in the industry for 25 years and has a family of three. He is an avid outdoorsman and loves the Portland Trail Blazers. John is a people person and likes to conduct business via phone or in person; however, he is slowly embracing technology. He prepares and files his own taxes and needs assistance each year in doing so.

My experience now
- Contacts DOR to obtain necessary tax return forms
- Prepares requested documentation to verify identity and income
- Contacts DOR to discuss concerns and occasionally visits website for additional information
- Submits tax returns via paper
- Inquires frequently on status of tax refund via call center or website/portal

Core needs
- Clear understanding of process/action items
- Ability to reach staff quickly via phone or may visit website
- Helpful, empathetic and understanding staff
- Straightforward processes
- Language support

My future experience
- Contact DOR via phone, email, or website for assistance
- In year of tax liability, may visit in person to file return and submit payment
- Needs instant update as to status for tax refund
- Is provided information to help submit his tax return

Enabling resources
- Phone-based assistance
- Human accessibility
- Email-based confirmations

"I need help submitting my tax returns, but I don't know where to begin."

About me
Job/Industry: Manager; Logging Company

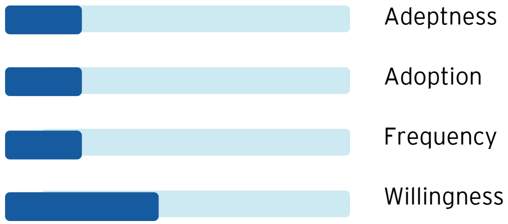
Location: Banks, Oregon

Age: 55 | Gender: Male

Family Size: 3

Income: $60K

Technology maturity



Preferred communication methods

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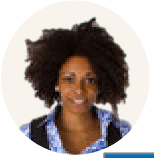
Example: High-level Current State Online Journey Map
Registering a business/Filing a Return/Making a payment



Maria needs information on how to register her business with the DOR. Below are the steps taken to obtain that information along with observations of the experience with DOR.

	Looks for Information	Seeks Assistance	Engages with Agency	Receives Assistance and Information
Customer	1 Maria is starting a new business and needs information regarding business registration and forms submission 2 She tries to identify the information required to start up a business	3 Maria visits Department of Revenue website to search for necessary information 4 Maria navigates through various webpages to obtain information	5 Maria eventually registers her business and sets up the appropriate account on Revenue Online	6 Maria files quarterly returns via paper 7 Maria submits payment via Revenue Online
Channel	Website	Website	Website	Website
Observations	Search results guide user to appropriate website and call numbers	Website lacks person-based flows and it is difficult to find pertinent information Content is difficult to understand and leverages neither visualization nor progression	Revenue Online is not intuitive and user friendly The current screen design has inconsistencies leading to confusion and frustration with users	Due to limited returns accepted via Revenue Online, the submission of a return and payment becomes a two-step process and thus negatively impacts the customer experience

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Example: High level Current State Call Center Journey Map
Personal Income Tax Return Question

John has a question regarding personal income tax. Below are the steps taken to obtain that information from DOR along with observations of the experience with DOR.

	Looks for Information	Seeks Assistance		Engages with Agency	Receives Assistance and Information
Customer	1 Needing personal income tax information regarding Schedule OR-ASC, John searches the FAQs on the website.	3 He calls the call center number.	5 John selects option seven, "speak to an agent".	7 John selects option one, "Personal Income Tax" and waits to speak with an agent.	9 John receives an email from the agent that describes what OR-ASC information should be submitted with the income tax return.
	2 Not finding the information in the FAQs, John decides to contact the Call Center to speak to someone.	4 John listens to the automated message, identifies and selects the appropriate option.	6 John listens to the automated message, identifies and selects the appropriate option.	8 John receives information from agent regarding what OR- ASC information should be submitted with income tax forms.	10 After receiving confirmation of the necessary information, John completes his return and mails his return and payment to DOR.
Channel	Website	Phone	Phone	Phone	Email
Observations	Lack of proactive communication and readily available information on website leading to higher call volumes.	Based on call intake limits, user may not be provided service and may have to call multiple times. Time lag of five seconds between the first message and second message makes customer believe that call is over, which could lead to customer choosing to call back rather than staying on the line. On the second attempt, after waiting over a minute listening to message, customer is able to make a selection to speak to an agent.		After several minutes on hold, an agent is available to provide assistance. Due to excessive wait times, caller may hang up. Expectation setting for average wait time does not exist.	Post discussion, agent offers to email with necessary information to be included with tax return. John finalizes his return and mails both the return and payment to DOR.

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Example: High level Current State Call Center Journey Map
Personal Income Tax Collections Question

John has personal income tax debt that needs to be satisfied. He received a notice and would like to resolve by setting up a payment plan but doesn't know where to begin. He decides he needs to speak with someone. Below are the steps taken to obtain that information from DOR along with observations of the experience with DOR.

Customer

Looks for Information

1. Needing personal income tax debt payment information, John searches the website for Call Center support number.
2. John locates the main call center contact number.

Channel: Website

Seeks Assistance

3. He calls the call center number.
4. John listens to the automated message, identifies and selects the appropriate option.

Channel: Phone

5. John selects option one, "Payments or payment plans".
6. John listens to the automated message, identifies and selects the appropriate option.

Channel: Phone

Engages with Agency

7. John selects option one, "Tax payments", then option one "Individual" and waits to speak with an agent.
8. John must speak with an agent about how to go about setting up a payment plan. There is no option for him to make a payment or set up a plan via solely the IVR.

Channel: Phone

Receives Assistance and Information

9. John speaks to an agent, who is authorized to take payments and make payment plans. The agent sets up a payment plan.
10. With the agent's help, John then makes a payment on the payment plan.

Channel: Website

Observations

Looks for Information

- Search results guide user to appropriate website and call numbers.

Seeks Assistance

- Based on call intake limits, user may not be provided service and may have to call multiple times.
- Time lag of five seconds between the first message and second message makes customer believe that call is over, which could lead to customer choosing to call back rather than staying on the line.
- On the second attempt, customer is able to make a selection.

Engages with Agency

- After several minutes on hold, an agent is available to provide assistance.
- Due to excessive wait times, caller may hang up.
- Expectation setting for average wait time does not exist.

Receives Assistance and Information

- Due to limited IVR capabilities to accept payments, John's situation becomes a two-step process, including both phone and speaking with an agent, and thus negatively impacts the customer experience.

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OREGON DEPARTMENT OF REVENUE

6e. Summarized Recommendations Including Website Future State Design Considerations

Website Future State Design Considerations
Home Page

This section shows a proposed future state for a redesigned DOR website. We have enumerated our recommendations.

