

York County Natural Gas Authority:

Digital Insights

Lily Beirne & Tori Iannotti

Table Of Contents

Executive Summary.....	3
Introduction.....	4
Research Method and Procedures.....	7
Data Analysis and Findings.....	7
Conclusions and Business Recommendations.....	15
Limitations.....	17
Appendix.....	18
Appendix A: Survey On Qualtrics.....	18
Section 1 – Demographics.....	18
Section 2 – Accessibility & Usability.....	18
Section 3 – Efficiency.....	18
Section 4 – Content & Personalization.....	19
Section 5 – Satisfaction & Recommendation.....	19
Section 6 – Ranking Tasks.....	19
Appendix B: Demographic Summary.....	20
Appendix C: Page Usefulness Rankings.....	20
Works Cited.....	21

Executive Summary

The intent behind this research was to not only evaluate the digital experience offered by the York County Natural Gas Authority (YCNGA) but to also identify opportunities to improve customer satisfaction. As the 11th largest public natural gas system in the United States, YCNGA has financial stability and a large network with strong community trust. However they keep striving for and seeking possible areas of improvement. One of which includes its online presence, specifically their website, which has not been updated since 2019 and is in need of modernization. The primary objective of this study was to evaluate and explore customers' perceptions of the YCNGA's digital touchpoints in terms of its accessibility, task efficiency, content relevance, and overall satisfaction.

The study involved distributing a structured survey to YCNGA customers which resulted in a total of 79 usable responses. The survey covered demographics, website usage, and perceptions measured primarily on a Likert scale. When looking at the demographics the sample skewed heavily toward older adults (58% age 65+). Key variables measured include accessibility, task efficiency, content relevance, and perceived personalization. To evaluate the hypotheses the statistical tests used were t-tests, ANOVA, correlations, and regressions.

Several key findings were then pulled from the data, revealing significant insights. Accessibility for example was found to play a major role in overall satisfaction and willingness to recommend the website to others because there was a very strong positive association between the two. Mobile performance was another one that strongly predicted perceived efficiency. Customers who believed the site worked well on their mobile device were significantly more likely to report time-saving benefits as well. The data also showed a strong interest in personalization tools, with 38% finding personalized reports “very beneficial” and 32.9%

expressing strong interest in a money-saving tips section. However many other areas had no significance such as perceived efficiency not varying by usage preference or frequency of visits, and perceived content relevance not differing by customer tenure.

Based on these findings, the research concludes that YCNGA has many opportunities to possibly enhance its digital experience for its customers. Whether it is through improved navigation, stronger mobile optimization, or expanded personalized content YCNGA can enhance their digital presence and strengthen over;;a customer satisfaction.

Introduction

The York County Natural Gas Authority (YCNGA) is a leading public utility and the 11th largest public natural gas system in the United States. Their goals and core values include providing "safe, reliable, and affordable energy solutions" which are shown and stated in their mission statement. Although YCNGA has not updated their website since 2019 and could use some refurbishing. We are going to take a deeper look into YCNGA as a whole, as well as its position in its industry to identify key areas for strategic development, particularly within their digital and online presence.

YCNGA benefits from many key strengths, including strategic financial foresight by hedging through PEG. This has given them an advantage against market volatility and allowed them to keep rates affordable for all customers. They have also been extremely successful concerning their infrastructure projects and consistent low damage rates, both of which reveal a strong system of reliability and integrity. Additionally, the YCNGA is a not-for-profit corporation, they've received an A+ rating from the Better Business Bureau, and they have won many national awards for safety and community service. These accomplishments have all given

