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Staff Personality Test

Objective: The purpose of this project is to understand and categorize the personalities of the staff that work at Company X based on a descriptions of themselves that they provide in a company survey.

Methods: I will be analyzing ten people and using them as a representative sample for the entire staff at Company X. Additionally, I will be using **Natural Language Processing** (NLP) techniques such as Term Frequency – Inverse Document Frequency (TF-IDF) to process the descriptions that the staff give of themselves in the survey. I will also be using Principal Component Analysis (PCA) clustering techniques to further process the descriptions to look for similar and different patterns between employees. Lastly, I will run each description through the **Watson IBM Personality Insights Test** to classify each employee and again look for similarities and differences in patterns.

Resources: Please see Appendix A below for the results of the survey taken by the employees detailing the information on their description of themselves. Please see Appendix B for a detailed description of each personality trait provided by the Watson IBM Personality Insights Test. You may access the personality test at the following link:
https://www.ibm.com/cloud/watson-personality-insights?p1=Search&p4=43700050290480388&p5=b&cm_mmca=Search_Google_-1S_1S_-WW_NA_-_%2Bwatson%20%2Bpersonality_b&cm_mmca7=71700000060917569&cm_mmca8=kwd-448551120713&cm_mmca9=EAiaIQobChMI8eLgi8nP6QIVCr3ACh1xdwHYEAAAYASAAEgJ0S_D_BwE&cm_mmca10=405891754471&cm_mmca11=b&gclid=EAiaIQobChMI8eLgi8nP6QIVCr3ACh1xdwHYEAAAYASAAEgJ0S_D_BwE&gclid=aw.ds

Data:

Principal Component Analysis (PCA) Clustering Test:

According to Figure 1 below, the personality traits of the employees can be classified into ten clusters, with each cluster representing one person in our ten people sample size, that all have a common center. Essentially, the personalities of the staff are very similar to each other. They all are highly educated with Bachelor's and Masters from various institutions including Azusa Pacific University and they all value education highly. Also, they all have an appreciation for Marketing and Advertising whether it relates to business, management, operations, leadership, or creating spreadsheets. It makes sense because they are all hired to work at a Marketing and Advertising firm.

Clusters of Staff's Personalities

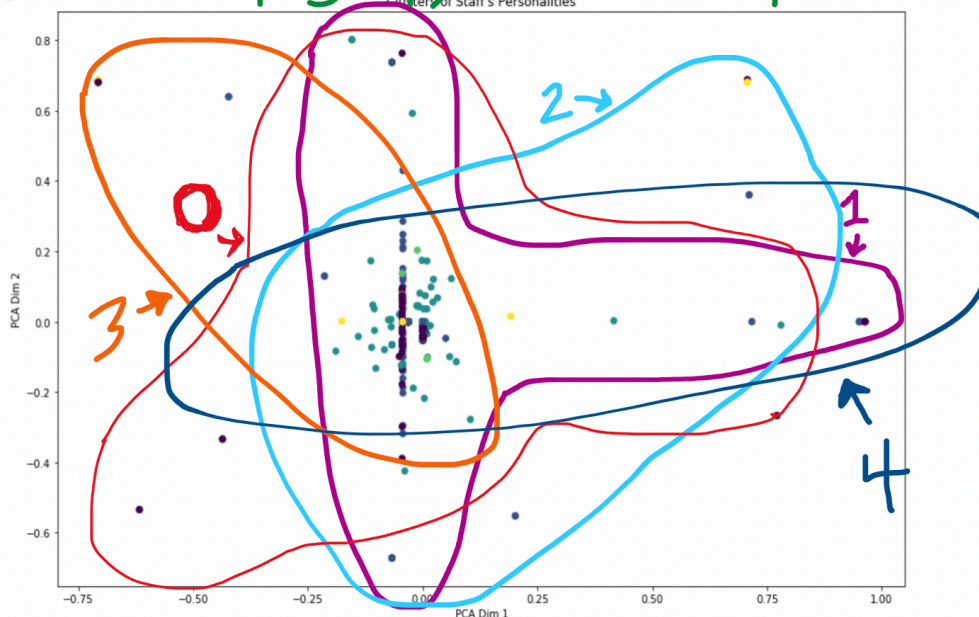


Figure 1. Cluster Diagram of the Staff's Personality Traits in Principal Component Analysis (PCA)

