Expediting North Carolina Business Creation: An Online Document Filing Wizard

Project Lead: Cheri Myers, Director of Business Registration
Subject Area of Nomination: Business Services

The global pandemic and a historic wave of new business creations necessitated innovative technology (e-government) solutions to reduced transactional frictions and increase efficiencies. The Dashboard and Wizard Project improved the chances that a new business would be operational as soon as possible. The project being submitted for the NASS IDEAS Award helped the agency identify real-time needs and problem spots, while substantially reducing error rates of submissions. The reduction in error rates directly resulted in quicker turnaround times from submission to filing for new business creators.
Introduction

Since 1997, the Department of the North Carolina Secretary of State [Department] has concentrated relentlessly on ways to make North Carolina a preferred place to invest capital. A singular focus has been on providing as transparently as possible highly reliable and accurate business information with ever-improving turnaround. Over the past 25 years we have evolved from strictly paper submissions that could take 60 days or more for examination to processes that include online submissions and paperless examinations.

The pandemic introduced a whole new set of workplace challenges. Department staff had to quickly shift from a 100% in-office model to an 80% remote work environment. At the same time, customer filings substantially increased beyond previous experience. This volume far outpaced the Department’s manpower resources at a rate that also outpaced the Department’s existing information management systems. Due to new leadership, the new demands placed upon the Department over the past two years and a need to do still more with fixed staffing resources, the Department created dashboards for its Business Registration Division using Power BI. The dashboards allow supervisors and managers to visualize in real time and against historic trends document flows, to model trends and then identify where efficiencies may be realized in the examination process.

Dashboard development began in June 2020 using CARES Act funding. By September 2020 the developmental dashboards were identifying a historic increase in new business formation that showed no indication of slowing and that in fact threatened to overwhelm staff’s ability to process in timely fashion. With the information provided by the dashboards, management quickly concluded that investing over 200 hours in programming time for an online creation wizard would not only help the customer with improved access, but it would also substantially reduce customer errors and staff time inputting data.

The Online Business Creation Wizard has markedly improved document turnaround times even as the Department has seen a 78% increase in new business formation over pre-pandemic 2019 levels. With the dashboards providing a feedback loop, after Wizard deployment the Department identified the need for additional adjustments to increase Wizard use adoption. The Wizard now saves the Department over 1500 staff hours each month and has reduced document creation turnaround from six to nine business days pre-Covid to less than five days (and more often two day turnaround when fully staffed), despite the exceptional volume of filings still taking place.1

With information from the dashboards, the Department was confident in its decision to invest substantial energy creating the Online Business Creation Wizard. The real-time knowledge and query power that the data dashboards offer allowed us to investigate, model, ground-truth and then improve the impact of the Online Creation Wizard efficiencies. These dashboards continue to identify promising opportunities where the Department may improve the customer experience and remove bottlenecks.

The Problem

Going into the pandemic, business filing flows were steady and reliably predictable. The Department’s data management tools involved manually prepared excel spreadsheets and static monthly PDF reports drawn from SQL data. These monthly reports were suitable at the time for tracking the document flows historically seen by the Department because there was not much deviation from historical trends. Because the Department operated in a 100% in-person environment, management identified any anomalies deviating from the regular flows through anecdotes collected while walking around and talking to staff. The pandemic upended the historic filings flows and rendered obsolete the way management collected information and tracked processing.
1 For comparison, only eleven other states were delivering five day or less turnaround of non-expedited business entity filings during the week of February 28. Eight states and Washington, DC required more than a month. The majority of states (30) required between one week and one month to process business entity filings.

2 As we can see from this graph, reinstatement filings returned to normal in 2021.
In fact, new business creations have continued at historic rates, with 2021 seeing a 78% increase over pre-pandemic 2019 filings. What was evident, however, was that there was a historic filing surge that did not appear to be abating and that was threatening to overwhelm the Department’s ability to process timely. This was not acceptable to the Department, because slow turnaround meant a drag on the efforts of North Carolina’s entrepreneurs to put our economy back to work during the pandemic.

The amount of time the Department spent processing and rejecting faulty creation documents also contributed heavily to the growing turnaround times. Once the dashboards began to be functional, management learned the Department had rejected and returned to the customer for correction over 30,000 LLC and Corporate filings in 2019, a 25% rejection rate. The static reports that management had been using did not provide detailed information helping management understand how much time the Department spent processing faulty filings. With each rejection and resulting return taking at least 7 minutes, customers suffered frustrating processing delays and the Department spent nearly 3500 hours annually rejecting filings for what oftentimes were careless filer errors. With the dashboards, it became clear these error rates were adding substantially to processing backlogs. Where time is the Department’s most scarce resource, we had to find ways to reduce the rejection rate to help improve the turn-around times.

The Solution

Step One – Know what is happening as it happens
Step Two – Implement a response
Step Three – Evaluate the effect of the response and adjust

Dashboard Project – Knowing what is happening
In June 2020 the Department received a one-time CARES Act allocation which it used to hire a data analyst. The analyst created dashboards to show real-time filings, processing turn-around, methods of submittal, and historic trends. The first dashboard panels became broadly operational by early September 2020. An example dashboard panel is below.

