

DATANAUTIX

CUSTOMERS SPEAK. WE LISTEN. YOU WIN.

Brand Research and Analysis Proposal ITN 2022-11NCSA

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We Live in Orlando Where Anything Is Possible!

Orlando has always been a magical place. A place when the impossible becomes possible. A place where you can see, today, what the future is going to look like. A place where imagination can take you anywhere.

So imagine a world where you could ask a simple question – “Tell me what you think about UCF?”. The simplicity of the question starts a conversation with your stakeholders. Rather than using a multi-question survey that comes across like an interrogation, you make it simple for them to respond. Three weeks later, on a Thursday evening, your vendor sends you a database of several thousand comments. Friday morning your phone rings and your boss says “Dr. Cartwright wants to know what the survey found”. You leap out of your chair, run to the printer and grab the report that has the answers. Fortunately, you had sent the data over to Ana before you went home on Thursday. While you slept, Ana magically processed the data, uncovered the hidden patterns and, in a neat little package, handed you the answers to what the positive and negative perceptions about UCF are and how they vary based on demographic characteristics.

So you ask “Who is this Ana? How can I have her work for me?”. The answer is simple. Ana is the future of how organizations will ask for and interpret feedback from their stakeholders. Ana is an artificial intelligence engine that uses the most advanced machine learning and natural language processing technology to make life easier. And Ana is available today, right in our backyard.

Ana has already transformed the entire process of UCF asking questions, gathering data, drawing conclusions and taking action. Ana’s job is to help UCF significantly reduce the time to go from asking broad open-ended questions to getting actionable insights. UCF is in a hyper-competitive environment with an opportunity to lead the transformation of higher education into the future. Accomplishing that requires a brand research partner that helps you quickly understand what external perceptions (and misperceptions) are and take the actions to correct them. We know our solution has already given you the advantage of speed in an already fast-paced world and would welcome the opportunity to extend that into the future.

This state-of-the-art and proprietary solution is brought to you by Datanautix and already used by UCF as well as organizations as diverse as the Orlando International Airport, The Harlem Globetrotters and The Golf Channel. The Datanautix Ana technology sits at the intersection of deeper stakeholder insights and smarter machines, ready to help take innovative organizations like UCF into the future.

Bringing Innovation To “Listening to The Voice of the Stakeholder”

Understanding perceptions has historically been accomplished through a survey process that was comprised of a long series of close-ended questions, each one designed to provide insight into something of importance to the organization. The benefit of close-ended questions is that they are easy to tabulate, analyze and display using tables and charts. They also make it easier to do statistical analysis and developing predictive models.

These surveys often included a limited number (usually just one or two) of open-ended questions that allowed the participant to provide an open narrative response or comment. These comments are more difficult to analyze and require labor-intensive coding to turn the qualitative text comments into quantitative metrics that can then be subjected to more traditional analytical approaches.

Today there is a new option available that is a result of a variety of technological advances in the area of machine learning and natural language processing. Our company, Datanautix, is at the forefront of that innovation-driven transformation. The company has developed a proprietary platform that is designed to quickly turn qualitative data into quantified insights that can drive actionable outcomes.

We are confident that our solution delivers a more cost-effective approach to stakeholder perception measurement that identifies insights significantly faster and can uncover hidden patterns that typical human analysts are able to with the same data. Better, cheaper and faster - all in one package.

The proposed approach for UCF will be a combination of leveraging existing sources of data such as end-of-course student surveys, as well as implementing new but simple data capture points using off-the-shelf technologies such as Survey Monkey or leveraging the UCF Qualtrics licenses – this will ensure cost-effective data capture. The analysis will be shared as a combination of reports from the company as well as providing UCF personnel access to the underlying software platform for the analysis of survey data. This will ensure that the in-depth analysis benefits from our 15+ years of global experience in “voice of customer” analytics while providing an opportunity for UCF staff to review their own data without the need to rely on an external third party.