Department of Revenue logo starts the main navigation of the site

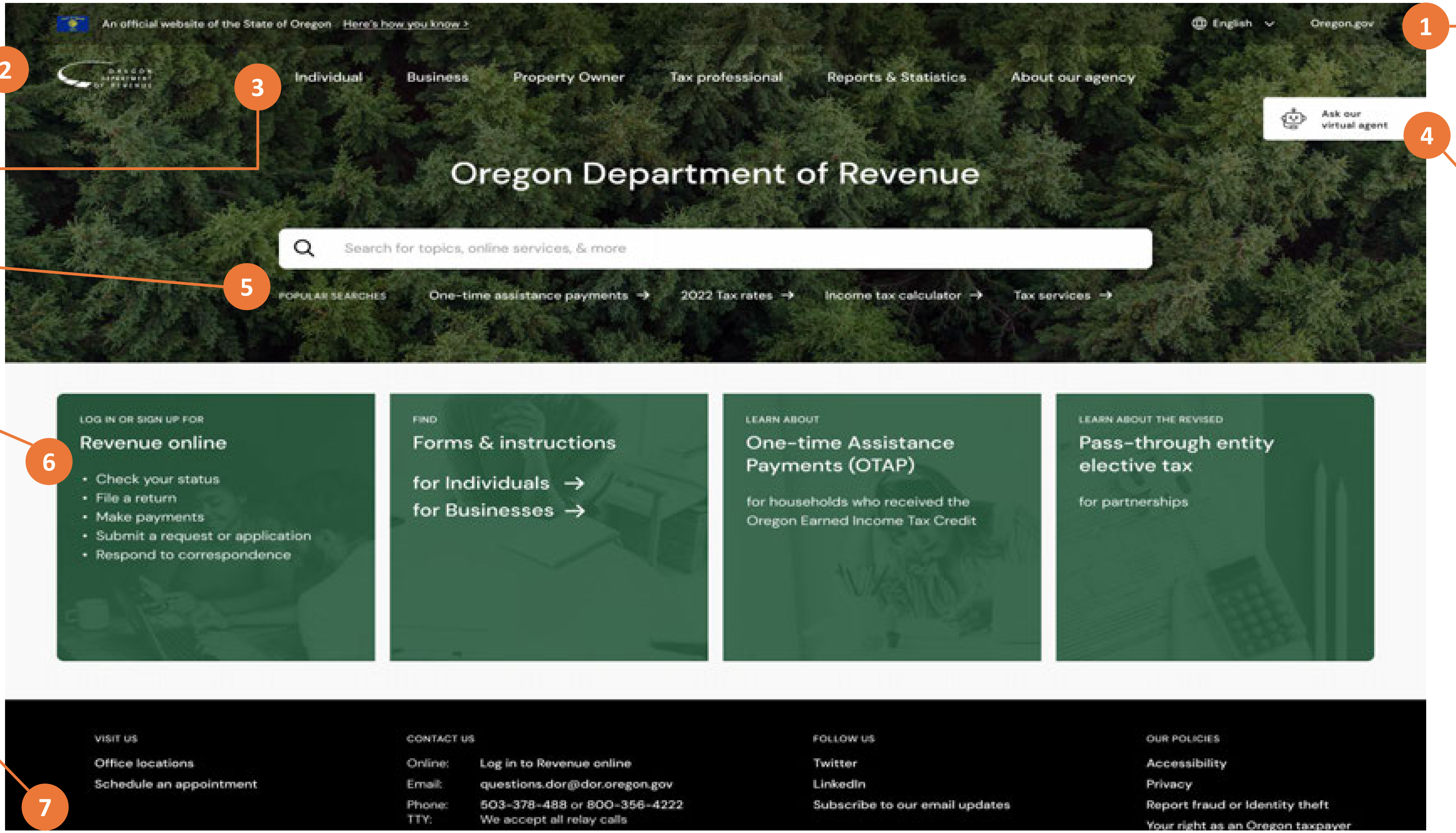
Main navigation distinguished by user role

Search is the primary action on the home page.
It is accommodated by quick links to popular search topics

Important topics surfaced from the carousel to enhance browsing

Self-service portal should be elevated to nudge users towards completing their tasks in a signed-in state on the site

Footer content re-structed to sort relevant information into their task-oriented categories