What is very interesting is that the staff also represent the diversity of the team by engaging in a variety of activities that distinguish them from each other such as cooking, writing, going to the beach, career coaching, sports, tennis, studying, playing the guitar, sleeping, spending time with family and friends, engaging in faith and religious activities, listening to music, walks in nature, taking care of housework, volunteering, making art, designing on their own time, being raised rurally as opposed to the city, loving exploring new places such as New York City, etc. This diversity and individual difference can be seen in Figure 1 where each cluster (for each person) can be seen to have a common center but deviated when they are dragged away from the center cluster towards different outlier points representing specific traits or activities that each person does. Please see Table 1 below for the top keywords in each cluster representing each person.

Cluster		Key Words
Anon. A	0	learning, new, marketing, sport, graduating, S...
Anon. B	1	make, Mullen, younger, chance, excited, enrich...
Anon. C	2	work, blessed, favored, family, faith, explain...
Anon. D	3	chance, coach, Ohan, Whether, impact, The, wor...
Anon. E	4	playing, In, time, blessed, My, effective, mar...
Anon. F	5	years, spreadsheets, user, quote, use, nature,...
Anon. G	6	college, funds, fan, family, enjoy, develop, d...
Anon. H	7	team, writing, degree, compelling, computer, c...
Anon. J	9	engaging, trends, businesses, friends, art, ch...

Table 1. DataFrame of Top KeyWords in Each Cluster

IBM Big Five Personality Test:

According to Figure 2 below, the average employee at Company X is mostly open (28.9%) and extraverted (24.2%). The employees are open because they tend to be more adventurous where they are eager to try new activities and experience different things. They often dislike familiarity and find routine to be boring. They tend to be highly intelligent and possess artistic interests where they love the beauty in art and nature. Also, they are very emotionally aware where they have good access to and awareness of their feelings. The employees have a good imagination where they use fantasy as a way of creating a richer and more interesting world for themselves. They tend to be more liberal where they are always ready to challenge authority, convention, and traditional values. [1]

The second most common personality trait that the employees exhibit is extraversion where they seek out stimulation in the company of others. They are very energetic and lead fast-paced and busy lives. They are assertive and like to take charge and direct the activity of others. They are cheerful and experience a range of positive emotions, including happiness, enthusiasm, optimism, and joy. They are excitement seeking and are easily bored without high levels of stimulation. Additionally they are very friendly and outgoing where they like other people and demonstrate positive feelings towards others. They are gregarious and sociable where they find the company of others stimulating and rewarding. The quality of openness and extraversion are expected and necessary for a marketing agency who meets a wide range of clients on a daily basis. [2]