Pricing and Deliverables

The proposal is built around the assumption that an organization's needs can change over the contractual period. To accommodate this, the proposed pricing reflects the experience our team has had with UCF since 2017 in serving as their Brand Awareness and Analysis partner. During that period of time, UCF's needs have evolved in terms of ongoing brand measurement studies as well as ad-hoc studies based on specific events. To accommodate this type of change, our proposal has 3 key components to it that we believe will allow Datanautix to be the partner of choice for UCF.

1. **Pricing (\$90,000/yr)** – The proposed price for this ITN is a fixed fee of \$90,000/year and will remain fixed during the contract period. This is equivalent to the original pricing in 2017 of \$75,000/year plus an inflation adjustment of 20% (CPI from 2017 to 2023 was 20.22%). This pricing covers all aspects of data analysis and reporting of the analysis in line with UCF's needs. The pricing also includes any necessary consultative work in the design of any specific studies, deployment of any studies using platforms such as SurveyMonkey etc.
2. **Additional Pass-Through Costs** – This proposal assumes that UCF will bear all costs associated with data collection such as survey panel fees etc. This data could be as diverse as ongoing NPS data from student surveys captured each semester and captured using Qualtrics, broad aided/unaided national surveys using third party provided panels or targeted studies of national expert panels using lists acquired by UCF. Datanautix will, where necessary, take responsibility for the design of the survey instrument, fielding the survey and collecting the data. Any direct costs paid by Datanautix and associated with the collection of data including survey panel fees, special software licenses from third party providers for managing the deployment of the survey etc. will be passed through to UCF.
3. **Deliverables** – recognizing that organizational needs evolve over time, our proposal essentially provides an unlimited number of "studies and reports" to UCF for the proposed pricing. We expect these reports will fall into two main categories. The first will be scheduled reports on data such as Student NPS surveys conducted each semester, annual Brand Aided/Unaided Awareness studies of various stakeholder groups and national audiences, as well as annual expert opinion studies to align with the US News and World Report rankings. The second will be ad-hoc studies on an as needed basis. These ad-hoc studies, in the past, have been conducted in response to events such as the Charles Negy tweets, a Pegasus Readership study, COVID Remote Instruction experience study etc.

About Datanautix

Datanautix is a dba of Kaizen Consulting Inc. and a Florida Corporation structured as an S-Corp with a two shareholders and founded in 2002. For more than a decade, Datanautix has been in the business of helping clients on a global basis with stakeholder experience analytics and driving improvements in Net Promoter Score (NPS). These stakeholders can be students, customers, employees, guests, patients, shareholders and even other corporations. Building on a consulting practice, in 2014 Datanautix started investing in software development to turn 12 years of NPS experience and expertise into a technology platform. The company has created an artificial intelligence (AI) based system that can interpret open-ended comments by classifying them for sentiment and target subject i.e. the system can take a comment and tell what the sentiment is, as well the target of the comment. This breakthrough technology is the underlying foundation of the Ana platform developed by Datanautix.

Ana is a cognitive computing platform that uses a combination of machine learning and natural language processing to uncover hidden patterns in large text datasets. Going well beyond traditional text analytics, Ana has the capabilities to automatically identify hidden patterns and even generate a text-based summary of the data – more importantly, Ana can do a lot of this in just seconds.

Strong Ties To UCF

Datanautix is a graduate of the UCF Business Incubator in Orlando and has continued to grow and expand its capabilities and staff with UCF graduates and interns. We are a local company with strong ties to UCF.

The founder and CEO, Sanjay Patel, started his first company in 2000 and was one of the first clients at the UCF Technology Incubator. That company secured venture capital funding and was subsequently acquired in 2004. Patel also served on the advisory board for the new UCF Master of Science in Data Analytics Program.

The company has done work over the years for Dr. Thomas O’Neal in the UCF Office of Research and Commercialization in the area of IP evaluation. The findings were subsequently used as the basis of making better resource allocation in patent protection by the Technology Transfer department.

Datanautix has also partnered with UCF faculty and conducted sponsored research in some key areas of customer experience analytics.