the YCNGA a very strong reputation and high level of community trust. However, the YCNGA also faces some notable weaknesses. One of their greatest is their dependence on weather, as their financial results are highly impacted by temperatures. Although this is an external issue, it continues to present a significant vulnerability. Additionally, they are almost constantly under operational strain due to rapid regional growth. This requires a high level of resource allocation and constant management in order to prevent damages and maintain standards. While YCNGA has many great strengths, they also have multiple opportunities to further strengthen their position. One of the major opportunities to take would be to improve the digital customer experience through a mobile app, personalized energy, and more proactive communication. Seizing this would increase engagement, improve customer satisfaction, and allow for cost savings. The YCNGA also has the opportunity to leverage federal grant funding to modernize infrastructure and keep systems upgraded, so some of the financial burden would be lifted from the customers. While they already have a great reputation, they could further their unique role in the community by taking these opportunities and fostering even deeper customer relationships and loyalty. On the other hand, the YCNGA also faces several threats. Despite their success with hedging, the natural gas market's volatility has proven to be a long-term risk. Spiking prices in the market threaten the company's competitive advantage and affordability for customers. Another consistent threat is the competition from alternate energy, like renewable energy sources. As customers are increasingly looking for alternate energy with more flexible pricing.

The best practices for website design fall into the following categories: Accessibility, efficiency, and content. Certain features can be added to a site to increase the degree of each category, which will make for a smoother, seamless customer experience. The York County Natural Gas website is functional but it is due for an update in these categories. Accessibility

wise they have user friendly navigation by using clear headings and calls to actions. These help guide the user to the information they are searching for in a timely manner. Their mobile design is also responsive, allowing a consumer to view the site on different screen sizes without issues. One thing they might want to consider for increasing their accessibility is implementing a mobile application. For modern users, gen z and millennials, having an app that could send them personalized notifications might increase their satisfaction with the YCNGA online presence.

On the efficiency side, the call to action buttons, like “apply for services”, helps in reducing the customer’s time spent on the website by forgoing searching through the different site pages. The YCNGA site also has some proactive communication features that increase the efficiency of their site. They have a news page with the current events concerning their business and outreach programs while also displaying emergency contact information for safety issues. On the other hand, they are lacking personalized reports for their users like billing reminders, alerts for outages, and reports for usage patterns.

Lastly, their content is functional for general information on their company and their product. However, as stated before, they are lacking personalized content like usage reports, savings recommendations, or targeted program outreach based on their customer’s data. They provide some multichannel support connections by providing the emails and phone numbers for sales and customer service, as well as a contact page. They are lacking a real-time support channel, like a live chat, that could increase the satisfaction for their guests and create a personalized experience for them.

Research Method and Procedures

The research method that was used consisted of a descriptive approach with a quantitative survey to gather customer feedback on the YCNGA website. We then used this feedback to evaluate the customer perception of YCNGA's digital experience. The survey included demographic questions, Likert-scale measures, ranking tasks, and constant-sum evaluations. The survey was distributed as an online questionnaire to the target population of YCNGA customers and the final sample included 79 usable responses.