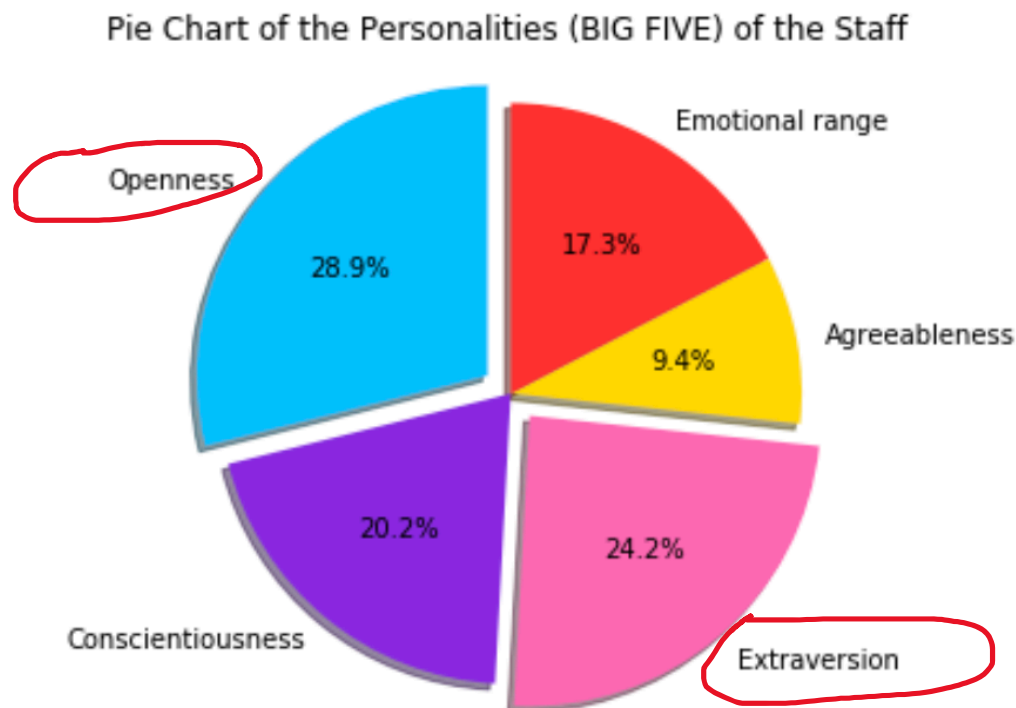


Figure 2. Pie Chart of the Personalities (Big Five) of the Staff

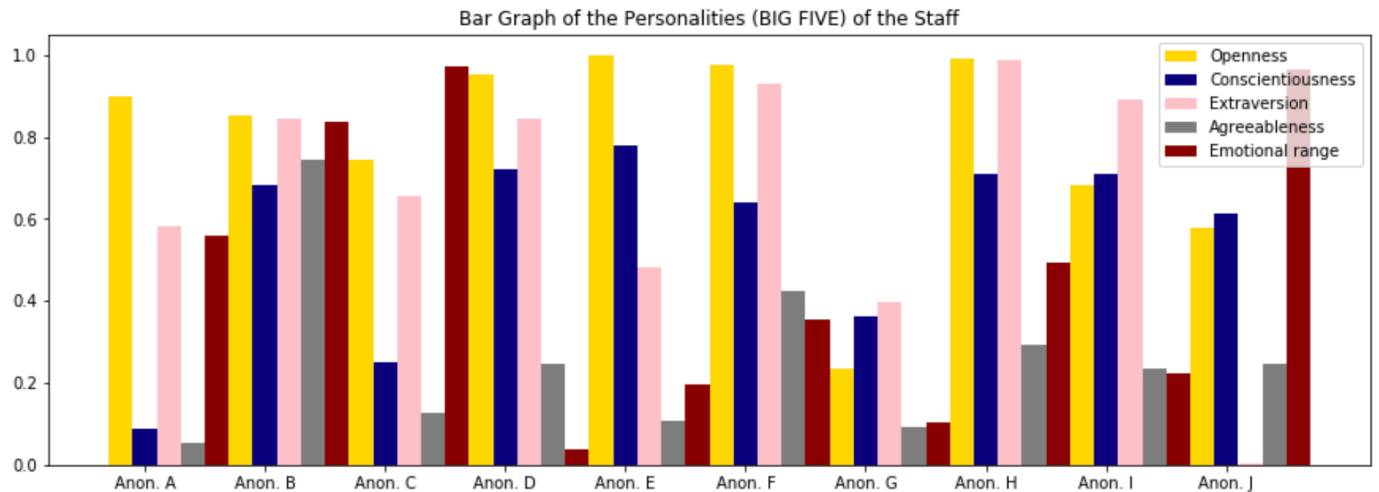


Figure 3. Bar Graph of the Personalities (Big Five) of the Staff

IBM Needs Test:

According to Figure 4 below, the two most common needs of the average employee at Company X are Curiosity (15.3%) and Structure (14.8%). The employees are curious where they have the desire to discover, find out about things, and grow. On the other hand, even though they exhibit the quality of curiosity, they also exhibit groundedness which is less exploratory. They have a desire to hold things together and they need things to be well-organized and under their control. The needs of curiosity and structure are expected for a company looking to grow as quickly as Company X is growing. [3]



Figure 4. Pie Chart of the Needs of the Staff

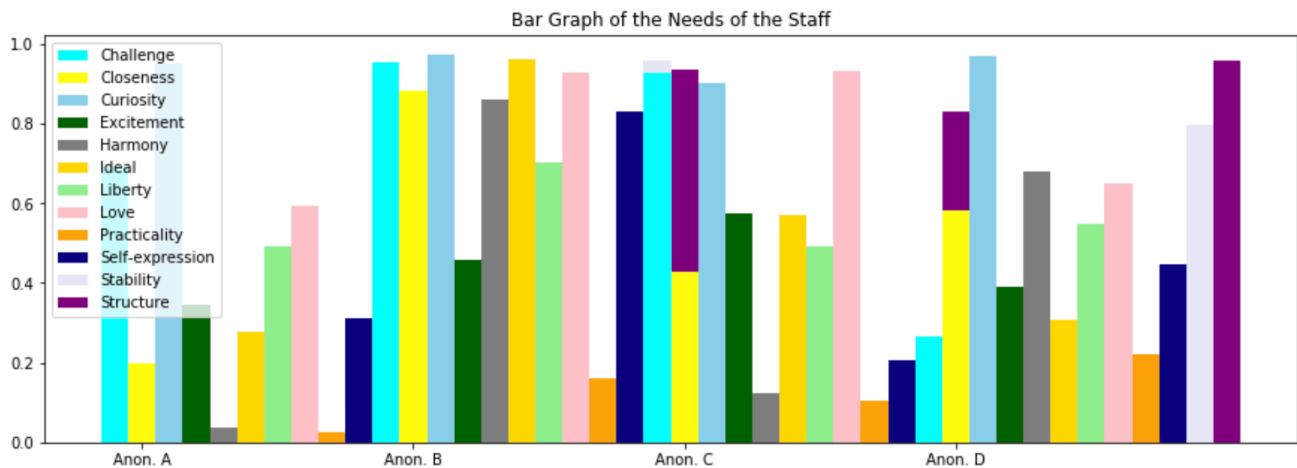


Figure 5. Bar Graph of the Needs of the Staff

IBM Values Test:

According to Figure 6 below, the two most common values of the average employee at Company X are Openness to Change (30.9%) and Self-transcendence (35.2%). The employees are open to change/ excitement because they emphasize independent action, thought, and feeling, as well as have a readiness for new experiences. They are also self-transcendent because are able to help others and show concern for the welfare and interest of others. The values of openness to change and self-transcendence are very important to Company X because they need to be open to the variety of clients they interface with especially as they are growing and they need to express genuine care for the clients in order to properly serve them well in order to continue to expand. [3]