Why This Should Matter To UCF

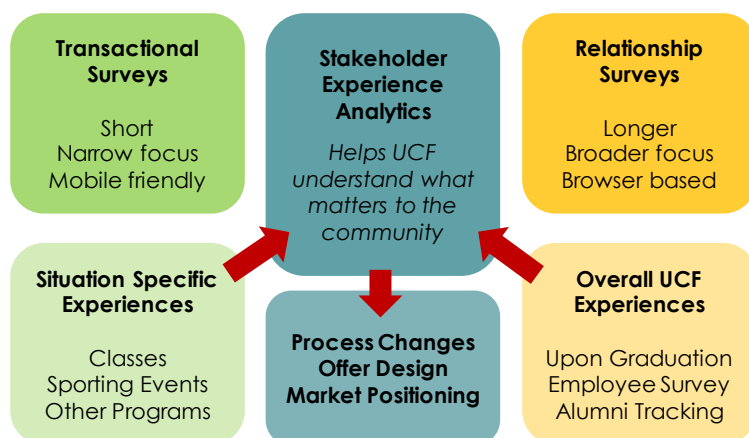
This approach to the analysis of open-text comment transforms the entire survey process. It allows for a significant streamlining of the survey instrument, in turn leading to both higher response rates and a more positive stakeholder experience that yields success in future repeat surveys.

Under most typical scenarios, the use of a couple of open-ended questions anchored by a small number of close-ended questions can drive more insights than a traditional instrument of 10-25 close-ended questions. The new approach is designed to let respondents talk about what matters to them without having any prior assumptions on the part of the organization. This approach, used correctly, provides the four elements of information that are the critical to marketing program success – Opinions, Perceptions, Expectations, and Needs.

Proposed Approach To Stakeholder Perception Measurement

The first step in understanding how stakeholders feel about UCF is about answering the following four questions:

1. What is their Opinion about UCF?
2. What is their Perception of UCF?
3. What is their Expectation of UCF?
4. What is their Need from UCF?



Each stakeholder at any given point in time may need to be measured for one of more of these questions. The format of the surveys will fall into two primary areas. The first is a transactional survey and the second will be a relationship survey. The open-text data from the two surveys will form the basis

for an ongoing perspective on how opinions and perceptions are changing over time. The Datanautix Ana platform can very easily take the topics that stakeholders are talking about at a particular point in time and compare them to topics from another point in time to see what is changing. The system will also quantify how big the differences in

topic occurrence are. Given the system has the ability to automatically generate topics by grouping together words, all it takes to do this type of analysis is the data – there is no pre-training or system set up required.

Transactional Survey Process

The transactional survey will be a short instrument typically deployed following a particular event or when looking for very specific information. The transactional survey format will be a combination of a single close-ended question designed to measure HOW the respondent feels followed by an open-ended question to uncover the WHY behind the how. The survey will be structured to be delivered to mobile devices – to facilitate this, the survey question scales will be short.

Diagram illustrating the Transactional Survey Process:

HOW did you feel about the <EVENT> you just attended?

Scale: Didn't love it (Sad face) ← → Loved it (Happy face)

Tell us WHY you felt that way...

Open ended response

The transactional survey will be coupled to other pieces of demographic information when available to facilitate the analysis. If demographic information is not available, the survey instrument will be modified to capture some of that information as well.

Relationship Survey Process

The relationship survey is a longer instrument but still follows the general structure of relying more on the open-ended responses to elicit the information necessary to determine what is important to the stakeholder community. In this survey, the focus will be on leveraging the NPS methodology using the “willingness to recommend” question but will be followed up by a series of specific open-ended questions designed to provide insights into 1) what makes the stakeholders “happy” 2) what makes the stakeholders “unhappy” and 3) what unmet stakeholders needs exist.

Diagram illustrating the Relationship Survey Process:

How likely is it that you would recommend UCF to a friend or family member?