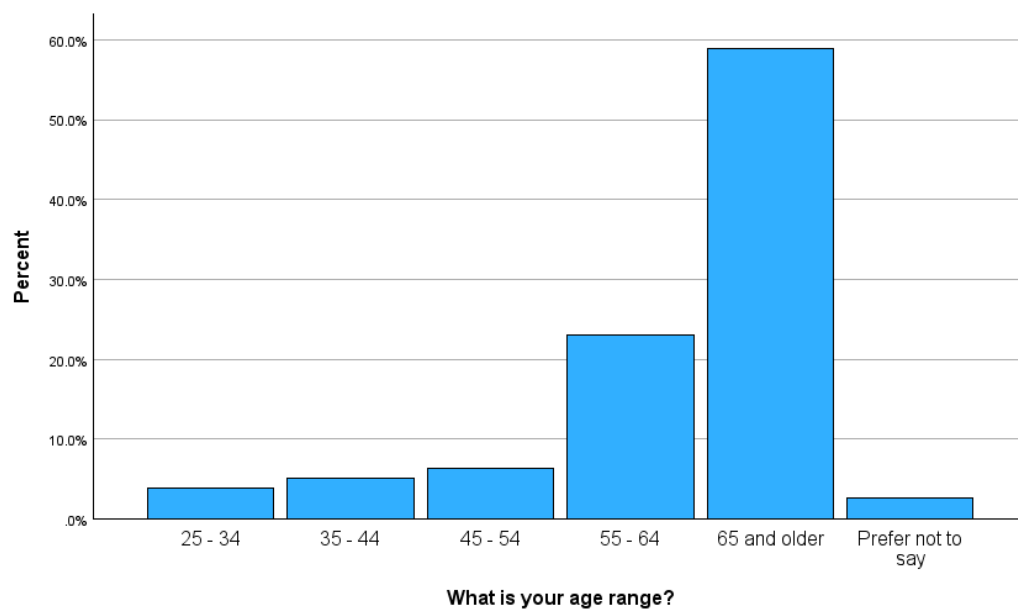
The survey was designed to measure the three main components of the digital experience (accessibility, task efficiency, content relevance), and their impact on satisfaction. We prioritized using likert scale measures to capture perceptual agreement/disagreement. The method was meant to help quantify the digital experience and determine actionable steps or priorities YCNGA could implement.

The questions used were chosen and finalized based on the research objectives stated. The quantitative analysis was then performed using SPSS which involved calculating means, percentages, correlations, and other statistical tests. These were all used in hopes to find significant relationships and differences between groups that could lead to tangible advancements for the YCNGA website.

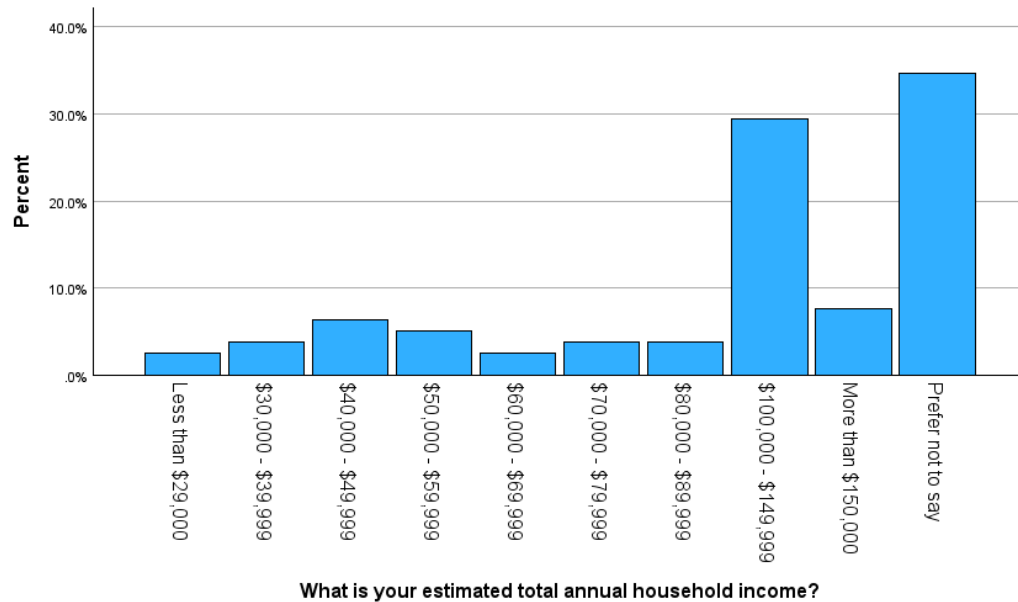
Data Analysis and Findings

Our data analysis allowed us to gain some insight into the York County Natural Gas customer demographic. Descriptive statistics were used to summarize respondent demographics. We found that 58% of respondents were ages 65 or older. About 51% of respondents were male,

42% were female, and 7% preferred not to say. We also found that about 44% of the respondents have an annual household income range of \$100,000 to \$150,000, even though most respondents preferred not to disclose their income level. Through our frequency analysis we also determined that around 92% of respondents were the primary account holders and around 89% of respondents stated they visit the site at least once a week. About 65% of respondents have been customers with YCNG for over 6 years, and 38% of those customers have been with YCNG for over 15 years. Lastly, we found that 58% of the respondents stated they would rather use the website than the mobile app, calling, or going in person to find the information they are looking for.