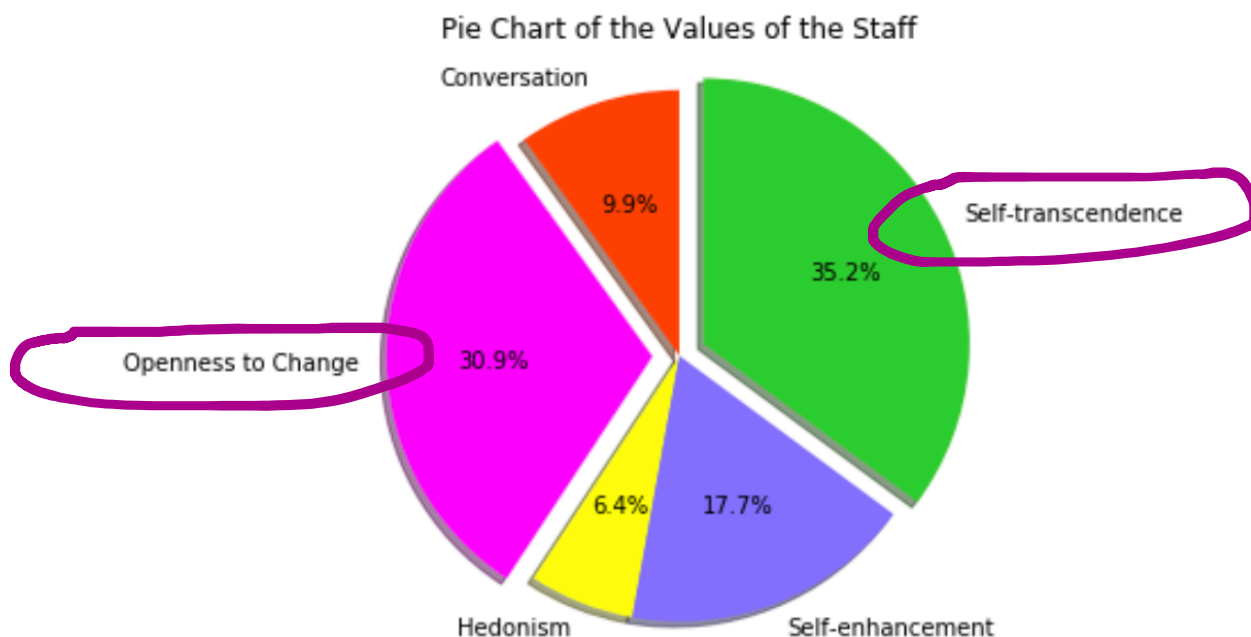


Figure 6. Pie Chart of the Values of the Staff

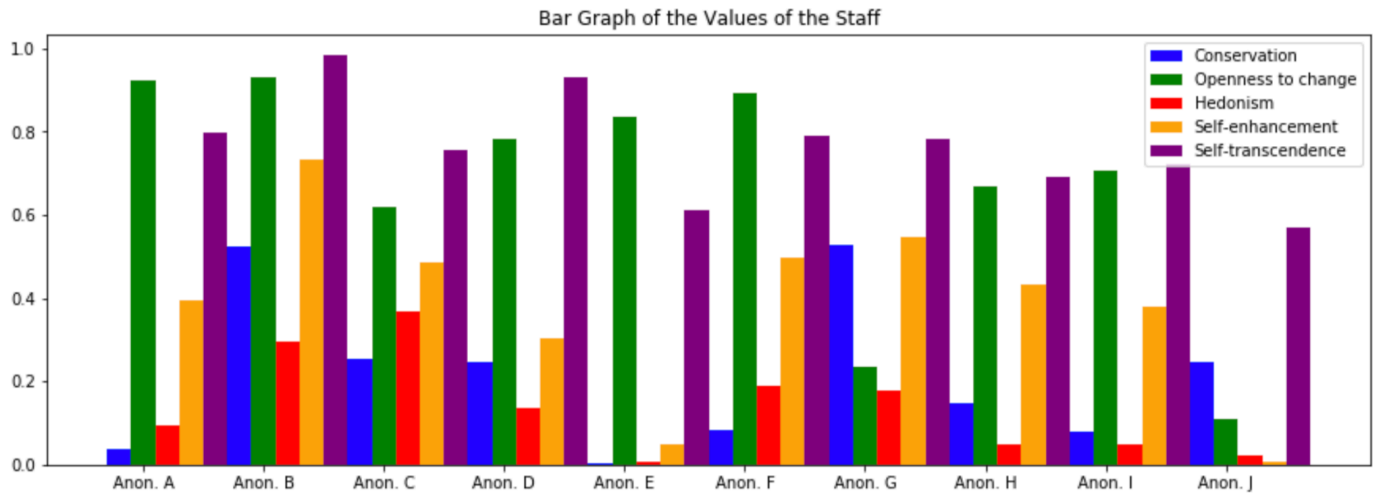


Figure 7. Bar Graph of the Values of the Staff

Results and Summary:

According to the IBM Watson Personality Insight Test, the average employee at Company X has a personality that is mostly open (28.9%) and extraverted (24.2%). As for the other characteristics, the two most common needs of the average employee are Curiosity (15.3%) and Structure (14.8%). Finally, their two most common values are Openness to Change (30.9%) and Self-transcendence (35.2%). Essentially, the employees are mostly open-hearted, curious, extroverted, friendly, adventurous people who like experiencing new things and meeting unknown challenges with an appreciation for some structure and groundedness where they can follow an established routine. Most importantly, they are very kind and willing to help their clients as much as they are able to. They genuinely care about their clients and care for their wellnesses and interests. These qualities make Company X a successful, remarkable, trustworthy, and caring enterprise that is rapidly growing in the industry!

References :

- [1] “Personality Models,” IBM Cloud, 01-30-2020,
<https://cloud.ibm.com/docs/personality-insights?topic=personality-insights-models>
- [2] “Personality Needs,” IBM Cloud, 01-30-2020,
<https://cloud.ibm.com/docs/personality-insights?topic=personality-insights-needs>
- [3] “Personality Values,” IBM Cloud, 01-30-2020,
<https://cloud.ibm.com/docs/personality-insights?topic=personality-insights-values>

Appendix A:

Text from the Staff's Descriptions of Themselves

Anon. A - "I grew up in a rural town in Pennsylvania with a passion for creativity, learning, travel, and sports. I have played nearly every sport in some form throughout my life; from hockey, dance, and skiing as a child to lacrosse in college. I am now an avid 4.0 tennis player, and sometimes enjoy a quick round of golf. Upon graduating with a BS in Fashion Merchandising and Marketing, I began my journey of learning new things and living in new places. I have lived in numerous cities across the US, but really honed my marketing skills in NYC with a luxury fashion brand. I am looking forward to growing with Stillwater and taking my skills to the next level"

Anon. B - " I am a life-long resident of California. People who know me best describe me as a dad, a friend & a coach. Whether playing, coaching, or being a mentor, sports have always been a part of my life. The majority of my work life has consisted of sales in conjunction with advertising and marketing. I have a true passion for mentoring the younger generation, and I have a desire to help people grow and enrich their lives. Everyday is a new chance to make a positive impact on a life. I am excited to be a part of the Ohana."

Anon. C - "I enjoy spreadsheets, short walks on the beach and improving operational efficiencies. Being able to shave time and/or percentages is an internal thrill that can't be properly explained with words. I've earned my Bachelor's & Master's Degree from Azusa Pacific University in Organizational Leadership so my passion combined with my education makes us unstoppable. I am seriously passionate about my work as I am about my faith, family, and friends. I have an amazing husband who gets me. I'm on a blessed and highly favored journey and can't wait to share life with you."