Scale: 0 (Sad face) ← → 10 (Happy face)

What did you like about UCF?	Open ended response
What suggestions for improvement do you have for UCF?	Open ended response
What other services would you like UCF to provide to the <stakeholder> community?	Open ended response

Under this approach to the relationship survey, the open-ended data again is the core value, providing the guidance to UCF leadership in terms of current perceptions of the institution and opportunities to shift perceptions to a target state.

Data from both surveys can be compared to previous studies as a way to measure and monitor changes in perception over time as well. This allows for a quick measure of marketing communications and branding program effectiveness and ROI.

Survey Instrument Design

The purpose of any survey instrument should be defined before the instrument is created. From the Datanautix perspective, we find that there are two primary reasons for conducting a survey and each of these reasons lends itself to a different set of questions.

The first type of a survey is to ***“learn something new”***. In this scenario, a simple open-ended question that is designed to let the respondent share whatever is important to them is the right structure. The open-ended response can then be automatically parsed and evaluated for key topics.

The second type of survey is ***“validate our assumptions”***. This is a useful tool when the organization is looking to take a certain action but needs to confirm the underlying assumptions on which that action is based. In this scenario, we would create a survey instrument that has a couple of very specific prompts to ensure that the respondent has the frame of reference to provide a meaningful response. Again, we would use the power of the open-ended comments as a way to drive deep, meaningful and fast insights.

In addition to the two factors above, the survey process will also combine a set of questions that are structured to measure unaided and aided brand awareness. Here are some examples of questions that will be incorporated into the surveys:

- “Name the top 5 public universities and tell us why you think they rank at the top”
- “Provide a list of the public universities that provide the best educational experience for students and tell us why you believe that”
- “What are your perceptions about the academic program at UCF and what could be done to make it better?”
- “What does your ideal academic experience look like?”
- “What could be done to improve your perception of UCF?”

Datanautix will work closely with UCF to ensure that the purpose of each survey is well understood and the instrument is designed to provide valid data.

Analyzing Open-Ended Responses

As mentioned earlier, the opportunity to shift to a new survey instrument that relies primarily on open-ended responses is driven by the development of the Datanautix Ana platform that is built specifically to process and analyze this type of data. The core platform has three primary engines to it:

1. Ana's NLP module takes each comment and classifies it for sentiment (positive, neutral and negative) and subject (people, non-people). This simple classification process allows the data to be neatly organized into categories – the Datanautix Ana platform is equivalent to best-in-class classifiers in the industry and has been benchmarked against classifiers from IBM and Google.

In addition to the basic classification, the NLP module has automatic topic modeling functionality that clusters together words into groups of similar intent. This is then augmented with an opinion parser that allows for the data to be viewed as a topic/modifier pair. Datanautix has also developed sophisticated comparative analysis technology that allows for the quantification of differences between sets of text data e.g. you can quickly quantify the differences between responses based on demographic factors such as gender and quickly understand how males feel about a topic compared to females. This comparative analytics engine is able to bubble-up things that would be difficult for a human to read and quantify.

Ana the Linguist



Understand and interpret qualitative data. Generate quantitative measures.

2. Ana includes an automated insights engine that automatically uncovers hidden patterns in the text data by looking for statistically significant differences in attributes such as the overall sentiment of the comment based on a variety of underlying metadata categories. For example, the system can automatically uncover the fact that a particular day has more negative comments compared to other days. The automated insights engine can look at thousands of different attributes to uncover the meaningful differences.

Ana the Analyst



Automatically uncover hidden patterns using sophisticated statistical models.

This ability to uncover the hidden patterns automatically significantly reduces the time to go from raw data to

actionable insights – very often this is done within minutes as opposed to weeks or months.

3. Ana also has a powerful visualization engine that generates simple but effective dashboards and allows for further drill down into areas of interest. This visualization engine makes it easy for senior leadership to get a quick “pulse” of the organization while allowing for mid-level management to do the drill downs necessary to develop responsive action plans. The engine will also show changes in patterns and trends of topics over time, making it easy to understand the effect of marketing communication plans and initiatives.

Ana the Artist



Visualize and display

data for intuitive
interpretation and
action.