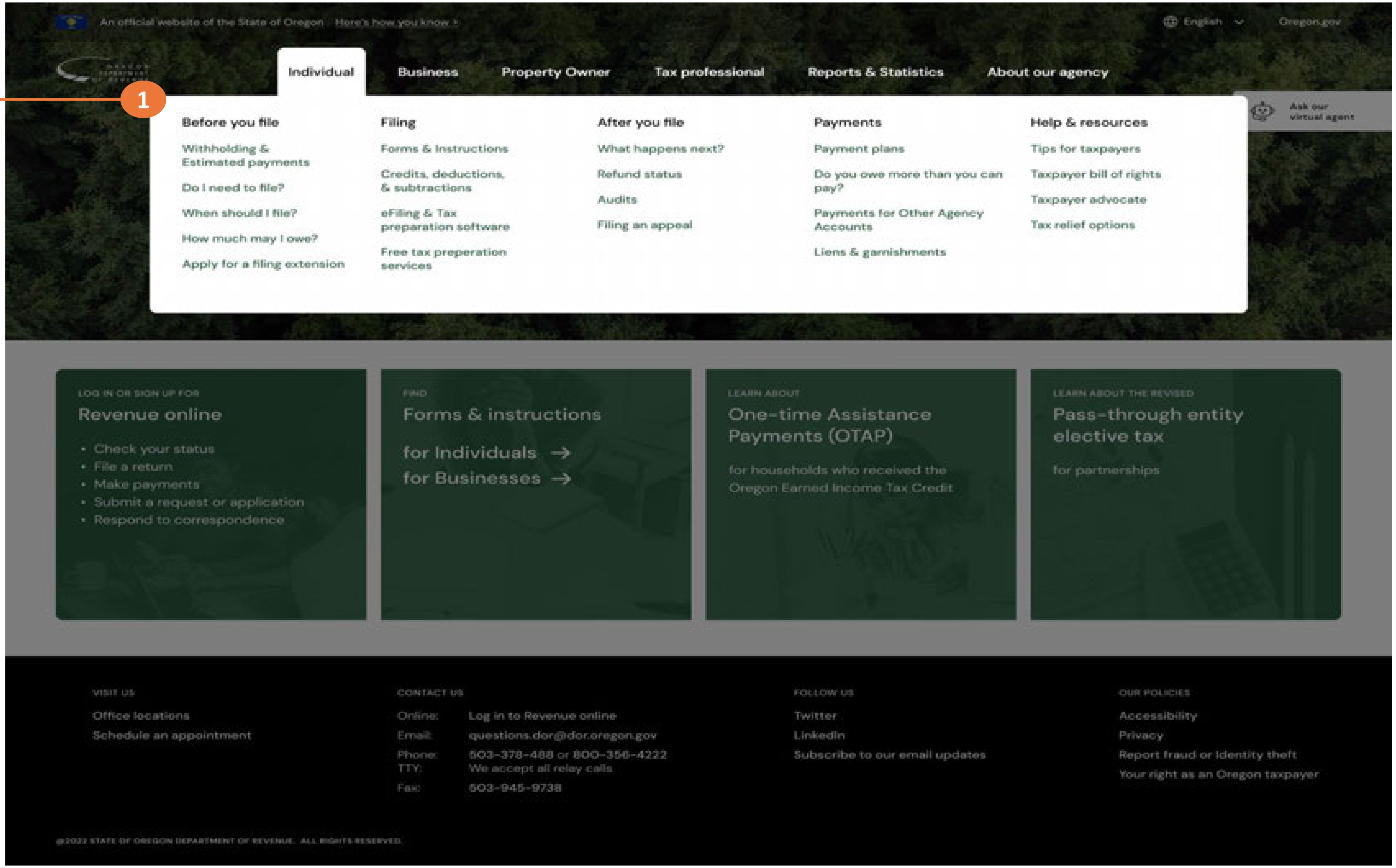


Language selection available on top and link back to Oregon.gov in top nav

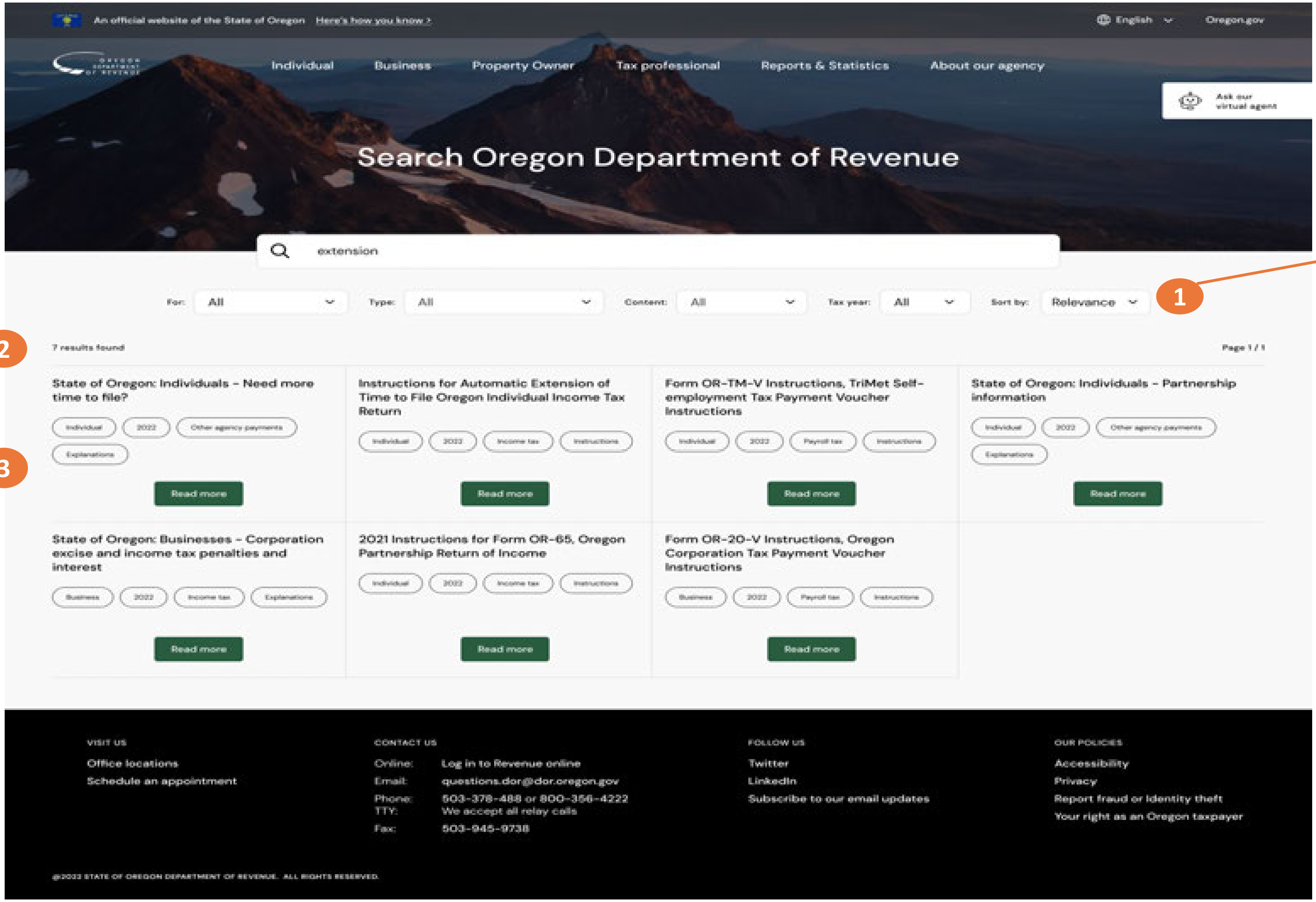
Virtual agent available on home page for users that wish to find what they're looking for via automated conversations using the natural language

Website Future State Design Considerations
Main Navigation

The secondary navigation categorized in intuitive sections that reflect the process for a typical user in the selected category



Website Future State Design Considerations
Search



1

Relevant filters should be refined to search results. Filters should be based on the following categories:

User role: All, Individuals, Business, Tax Professionals, Government

Type of information: All, Income Tax, Payroll tax, Property tax, Other agency payments

Content type: All, Forms, Instructions, Explanations, Reports

Tax year: All, 2022, 2021, 2020, 2019, 2018, 2017 and prior

There is also an ability to sort by the following: relevance, most viewed or newest first

2

Result content is viewed in a two row, 4 column layout before transitioning to a new page to prevent lengthy scroll of results list

3

Site content should be tagged with relevant filters that ensure relevance of returned search results instead of an exhaustive list based on keyword match

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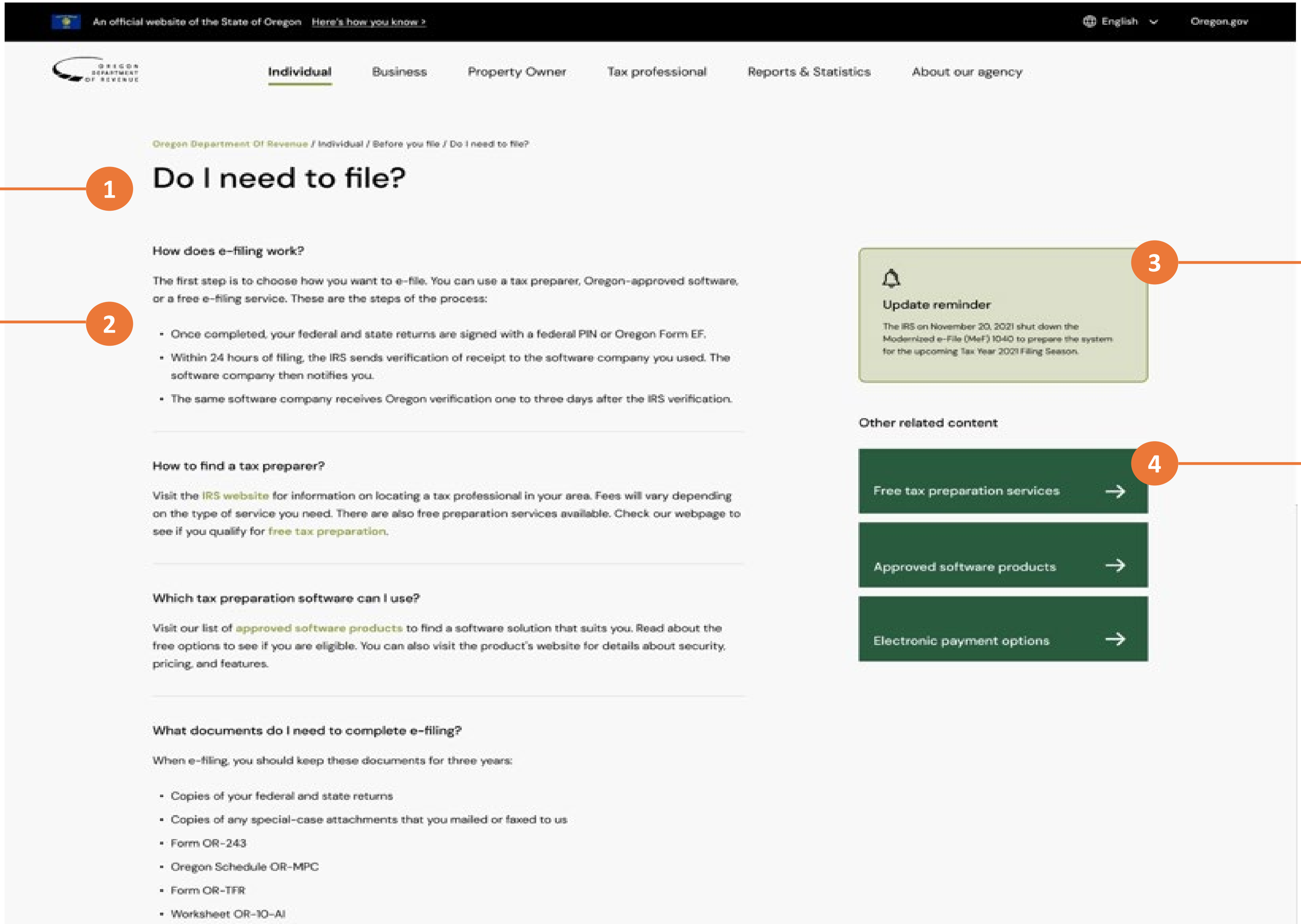
Website Future State Design Considerations
Individual Page