Graph 1: Frequency of Age Ranges



Graph 2: Frequency of Income Levels

First we posed a constant sum scale question and asked the YCNG customers to divide 100 points amongst the following website attributes: accessibility, efficiency, and content relevance. Based on the average points designated to each attribute, accessibility had the highest average. In other words, YCNG customers deem accessibility to be the most important attribute when visiting a website. We took a further look into accessibility to see how customers rate the accessibility and usability of the YCNG site specifically. To determine how easy it is for customers to complete tasks on the site we asked two questions as 7-point likert scales. We posed the statements, “The YCNG site makes it easy to pay my bills”, and “The YCNG site makes it easy to apply for services”. 41% of respondents strongly agreed that the website made it easy to pay their bills. With the YCNG site having a primary call to action for customers to pay their bills, they are already succeeding at making this part of the customer experience accessible. On the other hand, the majority of respondents, 44%, neither agreed nor disagreed that the site made it easy to apply for services. This response can be accepted since not every customer needs to

apply for services, so not everyone will have an opinion on this. Overall though, respondents agreed the site made it easy to complete tasks. Next we looked at the ease of navigation for visiting users. We posed the following 7-point likert scale question: “The YCNG site is easy to navigate”. From this we found that around 42% of respondents only somewhat agreed that the site is easy to navigate. In other words, while it may be easy to pay bills on the website, there may be some difficulty finding other information on the content-heavy YCNG site. We also wanted to determine how the customers would respond to a website feature that could increase rated accessibility. We asked the following question: “How beneficial would a live chat box be to help answer questions you might have?”. Using descriptive statistics we found that 76% of the respondents deemed a live chat box to be at least somewhat beneficial (with 33%, a majority, voting ‘somewhat beneficial’). In other words, there is a demand for a live chat box, but not a major one. Lastly, we wanted to determine if a customer's willingness to recommend the site was related to perceived accessibility. We posed another 7-point likert scale question: “I would recommend YCNG’s online services to other people”. We found that 78% of respondents at least somewhat agreed that they would recommend the online services. A linear regression was then used to assess if there is a causal relationship between perceived accessibility (ease of navigation in this case) and willingness to recommend. Results indicated a significant positive correlation. In other words, the more accessible the YCNG site is, the more likely a customer is willing to recommend the site to someone else.

The YCNGA site is easy to navigate.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	6	7.6	7.6	7.6
	Somewhat disagree	7	8.9	8.9	16.5
	Neither agree nor disagree	10	12.7	12.7	29.1
	Somewhat agree	33	41.8	41.8	70.9
	Strongly agree	23	29.1	29.1	100.0
	Total	79	100.0	100.0	