Case Studies and Experiences

Listed below are sample project summaries that are similar in nature to the overall approach outlined in this proposal as the set of data to be collected and analyzed.



Red Lobster Restaurants – The world’s largest seafood casual dining restaurant chain, Red Lobster uses the Datanautix solution for ongoing guest satisfaction survey analysis. Leveraging proprietary sourced data from primary research, Red Lobster relies on the insights from the qualitative data to make decisions around menu selection and promotion design.



Orlando International Airport - With more than 41 million passengers traveling through the airport each, the Greater Orlando Aviation Authority has a stated objective to deliver “The Orlando Experience”. They turned to Datanautix to help them by mining the feedback guests share through the airport web site and via social media.



Springfield Clinic – Measuring patient experience as an input into their continuous improvement programs is important to the leadership team at Springfield Clinic. They use Datanautix to mine their open-ended responses from their patient satisfaction surveys. As the largest network of providers and facilities in Illinois, Springfield Clinic is a market leader in the healthcare space.



NBC Golf Channel – The Golf Channel already had survey and market research data that included open-ended responses sitting in their databases. This allowed Datanautix to come in and quickly turn that data into insights to support decisions related to carrying specific programming on the Golf Channel during the Olympics. The analysis was completed in 5% of the time it normally took them to do similar analysis.



Sykes – Sykes is a billion-dollar global customer service provider with locations in 20+ countries and conducts business in 30+ languages. To help Sykes drive NPS improvements for their clients, Datanautix has partnered with them to develop leading-edge customer experience analytics technologies and is their exclusive provider for advanced customer interaction analytics built on the Ana platform.

The Team

Sanjay Patel is the CEO of Datanautix. He has been in the customer experience industry for over 20 years and has previously lead the venture-backed customer experience company iBackOffice from inception to a successful acquisition. Patel holds an M.S. in Artificial Intelligence from the Ohio State University as well as an M.B.A in Consumer Marketing from Yale University. *Patel will be responsible for interfacing with the UCF team and ensuring that the process is aligned with the gaps in information required for marketing and positioning decisions.*

Sunil Contractor is the Director of Research. Contractor holds a Ph.D. in Marketing from the University of Georgia and has served on the faculty at Johns Hopkins University and Temple University. He specializes in data analysis, statistics and study design. *His role on the team will be to ensure correct instrument design and sampling validity.*

Neel Patel is the CTO and Head of Product at Datanautix. Since joining Datanautix in 2013, he has overseen the development of Ana from a concept to a highly functional comment analytics tool. Patel has a degree in Computer Science from Harvard University, where he focused on research on Artificial Intelligence and Data Analytics. *He will be responsible for the statistical analysis and predictive modeling of the NPS and survey data.*

Summary

The Datanautix proposal delivers a differentiated and innovative approach to stakeholder perception measurement and provides a solution that is faster, more insightful and will yield a higher ROI. This is accomplished by leveraging new AI-based technology, as well as a wealth of experience in helping companies across the world understand and improve customer experiences and transform perceptions.

Datanautix owns both the core technology platform as well as the analytical skills that will be involved in turning your data into actionable insights. This will allow us to customize and deliver a solution that meets your exact needs without any interfacing to third-party entities.

This solution also provides an opportunity to showcase the technological advancements and innovations that are taking place in the Orlando area as we shift from a hospitality and tourism-centric economy to becoming a technology and innovation-driven hub. Showcasing the fact that our advanced technology has come out of the UCF Business Incubation Program and been built in large part by UCF Computer Science graduates and students further supports the UCF goal of gaining global recognition and prominence.

Developing a world-class academic and research university is largely driven at the grass-roots level by attracting the best students possible. Better students attract better faculty which in turn result in a virtuous cycle of additional funding, more publications, better innovations, and effective commercialization. Picking Datanautix will give UCF more than just a vendor to answer the questions in the ITN – it will help bring the some of the best students in Florida to UCF to accelerate the virtuous cycle.

We would welcome an opportunity to present in person and prove to you that we are well equipped to continue our partnership of helping transform UCF in the eyes of the world.