Links on white background is identified using a singular color

Side navigation should be removed from secondary pages within the site experience

Content should be sized, spaced and re-titled to accommodate for easy perusing

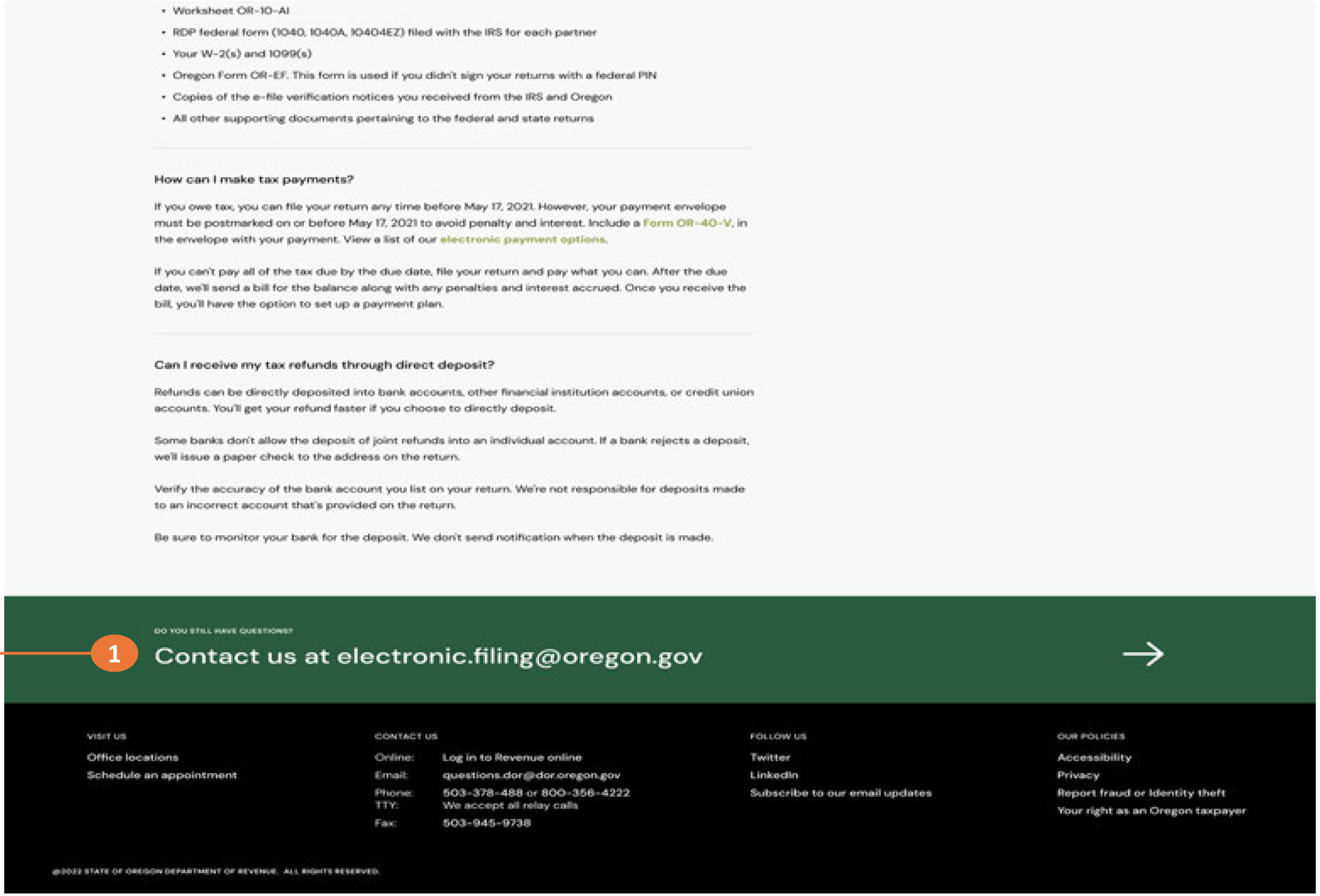


Notice content should be stylized to differentiate itself from explanations listed on the left

Related content or steps the user may take in relation to the current page should be provided

These actionable steps are stylized to differentiate itself from explanations on the left

Website Future State Design Considerations
Contact Us



Contact information should be provided as a primary action at end of article pages

If users are unable to find what they're seeking, they have an immediate way to make an inquiry without digging further for the appropriate point of contact on another page

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Website Future State Design Considerations
Public Dashboards - Chat, Calls, Correspondence

Public Dashboards improve the overall customer experience by providing a higher level of transparency regarding turnaround time.

Here are such examples from the California Franchise Tax Board, related to turnaround time for chats, calls and correspondence

Customer service (Pre-filing assistance, Notice of tax return change, Income tax due)

Open 8 AM - 5 PM

Self serve
800-338-0505
Find your answers on line
24/7

MyFTB chat
Login to MyFTB to discuss your account.
0:37 H:MM

General chat
General information only. We can't discuss your account.
0:25 H:MM

Customer service line
800-852-5711
Don't wait on hold. Use the callback option when you call.
2:52 H:MM

MyFTB Secure Message
Login to MyFTB to send a message.

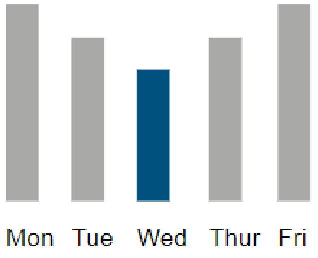
Personal	35 days
Business	35 days

Mail or fax

Personal	147 days
Business	140 days

Tax practitioner hotline
916-845-7057
Tax Professionals only.
Open 8 AM - 5 PM
0:27 H:MM