Table 1: Customer's Perceived Rate of Ease of Navigation / Accessibility

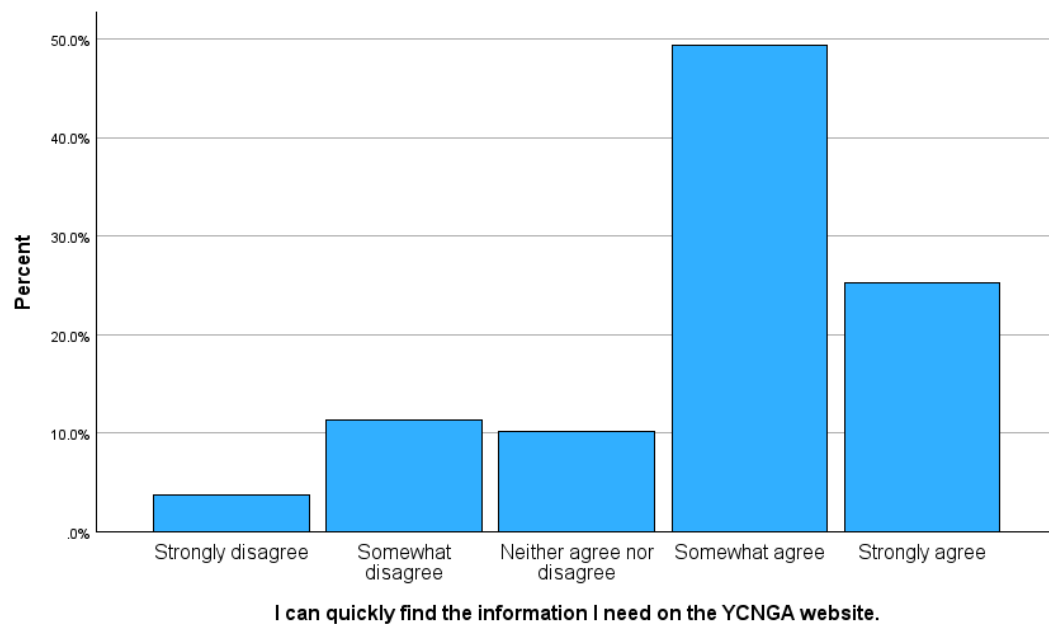
I would recommend YCNGA's online services to others.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	2	2.5	2.5	2.5
	Somewhat disagree	2	2.5	2.5	5.1
	Neither agree nor disagree	13	16.5	16.5	21.5
	Somewhat agree	31	39.2	39.2	60.8
	Strongly agree	31	39.2	39.2	100.0
	Total	79	100.0	100.0	

Table 2: Customer's Willingness to Recommend the Site

From the constant sum scale responses regarding website attributes, efficiency was allotted the second highest average. To determine how YCNG customers rate the efficiency of the YCNG site specifically we posed another 7-point likert scale question as follows: "I can quickly find the information I need on the YCNG site". Using descriptive statistics we found that about 49% of respondents only somewhat agreed that they can quickly find the information they need on the YCNG site. In other words, the efficiency of the site is rated well, but improvements could be made. We also asked customers how well the site performs on their mobile device, as well as on their PC. Using descriptive statistics we found that around 33% of respondents agreed that the site worked well on their mobile device and that 43% of respondents agreed the site works well on their PC. We then ran two linear regression tests to determine if performance on a mobile device and on a PC positively predict perceived time-saving efficiency. A significant

correlation was found between the two variables. In other words, if performance on the mobile device or on a PC is rated well, the customers are more likely to agree that they can quickly find the information they need on the site and there is a causal relationship between the two variables. Lastly, we wanted to see if there was a causal relationship between customers' willingness to recommend the site and perceived efficiency. We ran a linear regression test and found a significant correlation between the two variables. If a customer perceives the website to be efficient, they are more likely to be willing to recommend the site to others.



Graph 3: Customer's Perceived Rate of Efficiency

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.569	.420		1.356	.179
	The YCNGA website works well on my mobile device.	.264	.087	.275	3.046	.003
	The YCNGA website works well on my PC.	.553	.094	.528	5.850	<.001

a. Dependent Variable: I can quickly find the information I need on the YCNGA website.

