



Technical Cultures

A Writing/Cultural Analysis of Johnson Controls and the Computer Science field

Prepared for:

ENGL-2100-001

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July 7, 2014

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Abstract

In this report I analyze these two technical cultures and the communications they form. The most important aspect of communication to master when you enter a technical organization is audience recognition. To gather information about the organizational cultures of Johnson Controls and the computer science field and their communications I followed this plan: (1) Brain Storming, (2) Johnson Controls research and interview, (3) Computer Science research and personal knowledge. My main research question was: What are the organizational cultures of Johnson controls and the computer science field and how do they affect the communication of these cultures? My results included: (1) Johnson Controls is an engineering culture, (2) they have official values like the ethics policy, (3) computer science employers want people who can communicate well. I then discussed how important audience recognition is in the computer science field and analyze Johnson Controls image. I then made recommendations to the reader one of which was to practice describing technical situations to multiple audiences.

Introduction

Every organization has a different culture. Understanding the culture is required to function in an organization. This is because the culture forms the unique communications of the organization. Johnson Controls and the computer science field both have their own cultures. In this report I analyze these two technical cultures and the communications they form.

The most important aspect of communication to master when you enter a technical organization is audience recognition. If you become a computer scientist, or are in any technical field, your duties will



include communication. You will have to confer with “engineers, analysts, marketing personnel, designers, and software developers” as a computer science intern. As you advance in your computer science career you may have to communicate with clients, managers, database designers, government counsels, suppliers, and help write manuals for end users. This shows why audience and cultural recognition is so important. Writing to a client as you would to an engineer could cost the company a sale or a contract which could mean your job.

I created this report not just as a requirement, but as a tool for advancement. Just being good at the technical duties of your field isn’t enough to move forward in a career. To excel in a modern work place you need to adapt to a culture and a way of communicating. Don’t miss this opportunity, take advantage of this report.



Research Plan

To gather information about the organizational cultures of Johnson Controls and the computer science field and their communications, I followed this plan:

Phase 1: Brain Storming

Phase 2: Johnson Controls research and interview

Phase 3: Computer Science research and personal knowledge

Phase 1: Brain Storming

For the first step of the brain storming phase I created a research question.

Research question - What are the organizational cultures of Johnson controls and the computer science field and how do they affect the communication of these cultures?

Any path of research after this had to help answer this question in some way. Next I created a hypothesis to compare my conclusion to after research.

Hypothesis – The computer science field and Johnson Controls are both technical fields, so communications will be standardized, specific and sequential.

This gave me direction on how I should answer my research question. Lastly, in the brain storming phase I created a research path.

Research Path – Start with research about Johnson Controls. Study public reports, product information, inter-office communications, color choice and graphics. Interview contact at Johnson Controls. Then research computer science communications and culture starting with job ads and software development info.

I wasn't sure if I could research all of this, but I had a place to start. Analysis is the first step of the software development cycle. As a rule, for every 30 minutes used to plan, 2 hours are taken off of the development stage. The software development life cycle is almost exactly the same as the technical writing process.

Phase 2: Johnson Controls research and interview

I knew the least about Johnson Controls so I decided to research its culture and writing the most.



I started by navigating their website. While on their website I found information on products, official company values, policies, and reports. This information was helpful but I wanted more unofficial cultural information. To try and find this info I looked at employee reviews for trends, tried to find interoffice memos and interviewed a family member who works at Johnson Controls.

At this point I found that Johnson Controls inter office communications are kept confidential. Any document with the Johnson Controls logo in the header cannot be transmitted outside the company. This shows that Johnson Controls has to be very secretive because the industries they are in are very competitive. This is a policy that every employee must follow. My family member answered most of my interview questions with official statements or didn't answer them.

I have been looking for an internship in the computer science field. I found a job ad for a computer science intern on the Johnson Controls website. Once I looked over the job description I decided to move on to the computer science research.

Phase 3: Computer Science research and personal knowledge

Since the job ad had produced good results I decided to look at more job ads and job descriptions first. I began to see important patterns at this point that I will discuss in the results section. I then looked up more detailed information about software development teams. I found that these teams have no set structure due to the unique nature of software development. Programming can be done anywhere there is a computer. Because of this, teams can consist of people from many different areas of the world. I have a background in the computer science field so I didn't have to do as much research.



Results of Study

In this section, I will summarize the most important findings and patterns I saw in my research.