Typical wait time

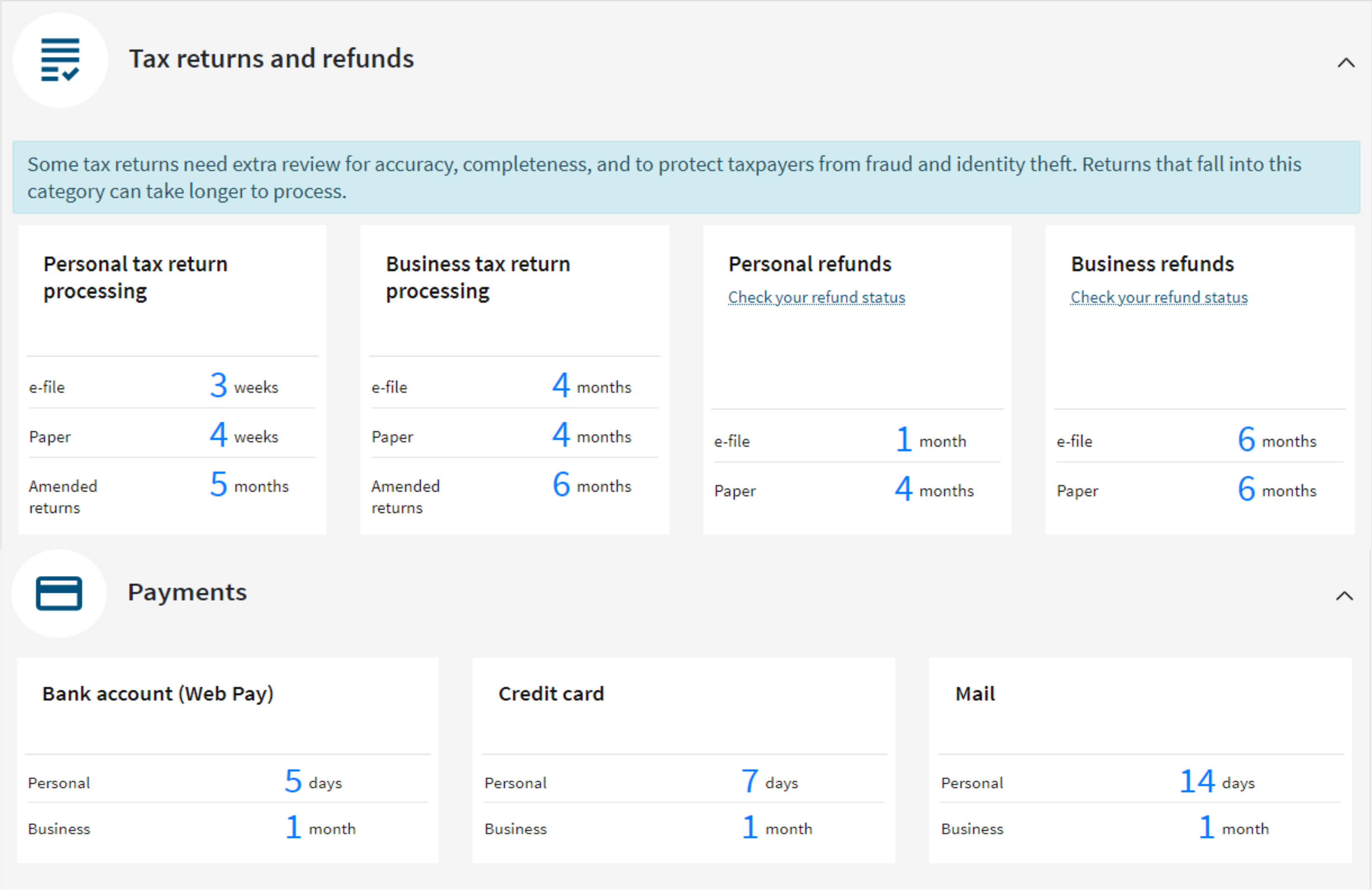


Source: Timeframes | Wait times | California Franchise Tax Board

Website Future State Design Considerations
Public Dashboards - Returns, Refund and Payments

Public Dashboards improve the overall customer experience by providing a higher level of transparency regarding turnaround time.

Displayed here are such examples from the California Franchise Tax Board, related to turnaround time for tax returns and payments



Tax returns and refunds

Some tax returns need extra review for accuracy, completeness, and to protect taxpayers from fraud and identity theft. Returns that fall into this category can take longer to process.

Personal tax return processing

e-file	3 weeks
Paper	4 weeks
Amended returns	5 months

Business tax return processing

e-file	4 months
Paper	4 months
Amended returns	6 months

Personal refunds

Check your refund status

e-file	1 month
Paper	4 months

Business refunds

Check your refund status

e-file	6 months
Paper	6 months

Payments

Bank account (Web Pay)

Personal	5 days
Business	1 month

Credit card

Personal	7 days
Business	1 month

Mail

Personal	14 days
Business	1 month

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Source: *Timeframes | Wait times | California Franchise Tax Board*

Key Findings and Recommendations
Organizing Principle & Website Content

Below are the overarching recommendations as a result of the customer experience – website and online services review.

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Organizing Principle	▸ Adopt a recognizable organizing principle ▸ Elevate popular destination links to highest level navigation ▸ Creating a collection of reusable components, guided by accessibility standards to build a unified webpage experience ▸ More intuitive navigation ▸ Keeping a consistent menu structure with intuitive naming conventions ▸ Searchable, scannable content presentation ▸ Re-sorting content under descriptive and informative categorizations ▸ Prioritize mobile by ensuring that the site's core functionalities are accessible and responsive across mobile, tablet and desktop devices	▸ No readily understandable organizing principle which creates a disorganized experience ▸ Flesch Kincaid Reading Ease is 44.5 ▸ Lack of color contrast between text and component colors makes the text difficult to see for customers ▸ Website not in compliance with W3C and WCAG standards ▸ Extra-long, comprehensive menus challenge way-finding ▸ Inconsistent ordering of menus demands tiresome close reading and leads to confusing context-jumping ▸ Mobile browsing is cumbersome and difficult for users to accomplish their intended goals	**(OP1)** Review website organizing principles, functionality and optimization observations and recommendations embedded throughout our review and adopt improvement recommendations as part of ongoing website integration (where state mandates permit) to optimize customer navigation, interaction and reduce call volume	High	Now
			(OP2) Activate search engine optimization tools (SEO) including Google Analytics to track and analyze website actions (i.e., number of visitors, number of page views, etc.) is not currently being utilized by DOR	Medium	Next
Website Content	▸ Communications strategies provide the framework to solidify customer communication approach across the agency ▸ FAQ's information should be easy to access, searchable and utilized as a primary source for customers to answer common questions ▸ Enhanced 'how do I' videos and tutorials provide customers additional instructions and support to fill out forms correctly, reduce errors consequently reducing call volume ▸ Public Dashboards are utilized to support customer transparency, reduce customer frustration and manage call volume ▸ Enhance customer experience and knowledge by incorporating dashboards to indicate current processing and wait times	▸ FAQs are not easily located or a primary source for customer common questions ▸ Videos and tutorials do not currently exist ▸ No public dashboards currently exist ▸ No emphasis on online, self-service options	**(WC1)** Develop a communications strategy to solidify customer communication approach to key areas impacting the customer experience and call volume	Medium	Next
			(WC2) Enhance the website to include FAQ videos and tutorials to provide detailed instructions to customers, common pitfalls that align with the strategy. Evaluate integrating public facing dashboards to provide transparency to customers.	Medium	Next

Key Findings and Recommendations
Self-Service & Revenue Online (ROL)

Pillar	Cross-Industry Leading Practice	Current Observations	Recommendations	Impact	Priority
Self-Service	▸ Encourage and reward self-service ▸ Empower users to compete their tasks in a secure, logged-in site experience ▸ Leverage virtual agent technology for customers to have an additional 24/7 mechanism to answer FAQ's	▸ No sure of virtual agent. ▸ Bifurcated and complex payment system via ROL with either a logged in or non-logged in option	**(SS1)** Evaluate and deploy virtual agent to support answering FAQ, navigational assistance and reduce call volume	Low	Next
Revenue Online (ROL)	▸ Encourage and reward self-service ▸ Empower users to compete their tasks in a secure, logged-in site experience ▸ Streamlined payments focusing on accuracy and speed	▸ Website designer ownership is fragmented across the state website and revenue online ▸ No emphasis on online, self-service options over all others which can generate high call volumes ▸ Bifurcated and complex payment system via ROL with either a logged in or non-logged in option	**(ROL1)** Evaluate which ROL enhancements will be part of the upcoming V12 upgrade and develop a plan to enhance remaining ROL recommendations to simplify customer access to account login, payments and have a more integrated look and feel with Oregon DOR website	High	Now

7. Appendix

Appendix A

Acronyms and abbreviations

Acronyms and Abbreviations

Acronyms and abbreviations are defined the first time they are used in this document. The entire acronym or abbreviation is listed first and then the acronym or abbreviation is enclosed in parentheses. The consolidated list of acronyms and abbreviations is listed below.