Table 3: Association between Perceived Efficiency and Website Performance on Devices

The website attribute that was ranked the least important by a majority of the respondents was content relevance. Despite this, we still wanted to see how the YCNG customers rate the site based on content relevance, but it was not our main focus. We knew one of YCNGs' main goals was to direct people to the showroom, so we wanted to make sure their customers actually knew what the showroom was and what it offered. We posed two 7-point Likert scale questions as follows: "Based on the available information on the site, I understand what the showroom is" and "Based on the available information on the site, I understand what the showroom offers. Using descriptive statistics we found that 42% of respondents somewhat agreed that they understand what the showroom is and that 38% of respondents somewhat agreed that they understand what the showroom offers. A Pearson correlation was used to assess the relationship between these two variables. A significant positive association was found where if a customer understands what the showroom is based on the available information on the site, they are more likely to understand what the showroom offers. We also wanted to assess how the YCNG customers would react to some possible new website features that could be added to the website to help increase content relevance ratings. When performing our situation analysis for the site, we noticed that some competitors, like Duke Energy, included a section on their site that provides money saving tips for their customers. My team wanted to determine if YCNG customers would also see a benefit in this feature, even though the majority of their demographic seemingly belongs in an upper tax bracket. Using descriptive statistics we found that around 33% of respondents felt as though a money saving tips section would be very beneficial, regardless of income levels. Lastly, we asked customers how personalized the site feels to them for a baseline assessment. Using descriptive statistics we found that 41% of respondents neither agree nor disagree that the current content on the website feels personalized to them. In other words, the

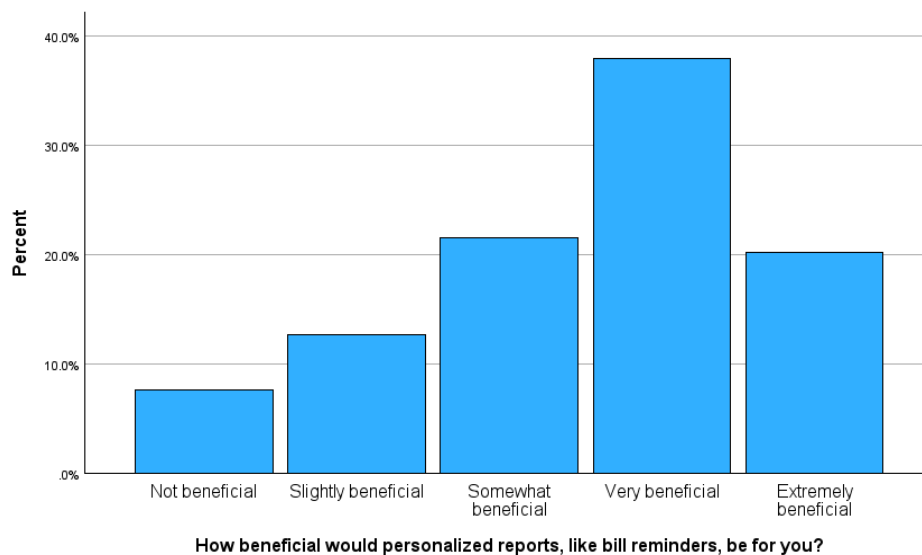
majority of the respondents had no opinion on the rate of personalization for the current site. We then asked the customers how beneficial they would find personalized reports, such as bill reminders. Using descriptive statistics again, we found that 58% of respondents thought personalized reports would be either very or extremely beneficial.

Correlations

		Based on the available information on the YCNGA site, I understand what their showroom is.	Based on the available information on the YCNGA site, I understand what they offer in the showroom.
Based on the available information on the YCNGA site, I understand what their showroom is.	Pearson Correlation	1	.777**
	Sig. (2-tailed)		<.001
	N	79	79
Based on the available information on the YCNGA site, I understand what they offer in the showroom.	Pearson Correlation	.777**	1
	Sig. (2-tailed)	<.001	
	N	79	79

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4: Association between Understanding What the Showroom is and What it Offers



Graph 4: Perceived Benefits of Personalized Reports

Conclusions and Business Recommendations

The aim of this study is to evaluate YCNG's website across usability, efficiency, content relevance, and overall satisfaction and impact. The goal was to determine whether improved digital usability increases customer engagement and satisfaction. This hypothesis was supported through several significant findings we determined during our data analysis. Perceived accessibility and perceived efficiency both predict a customer's willingness to recommend the site to other people, mobile and PC performance are both significantly associated with a customers' perceived time-saving efficiency of the site, and there is a strong association between a customers understanding of what the showroom is and what the showroom offers. Across all categories, customers generally somewhat agreed that the site is easy to navigate, efficient for basic tasks, and provides useful content and many respondents expressed interest in new features on the website that offer more personalization and accessibility. These findings indicate clear opportunities for YCNG to enhance the digital experience for their customers in several ways.