---

3 In fact, new business creations have continued at historic rates, with 2021 seeing a 78% increase over pre-pandemic 2019 filings.
These dashboard panels are extraordinarily flexible, let the user ask a wide variety of questions and allow for predictive modeling. With the dashboards in place, management can quickly look at filing volumes, overall time in queue, rejection rates and staff processing times. The dashboards provide a drill down aspect to the document identification number, entity type, entity name, and assignee examiner. Other pages of the dashboard provide historic to current data comparisons reflecting entered details, rejection rates and committed documents. The user may limit the data to a specific date range, and may sift the date by arrival type, event name and entity type. The Committed Document Type and Entered Doc Type pages also provide a historic chart to quickly provide context.

Management and supervisors now use the dashboards daily. Management consults the dashboards to determine the viability of new projects; supervisors use the tool to manage daily workflow and resource assignments.

Online Creation Wizard – Implementing a Response
As the dashboards came on line, management quickly saw changes were necessary for the Department to stay true to its mission of providing accurate information in a timely fashion. Management used the dashboards to determine the quantifiably probable effect if the Department invested 200 programmer hours to develop a web-wizard business creation tool. The Department predicted it could save 740 hours a month with a properly configured tool, so long as the Department could convince at least 40% of its filers to use the tool.

The dashboards also helped management realize that the focus had to be on documents with the highest submittal rates – the creation (or formation) documents – rather than other filings that had higher rejection rates or would have been easier to address but which were not of sufficient volume to have the necessary effect. A team was quickly put together to write the business rules for each entity creation document type.

The idea of an online filing wizard had been discussed before the pandemic, but had not been a Department priority, as the Department has accepted PDF uploads for years. Dashboards identified the need to reduce document rejections. Unbeknownst to the Director of Business Registration, since those early discussions the Applications Systems Manager had been working on the infrastructure of a wizard application in his spare time. In June 2020 he made it known to the Deputy Secretary that the project was 60% complete and he needed specific business rules for each document type to complete the project.

By October 2020, the Department implemented the first iteration of the Online Creation Wizard. The wizard is an online process that walks customers through the creation of a business entity. The business rules for the wizard address frequent trouble spots -- such as name availability, entity designators, and incomplete addresses -- and require certain information before a customer may move forward in the process. The wizard is designed to reduce the number of filings with avoidable errors, the amount of examiner time spent inputting information, and to improve the customer experience by reducing rejections.

Website account credentials are required prior to being able to begin the Online Wizard process, which also allows customers to track document status. The wizard then directs the customer through a series of questions. The customer’s answers will either prompt additional questions or move the customer on to the next section. Name availability is built into the process as the wizard rejects a proposed name already in use by tying directly into the Department’s KB Database of entities. Address verification software ensures that mailing addresses are accurate and that registered agents are located in North Carolina. The wizard will not advance until the customer provides all statutorily required information, including signatures. This entire process substantially reduces document rejections, examination processing times and profile entry errors.

At the end of the filing process, the wizard creates and populates the correct form, eliminating need for the customers to download a form for uploading and wrong form errors. The wizard allows the customer to submit the document with an extended effective date, expedited options, and uploading multiple attachments separately. A final image is available at the end of the process, permitting customer review and the means to make changes.

The wizard processes were tested by an internal focus group over a period of three months before being presented to a small group of volunteer customers. The cycle of testing and revisions was repeated over and over again until we decided to publish to the website. Changes continue to be made as bugs and improvement opportunities become apparent.

One click button -- Evaluating the Effect and Adjusting
Dashboard review after the wizard was implemented in October 2020 showed customers were not adopting the Online Creation Wizard at the expected rate. The Department launched an educational web-based campaign showing the
advantages of wizard use as compared to the “classic” PDF submittal method that had been available for years. The dashboards showed little improvement in adoption rates.

The Department investigated further and realized that over half the creation filings were by first-time and probably single-use customers. This led the Department to install a one-click button on the web home page and at other strategic locations taking users directly to the wizard. In one month, usage of the Online Creation Wizard went from 20% of submittals to 43%, and now remains consistently around 80 to 85% of all creation submittals.

The dashboard/Online Creation Wizard combination is an unparalleled success, saving the Department well over 1500 hours a month. These savings have allowed the Department to deliver processing times for most filings within as little as two business days and almost never more than five business days, despite the exceptionally high volume of filings that began during the pandemic and continue unabated today.

The Results

The web wizard creation tool has been wildly successful. After installation of a one-click launch button on the web site in April 2021, wizard creations now account for 80-85% of all submittals. Installing the one-click button in April 2021 was essential to the success of the project, as customers did not use the wizard at the adoption rates needed for success. Only 8 to 12% of wizard creations are rejected, compared to 27% rejection rates of paper and PDF filings before the wizard was installed. Surprisingly, after wizard installation paper/PDF rejection rates have fallen to around 16%. The explanation for this unexpected improvement may be that those who were most likely to submit faulty documents are first time users drawn to the wizard, and those who now submit by paper/PDF are more experienced and less likely to make errors that lead to rejections.

At current filing volumes, the wizard directly saves the Department well over 1500 staff hours monthly. When fully staffed, the Department has used this time savings to process creations in less than five business days, even though filings remain at historic highs. This achievement is an incredible improvement over the ten to fifteen day turnaround the Department delivered before the pandemic.

The success of the wizard depended upon the accurate, real-time information that the dashboards provide. The dashboards provided the information that helped the Department identify the areas of greatest opportunity, and then to make continuing adjustments that have permitted prompt responses for maximum effect.

*    *    *