Acronym/ abbreviation	Description	Type
ACD	Automated Call Distributor	Call center term
ACH	Automated Clearing House, a network for digital payments	Call center term
ADP	Appeals Discovery Processing	DOR Call Center team
AHT	Average Handle Time	Call center term
AI	Artificial Intelligence	Processing/Software Term
APQC Benchmarking Tool	EY's Global Benchmarking tool is a data repository with over 4,000 metrics covering many business functions and sectors. This tool is utilized across the firm to compare our clients' performance to their peers based on cost, efficiency, productivity and cycle time. The American Productivity & Quality Center (APQC) knowledge management framework is utilized to confirm the data within the tool is independent, unbiased and validated research.	Call Center term
ARU	Accounts Resolution Unit	DOR Call Center team
AS 1/ AS 2	Administrative Specialist 1/2	DOR Call Center team
BI	Behavioral Insights	Call Center term
BTCU	Business Tax Collections Unit	DOR Call Center team
CAT	Corporate Activity Tax	DOR Call Center team
CB	Call back	Call Center term
CFM	Customer Feedback Management	Processing/Software Term
CM	Change Management	Performance Management term
CMB	Change Management Board	Performance Management term
COE	Center of Excellence	Performance and training term

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Acronyms and Abbreviations

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Acronym/ abbreviation	Description	Type
CORP	Corporate/Estate	DOR Call Center team
CRM	Customer Relationship Management	Call Center term
CTI	Computer Telephony Integration	Processing/Software Term
Erlang Analysis	The Erlang model is used in telephone traffic modeling to determine the required number of staff based on the forecast workload for incoming calls. It can be used together with other variables such as desired service level (percentage of calls answered within a given number of seconds).	Call Center term
FAQ	Frequently Asked Questions	Website Term
IOT	The internet of things	Processing/Software Term
IVR	Interactive Voice Response	Call Center term
KPI	Key Performance Indicators	Performance Management term
MVP	Minimum Viable Product	Processing/Software Term
NLP	Natural Language Processing	Call Center term
OAA	Other Agency Accounts	DOR Call Center team
OS 2	Office Specialist 2	Job title
Peak Performance Analysis	This is an EY assessment/methodology to support the operating model. It gives insight into the performance of each agent to prioritize who to coach, how to train and how to optimize quality assurance.	Call Center term
PSR 3/ PSR 4	Public service representative 3/4	Job title
PTAC	Personal Tax and Compliance	DOR Call Center team
QA	Quality Assurance	Performance Management term

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Acronyms and Abbreviations

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Acronym/ abbreviation	Description	Type
QAM	Quality Assurance Management	Processing/Software Term
RA 1/RA 2	Revenue agent 1/2	Job title
RCAS	Registrations and Central Support	DOR Call Center team
ROL	Revenue Online	DOR website
RPA	Robotic process automation	Processing/Software Term
SEO	Search Engine Optimization	Website term
SMS	Short Messaging Service	Processing/Software Term
TSU	Taxpayer Services Unit	DOR Call Center team
VA	Virtual agent	Call Center Technology term
WCAG	Web Content Accessibility Guidelines	World Wide Web
WFM	Workforce Management tool to help assign the right staff to the right tasks	Processing/Software Term
W3C	World Wide Web Consortium	World Wide Web

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Appendix B

Behavioral Insights

Behavioral Insights

Utilizing Behavioural Insights for Enhanced Customer Experience

Behavioral insights (BI) surpasses the rational decision-making of a person by leveraging the principles of psychology, neuroscience, and behavioral economics. BI aids our understanding of how a person absorbs, processes, and reacts to information while considering an individual's influences. Applying BI can enhance the various processes and customer interactions across all call centers. The six key operational areas are outlined below:

Analytic Services

- Identify where to build capabilities to support arising needs and where there are gaps that need to be filled

Outreach and Preemptive Communication

- Provide pre-emptive communication by effectively anticipating needs

Systemic Error Detection

- Locate math errors, soft notices, and AUR by using systemic error detection methods for effective enforcement methods

Voluntary Compliance and Self-Correction

- Promote integrity and assure voluntary compliance and self-correction of errors

Examinations and Penalties

- Use behavioral insights to increase examination and penalty effectiveness

Collection and Dispute Resolution

- Use behavioral insights to improve the effectiveness of collection and dispute resolution processes

Source: 17rpirsbehavioralinsights.pdf

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Behavioral Insights in Tax Administration

	Behavioral Insight Contributions	Factors	Opportunities
Analytic Services	‣ Data analytics tools such as segmentation and usage tracking can identify problem areas across the tax administration process, and BI nudges can be used to improve service delivery and increase efficiency.	‣ Timing ‣ Feedback and Reminders ‣ Cognitive Load	‣ Data analytics for voice detection and custom call routing trees ‣ Create more descriptive wrap up reasons
Outreach & Preemptive Communication	‣ The time and way in which communications are delivered can have a significant impact on response.	‣ Messenger Effect ‣ Timing ‣ Framing ‣ Self-image	‣ Proactive, assuring reminders through text and automated calls ‣ Secondary language options in each custom call routing tree
Voluntary Compliance and Self-Correction	‣ BI points to the importance of feedback and reminders during decision-making to help encourage honest reporting. Simplifying forms and processes and appeals to social norms can also help to keep taxpayers honest.	‣ Feedback and reminders ‣ Simplification ‣ Social Norms	‣ Simplify custom call routing tree with fewer options ‣ Show that tax compliance is a norm ‣ Automate electronic notices for quick resolution

Source: 17rpirsbehavioralinsights.pdf; How Call Centers Use Behavioral Economics to Sway Customers (hbr.org)

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Behavioral Insights in Tax Administration

	Behavioral Insight Contributions	Factors	Opportunities
Systemic Error Detection	Cognitive load may set in when preparing lengthy tax returns, resulting in declining accuracy. Identifying points at which errors tend to happen enables feedback and reminders to be inserted.	• Cognitive Load • Feedback and Reminders • Salience	• Track common questions re: ROL and collaborate with similar states • Document common errors; plan response
Examinations and Penalties	Appeals to image, identity, and social norms encourage socially responsible actions. Strategically implementing rewards and penalties can increase the deterrent effect of existing penalties and uncover new treatment options.	• Social Norms • Rewards and Penalties • Timing • Salience	• Solicit collection and outreach innovations from staff
Collection and Dispute Resolution	A sense of reciprocity can be tapped by appealing to a sense of fairness and can also be complemented with social norms and intention and commitment to emphasize responsibilities for payment.	• Intention and Commitment • Reciprocity • Social Norms	• Deploy IVR for payments • Highlight payment options on homepage • Select high traffic sites for payment kiosks

Source: 17rpirsbehavioralinsights.pdf; How Call Centers Use Behavioral Economics to Sway Customers (hbr.org)

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Appendix C

Customer Survey Data Source Files

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Customer Survey Data Source Files

The customer survey data slides were compiled utilizing several DOR provided sources. Sources are cited as footnotes to the relevant information being used in the body of the slide. Below is a consolidated list of sources used throughout the customer survey data analysis provided to the EY team on August 5, 2022. The timeframe covered is from July 2019 – July 2022. Survey data analyzed for 2022 is strictly online, because the raw data provided is granular and comparable to 2019 and 2021. The data provided for the customer survey responses conducted via phone for 2022 was summarized data, and not granular and comparable to 2019 and 2021.