One way for YCNG to enhance their customers' digital experience is to strengthen mobile optimization. Our data showed us that when customers believe the mobile site works well, they also believe the website saves them time and they are able to find necessary information quickly. To do this, York County Natural Gas can perform a mobile-first redesign. They should focus on prioritizing mobile load speed and eliminate any multi-page clicks that could be built into one view. This matters because improving mobile performance directly boosts efficiency perceptions, which therefore increases customers' willingness to recommend the site.

Another possible way for YCNG to enhance their digital experience is to improve navigation structure and clarity. Our data showed that customers who rated the site as easy to navigate were significantly more likely to recommend YCNGA's online services to others, and

the majority of respondents only ‘somewhat agreed’ that the site is easy to navigate. These factors on top of the fact that accessibility was deemed the most important attribute when visiting a website, show that York County Natural Gas should be focusing on the site's usability and ease of navigation. They already have clear calls to actions on their homepage but they could work on reducing redundant menu paths. This would simplify their site from deep subpages to clear 1-2 click paths, which we know was one of their concerns from the beginning. Improving navigation by doing this is one of the best ways to improve overall satisfaction since the perceived ease of navigation was rated lower than other aspects of the site.

Based on our situation analysis of the natural gas industry, we noticed some competitors to York County Natural Gas had some interesting features on their websites. Our data shows us that YCNG’s customers would be interested in some of those features, like a section that provides tips on how to save money. Regardless of income levels, YCNG’s customers think this feature would be ‘very beneficial’. To implement this, YCNG can create a “Save With YCNG” center featuring items like seasonal tips, energy-saving checklists, tips on how to reduce bill spikes, and appliance maintenance guidance. This section would align with customer expectations and would strengthen the perceived rate of content relevance and personalization, two areas which are rated lower than others.

Our fourth recommendation for York County Natural Gas deals with personalization specifically. My team recommends that YCNG add light-touch personalization tools. The data showed us that customers think personalized reports would be very beneficial to them, even though they do not have a current opinion on how personalized the site feels. YCNG can implement personalized bill reminders and usage-based bill insights. This matters for the typical

YCNG customer because personalized tools increase customer satisfaction, even when there is no baseline for opinions on personalization.

Our last recommendation for York County Natural Gas can be seen as the least urgent. My team recommends that YCNG add a lite version of a live chat box, a guided FAQ section. The majority of the respondents deemed a potential live chat box to be only ‘somewhat beneficial’. This means demand exists, but not a significant amount, and we know the idea of a live chat box was a concern posed by the IT team at York County Natural Gas. Rather than doing this, YCNG can implement a guided FAQ section that will allow customers to receive answers to common questions they may have. This would support task efficiency and customer satisfaction without overwhelming the YCNG customer service teams.

Limitations

When conducting our data analysis, we ran into some limitations with our demographic. Since the data from reported age groups and income levels were so skewed in one direction (heavily on the 65+ age range and \$100,000-\$150,000 income range), we could not perform a lot of tests with this data. We were able to use descriptive statistics to see that these showings do match the YCNG demographic, but we could not determine variances in responses based on age or income.

After we completed our analysis, my team realized we had not asked many questions in our report about customer satisfaction in general. With customer satisfaction being one of our main research objectives, we definitely should have included a question regarding overall satisfaction with the website. This was a missed opportunity on our part as we could have performed some analyses with the responses from a question regarding customer satisfaction. We

also did not ask a lot of questions about content relevance. We asked whether the current content felt personalized to the customer, which we thought could have been regarding content relevance, but the average consumer would not be able to understand that. We should have asked a more specific question about content relevance.