Anon. D - "I am a life-long resident of California. People who know me best describe me as a dad, a friend & a coach. Whether playing, coaching, or being a mentor, sports have always been a part of my life. The majority of my work life has consisted of sales in conjunction with advertising and marketing. I have a true passion for mentoring the younger generation, and I have a desire to help people grow and enrich their lives. Everyday is a new chance to make a positive impact on a life. I am excited to be a part of the Ohana"

Anon. E - "It's pretty awesome to help our uber-talented 'Ohana grow brands and guide our clients in effective, multi-media advertising investments. In my off time, I enjoy outdoor activities, cooking, studying theology, playing guitar or just relaxing my mind and getting lost in a movie. I'm also blessed to be the father of an incredible teenage son! My faith is the guiding force in my life and my hope is that this life produces evidence of His glorious intervention! 25+ years of personal experience in professional & digital arenas have culminated in my role at Stillwater Agency. As a certified Google Premier Partner, I analyze and fulfill effective marketing methods to ensure that our clients are aggressively engaged with their market audience, increasing overall conversions and ROI. My faith in Christ is the foundation of this life and I'm blessed to be the proud Father of a truly amazing young man. In my free time I love backpacking, woodworking and playing guitar... Oh, peanut butter and sleep are also good! But not necessarily at the same time.."

Anon. F - "The world is perfect. Appreciate the details." A quote from the strangest of places, a comedy/zombie movie. Regardless of the source of the quote, I feel that it is still important. I am very interested in the details and as the Data Science Manager I use my many years of accounting experience combined with years of developing standardized spreadsheets which are both

complex in nature via automation and also very user friendly by way of crafting user interfaces that are direct, to the point, and follow the natural flow of information. This all culminates in reporting where I get to use both my skills in crafting spreadsheets and my many years of graphic design to generate eye popping reports that are both informative and easy to digest. With the help of the rest of the data science team, we are dedicated to producing the highest quality, factual, and up to date reporting and analysis as possible. It is very exciting to be able to be creative every day, in whatever ways I can, whether it be through music, art, writing, all of which are hobbies of mine, or creating innovative tools that increase productivity and allow everyone to focus on and appreciate the details."

Anon. G - "I am a huge fan of two things: anything Disney, and the Patriots. I enjoy going to Disneyland with my family and watching Patriots games. When not at Stillwater, I'm usually volunteering with my son's Scouting or my daughter's dance program. I oversee Stillwater's marketing coordinators, and also manage strategy for clients. I know how to "get into the client's shoes," develop a passion for what they're passionate about, and make their goals into my goals. As well as my clients' goals, I have goals of my own: saving for my kids' college funds, and buying a house within the next five years."

Anon. H - "I'm a paid search strategist with focus on quality lead generation, landing page optimization and Google AdWords management, but that's not all. Music has always been a big part of my life. As a musician and producer, I've always believed in the human element. This helps me analyze digital marketing from a fresh perspective. From writing enticing ads to creating relevant content for target audience and presenting compelling landing pages, I'm always eager to connect. Once human connection is established, conversion is much more likely to happen and impressive ROI will follow. I'm a proud member of Stillwater Agency and have been with this amazing Ohana since 2014. I have a bachelor's degree in computer science and have been involved in the music industry as well. I enjoy watching good movies. Beach and nature always make me feel great about life. I am a positive person and I always look for solutions and enjoy helping and contributing to the team. Soccer is my favorite sport followed by Tennis and Basketball. I currently work as part of the digital team here at Stillwater agency and I'm proud of being part of this amazing family."

Anon. I - "I am a huge fan of two things: anything Disney, and the Patriots. I enjoy going to Disneyland with my family and watching Patriots games. When not at Stillwater, I'm usually volunteering with my son's Scouting or my daughter's dance program. I oversee Stillwater's marketing coordinators, and also manage strategy for clients. I know how to "get into the client's shoes," develop a passion for what they're passionate about, and make their goals into my goals. As well as my clients' goals, I have goals of my own: saving for my kids' college funds, and buying a house within the next five years."\\

Anon. J - "I have always been passionate about helping businesses grow using a layered approach of engaging content and technical know-how. It started when I was young and I could see family friends businesses struggle trying to keep up with current marketing trends. It is both an art and a science, which is why I have been working as an SEO and client engagement specialist for most of my professional career. I love how the industry changes and how you have to change with it to be at the top of your game. Not only for yourself but for your clients."