Data Source File Name
2022 Q2 Results
2022 Q1 Results
2021 Q4 Results
2021 Q3 Results
Online data 2nd qtr
2nd qtr 2021 Phone
Online survey data 1st quarter 2021
2021 phone survey data 1st quarter
100120-123120 Online Survey Results
4th Quarter 2020 Phone Survey
070120-112420 Online Survey Results
070120-112420 IPAD Survey Results
070120-093020 online survey results
063020-100120 Phone Survey Results
070119-063020 Survey Results

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Appendix D

SMART Goals

Setting SMART Goals

The SMART goals framework will be leveraged by EY throughout this project in developing a comprehensive call center strategy to support DOR's customer expectations, goals and strategic plan. This framework will facilitate the creation of leading practices and achievable goals that DOR can implement over time to optimize call center performance.

S	Specific	What exactly am I committing to do? Is the goal clear?
M	Measurable	How is the output assessed? How will success be measured?
A	Achievable	Is this goal realistic, with a reasonable amount of effort and stretch?
R	Relevant	Does the goal support our business objectives? Is it appropriate to my role?
T	Time bound	When will it be achieved? What are the milestones along the way?

Appendix E

Common Metric Definitions and Measurement Criteria

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Common Metric Definitions

Service level is the percentage of incoming calls and contacts answered within a defined number of seconds/time frame. For example, a service level of 80:30 for voice calls represents 80% of the calls handled within 30 seconds or less.

Sample formula

$$\text{Service level} = \frac{\text{Contacts Answered within ``x'' Seconds}}{\text{Total Contacts Offered}}$$

Key characteristics

Category: client experience
General goal: maximize
Format/units: percent (%)
Dimension: group/center
Typical target: varies, 80:30 for calls
Typical data source: CCaaS platform

Interpretation and commentary

- Service level is a measurement of how effectively customer demand is met by agent supply
- Service level is a better reflection of the "typical" answering experience for the majority of customers
- Service level must also be aligned with customer expectations; an 80:30 service level would not work in a 911 customer care center because customers expect an immediate response
- Many customer care operations emphasize service level as the most important customer experience metric because it is easy to measure and is objective. However, as discussed in the FCR commentary, this is a mistake. Service level is important, but FCR is a much better reflection of the holistic customer experience

Common Metric Definitions

Average handle time is the duration, typically measured in seconds, of each interaction. AHT is one of the most commonly used and emphasized customer care metrics. Attention must be paid to when the clock starts and when the clock ends.

Sample formula

$$\text{AHT} = \frac{\text{Total Talk Time + Total Hold Time + Total After Call Work Time}}{\text{Total Calls Handled}}$$

Key characteristics

Category: operating efficiency

General goal: minimize

Format/units: seconds

Dimension: individual and group/center

Typical target: N/A varies

Typical data source: phone switch, CRM

Interpretation and commentary

- AHT is possibly the most common and controversial customer care metric
- Virtually all centers measure AHT as a key efficiency metric; however, the degree of emphasis is what is most commonly called into question
- Many centers make the mistake of overemphasizing AHT, with the assumption that reducing the call duration will inevitably lead to more calls handled by each agent, therefore requiring potentially fewer agents
- What often happens is that these centers find that call volume increases as customer issues are not handled in the first call due to the pressure of meeting an AHT target, and the client experience suffers as a result

Common Metric Definitions

Average speed of answer is the average number of seconds it took to answer calls over a defined period. ASA is a measure of how "responsive" a center is to an inbound call and the availability of agents to attend incoming calls.

Sample formula

$$\text{ASA} = \frac{\text{Total Answer Time}}{\text{Total Calls Answered}}$$

Key characteristics

Category: client experience
General goal: minimize
Format/units: seconds
Dimension: group/center
Typical target: 20–30 seconds
Typical data source: phone switch (ACD)

Interpretation and commentary

- At the highest level, an ASA above target is a reflection of poor matching of the agent supply with customer demand
- As all agents are occupied with other callers, the average time a customer spends waiting for an agent will increase
- High ASA will negatively impact the service level and abandon rate (%)
- If ASA continues to be unacceptably high, the client experience will be impacted

Note: Excludes time navigating the IVR. Includes time waiting in the queue.

Common Metric Definitions

An **abandoned call** is one where the caller hangs up before being connected to an agent. Abandoned rate (%) is the number of abandoned calls divided by all calls offered to an agent. Abandoned rate (%) is a measure of customer satisfaction and waiting time in the IVR.

Sample formula

$$\text{Abandoned rate} = \frac{\text{\# of Abandoned Calls}}{\text{\# of Calls Offered}}$$

Key characteristics

Category: client experience
General goal: minimize
Format/units: percent (%)
Dimension: group/center
Typical target: < 3%
Typical data source: phone switch (ACD)

Interpretation and commentary

- Customers abandon within the IVR when their waiting time is longer than expected
- An increase in the abandoned rate is generally the cause of an increase in ASA or a decrease in service level
- While call abandonment is a component of the customer experience, it is important to look at the detail behind abandons
  - Abandonment may also be a factor of callers being distracted, issues with the IVR or simply having dialed the wrong number
  - Before affirming that high abandonment may be a staffing issue, examine the time abandonment took place, how often and after how long the caller held on the phone
  - That is, an abandoned call after just a few seconds is indicative of having reached a wrong number

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Common Metric Definitions

First contact resolution (FCR) is the percentage of customer issues that were solved by the first contact with customer care. FCR is one of the most important measures of customer experience and satisfaction.

Sample formula

$$\text{FCR} = \frac{\text{Contacts Resolved First Attempt}}{\text{Total Contacts}}$$

Key characteristics

Category: client experience
General goal: maximize
Format/units: percent (%)
Dimension: group/center
Typical target: 70%–75%
Typical data source: CRM system, survey, CCaaS

Interpretation and commentary

- FCR is arguably the most important customer experience metric
- Multiple studies have been done to correlate customer experience with metrics such as ASA and service level, and by far FCR is correlated the highest
- The challenge most customer care centers face is in the ability to measure FCR
  - Low-tech options for collecting FCR include simply asking the customer through a question on the CSAT survey
  - More sophisticated approaches involve tracking customers who have the same or similar contact type within a set period of time

Common Metric Definitions

Agent utilization (%) is a measurement of the time spent being productive (i.e., actual time spent on calls). Utilization (%) as a percent is the utilization time over the total amount of time worked. Utilization is also referred to as occupancy.

Sample formula

$$\text{Utilization/ occupancy \%} = \frac{\text{Talk Time + After Call Work Time}}{\text{Available Time}}$$

Key characteristics

Category: operating efficiency
General goal: maximize
Format/units: percentage
Dimension: individual and group/center
Typical target: 75%–85%
Typical data source: CRM, Softphone

Interpretation and commentary

- This is a measure of the call center agent workload. Although higher occupancy would seem to be a good thing, very high occupancy can be an indication of understaffing
- Occupancy upward of 90% is generally an indicator of customers holding and agents connecting to a new customer as soon as they complete the interaction with their current caller
- Low occupancy rates (< 60%) indicate overstaffing and an opportunity to redeploy resources

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Common Metric Definitions

Agent attrition is a measure of agent satisfaction as well as hiring, training and recruitment practices. Agent defections include both voluntary and involuntary departures from the center. Agent attrition is typically expressed on a monthly basis.