Appendix

Appendix A: Survey On Qualtrics

Section 1 – Demographics

1. Age (10 categories)
2. Gender (Male, Female, Prefer not to say)
3. Income level (10 categories)
4. Customer tenure with YCNGA (4 levels)
5. Primary account holder status (Yes/No)
6. Frequency of website visits (5 levels)

Section 2 – Accessibility & Usability

1. “The YCNGA website is easy to navigate.” (1–5 scale)
2. “The website works well on my mobile device.” (1–5)
3. “The website works well on my PC.” (1–5)
4. “I can clearly find the information I need.”

Section 3 – Efficiency

1. “The website makes it easy to pay my bill.”
2. “I can quickly find the information I need.”
3. “Applying for services is easy.”
4. “I prefer using: website / mobile app / phone / in-person.”

Section 4 – Content & Personalization

1. “The website content feels personalized to me.”
2. “Personalized reports would be beneficial.”
3. “A money-saving tips section would be beneficial.”
4. “How relevant is the content on the site?”

Section 5 – Satisfaction & Recommendation

1. “I would recommend the YCNGA website to others.”
2. “A live chat or assisted FAQ would be helpful.”

Section 6 – Ranking Tasks

Participants ranked:

- Manage My Account
- Safety
- Apply for Services
- Residential Page
- Shop Appliances
- About Us
- Business Services

Appendix B: Demographic Summary

Category	Key Findings
Gender	50.6% male, 41.8% female, 6.3% prefer not to say
Age	58% age 65+ (heavily skewed)
Income	44.23% between \$100k–\$150k

Appendix C: Page Usefulness Rankings

Percentage ranked as “Most Useful”:

1. Manage My Account (58.2%)
2. Safety (27.8%)
3. Apply For Services (34.2%)
4. Residential Page (17.7%)
5. Shop Appliances (25.3%)
6. About Us (27.8%)
7. Business Page (53.2%)

Works Cited

“Investor Highlight: Jimmy Sprouse, President & CEO for York County Natural Gas Authority.”

York County Economic Development, York County Economic Development,

www.yorkcountyed.com/news-media/blog/investor-highlight-jimmy-sprouse-president-ceo-for-york-county-natural-gas-authority.

Nadeem, Reem. “1. Views on Energy Development in the U.S.” *Pew Research Center*, Pew

Research Center, 27 June 2024, www.pewresearch.org/science/2024/06/27/views-on-energy-development-in-the-u-s/.

“OpenAthens / Sign In.” *Ebsco.com*, 2025, research. [ebsco.com/c/e266yq/search/details/te](http://ebsco.com/c/e266yq/search/details/te4u3vl7zn?db=a9h&q=website+design+AND+importance+to+consumers&searchMode=all)

[4u3vl7zn?db=a9h&q=website+design+AND+importance+to+consumers&searchMode=all](http://ebsco.com/c/e266yq/search/details/te4u3vl7zn?db=a9h&q=website+design+AND+importance+to+consumers&searchMode=all).

Patriots Energy Group. *2023 PEG Annual Report*. Patriots Energy Group, Jan. 2024. Patriots

Energy Group, PatriotsEnergy.com,

<https://patriotsenergy.com/wp-content/uploads/2024/01/2023-PEG-Annual-Report.pdf>.

revenflo. “YCNGA | York County Natural Gas Authority.” *York County Natural Gas Authority |*

a Public Natural Gas Utility and Appliance Sales, 9 Mar. 2022, ycnga.com/.

York County Natural Gas Authority. *YCNGA*. 2024. “YCNGA | York County Natural Gas

Authority.” YCNGA.com, <https://ycnga.com/>.