Sample formula

$$\text{Agent attrition \%} = \frac{\text{\# of Agent Defections}}{\text{Total \# of Agents}}$$

Key characteristics

Category: operating efficiency

General goal: minimize

Format/units: percentage

Dimension: group, center, region

Typical data source: HR system

Typical target: less than 5%–8% for insourced operations*

* *Increased attrition being reported upward of 15% during pandemic year*

Interpretation and commentary

- Attrition consists of both voluntary (e.g., agent opts to leave) and involuntary (e.g., agent is fired, layoffs).
- Abnormally high utilization and availability numbers can contribute to agent attrition in addition to factors such as culture, career opportunities, compensation, etc.
- All centers face the challenge of agent attrition and, therefore, unless there is an abnormal spike in attrition it should not adversely impact operations
- Attrition should be effectively accounted for through long-term resource forecast models that account for monthly attrition
- A regular hiring and training schedule with variable class sizes is a common practice

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Common Metric Definitions

Employee engagement has become a true "hot button" in most work environments – not just call centers. As employers are increasingly dealing with a millennial generation of employees who can quickly become detached through digital distractions, they are measuring engagement – enabling people to want to do whatever is necessary to ensure continuous high performance and business success.

Sample formula

Employee engagement = **% of favorable responses among employee survey questions determined to be "drivers" of engagement**

Key characteristics

Category: client experience
General goal: maximize
Format/units: percent (%)
Dimension: group/center
Typical target: varies
Typical data source: periodic survey

Interpretation and commentary

- Engaged employees are typically positive, have high productivity, and are more loyal to a firm and even to certain leaders.
- Engaged employees can be counted on to reinforce what an enterprise or leadership is trying to promote – this is very important since leadership cannot be "on the floor" consistently
- These employees are critical to business success. Leaders should thus be held accountable for identifying the drivers of engagement, for continually reinforcing those drivers and for addressing ones that represent opportunities because of low scores

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Erlang C Model Framework

Organizational Alignment
Staffing - Erlang C Model Considerations

The Erlang C Model is the industry-accepted mathematical method of making predictions about randomly arriving workloads, e.g., telephone calls, based on known information. It's used to determine the number of call center agents required to meet call center goals. It uses incoming calls, average handle time, service levels, and target answer times to calculate the number of agents required.

Month

M T W Th F Sa Su

101,671 Calls

=

Week

Mon	Tues	Wed	Thu	Fri	Sat	Sun
5,563	5,049	4,558	4,347	3,857	0	0

23,373 Calls

101,671
Calls Per Month

345
Average Handle Time

80%
Service Level

86s
Target Answer Time

108.2
Agents FTE (Typical)

135.5
Agents/30 min. (Max)

Erlang C Model Observations

1. Oregon DOR received an average of 101,671 calls per month from January to July 2022. Averaging, 4.35 weeks per month, this equates to 23,373 calls per week. (This calculation contains the assumption that each week has the same number of calls).
2. The website referenced below is a tool for calculating a framework on which to base staffing numbers.
3. Leveraging accurate forecasting and flexible staffing would allow a number of staff to shift to other duties during call volume troughs.
4. Based on interviews, staffing appears to be reactive rather than proactive and is severely limited.

Erlang Calculator for Call Centre Staffing (callcentretools.com)

Modern Call Center Reference Architecture

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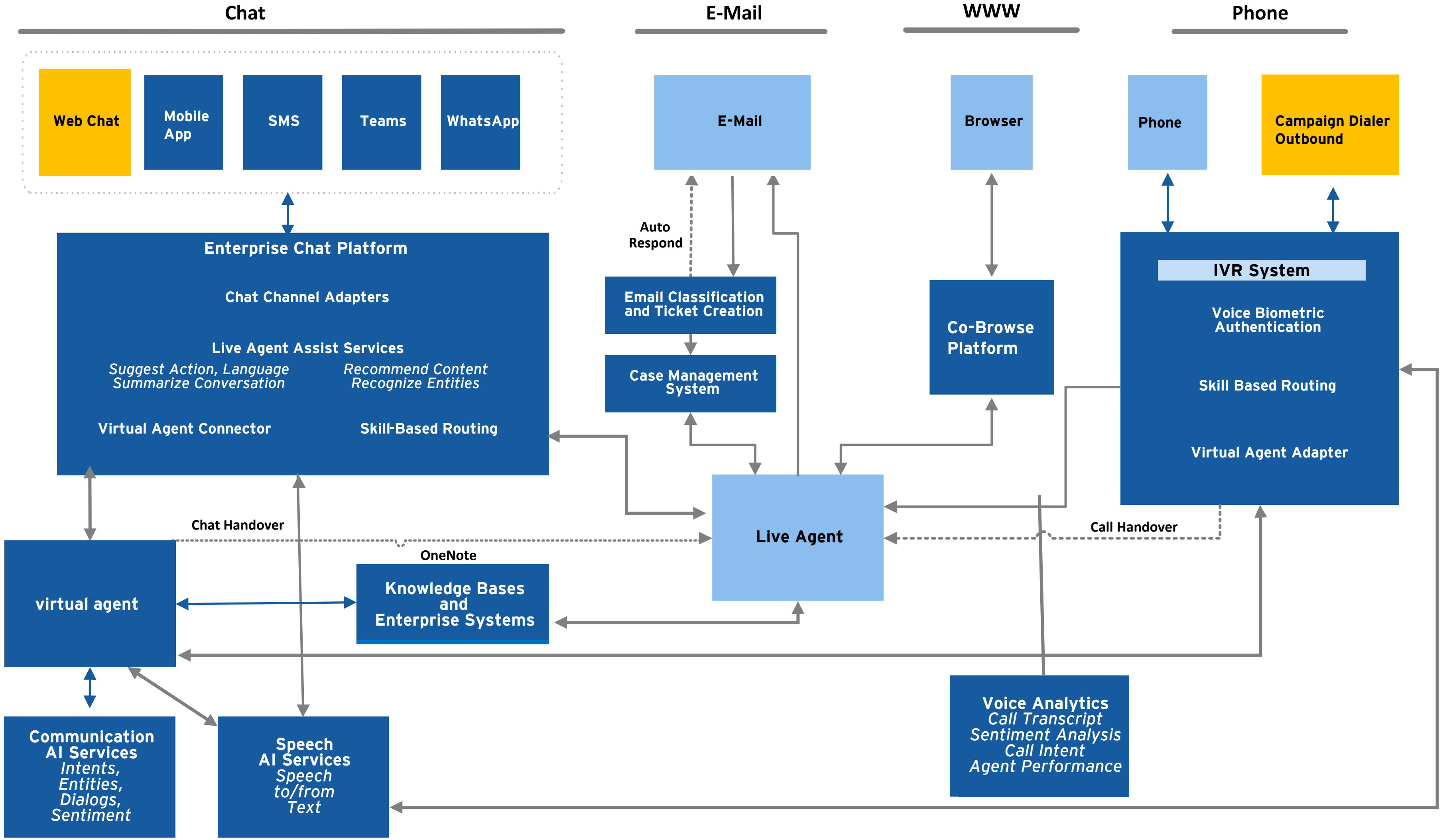
Modern Call Center Reference Architecture
Current State vs Leading Practice Comparison

This is the reference architecture of a modern call center for DOR to consider as their future state to enhance customer experience



In Production

Available but not used in Production

Capabilities for DOR to consider

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