1. Johnson Controls is an engineering culture.
2. Johnson Controls has specific values and an image they display.
3. When looking at computer science job ads, I found that technical communication is more important than I had thought.

Engineering Culture



The family member I interviewed is a very high level administrative assistant. One of the questions they could answer was about jargon. Even at a director/presidential level engineering jargon is common. In the employee reviews I read, engineering culture was a major theme. In the

software development department understanding engineering principles is required. The job ad states that requirements are, “Strong engineering, scientific or mathematical background with the capacity to understand heat transfer principles. Work on a team with engineers and understand technical information”.

Values and Image

Johnson controls understands that a positive image is a massive part of business. The values they put forward are respectable. I asked a question about office power divisions and my family member responded with, “Johnson Controls is well renowned for its stellar Ethics policy”. I looked into this further and found that the official values are often considered policies. Integrity is the most emphasized. They have their own integrity hotline available 24 hours a day at <https://www.jci.ethicspoint.com/>.

Other values they highlight are confidentiality, diversity, environmental protection, economic prosperity, customer satisfaction, employee engagement and sustainability. Image will be covered in the discussion portion.

“JOHNSON CONTROLS IS RENOWNED FOR ITS STELLAR ETHICS POLICY.”

Technical Communication

I knew technical communication was important, but not how important. Every single job ad and job description required good communication skills. Below I have screen shots from several job ads I looked at. In technical fields it can be easy to understand your own work without being able to explain it. Employers want someone who can describe progress, needs, complications, etc. in understandable terms. Teams may include people from other nations. Learning another language and studying other countries' cultures could help you communicate better with these teams (Beaubouef, 2003, p. 52).

9. High degree of interpersonal skills including both oral and written communication.

•Working in large and small teams, strong interpersonal skills

• Must possess good verbal and written communication skills, and be able to work with others; Prior experience working with geographically remote and culturally diverse teams is a plus

Excellent oral, written and interpersonal skills

An ability to work independently, yet still provide regular and insightful communication to upper management

Exceptional interpersonal and communication skills and the ability to interface with personnel at all levels of an organization (both internal and external stakeholders), both verbally and in writing

Discussion of Results

In this section I will analyze my research and come to conclusions.

1. Importance of audience recognition in computer science.
2. Analysis of Johnson Controls values and image.

Importance of Audience Recognition

Of all the traits of technical communication audience recognition is the most difficult. Two qualities of a technical professional are accuracy and clarity. If you have programmed before you understand that one semi colon out of place could mean hours of debugging. If you have done a math problem before you know that one sign change means a wrong answer. In the work place the stakes are higher. A mistake could cause hardware damage or even a user injury. To avoid this, you are trained for years to be accurate and clear. Audience recognition is different. You will likely never be trained to describe a specific technical situation to different people. You have to develop this ability yourself (Beaubouef, 2003, p. 53).



Audience recognition is the most desired trait because it's the most difficult. You will have to work with a team that includes non-programmers. You will have to communicate with end users about their needs (Pottabathni, 2013). Turning thoughts into code is what you are trained to do but explaining code to others is just as important.

Analysis of Johnson Controls Values and image



There have been many negative incidents caused by energy companies like BP (British Petroleum). These negative incidents can create a mistrust in the industry. Johnson Controls has emphasized their good image to keep trust in their company. In their 2013 annual report Johnson Controls quantifiably showed their reduced environmental impact. Environmental responsibility is one of Johnson Controls major official values. This value accents every product, solution, report and even their color choices.

The other values Johnson Controls promotes for good image is ethics and diversity. In the environment of modern industry, showing good diversity and ethics can help get contracts. Pictures on Johnson Controls public documents include diverse employees engaged in business or community service.

Good image helps with employee recruitment, business/governmental contracts, and media support (Chen & Chang, 2013, 82). Johnson Controls effectively promotes its good image.

Ethics and Human Rights

#14

Corporate Responsibility Magazine ranked Johnson Controls #14 among 2013's 100 Best Corporate Citizens.



Recommendations

In conclusion, Johnson Controls is a technical culture with set values that must be promoted in all activities and communication. To join the computer science department of a culture like this I recommend that you:

- Become familiar with the organizations values and structure.
- Practice describing technical situations to various audiences.
- Learn other languages and national cultures.
- Study the jargon and acronyms used in the organization.

Remember, there is more to a job than individual work. You will be a member of a team. Whether you communicate effectively with this team will determine if you produce results. I hope this information helps you get ahead in your future career path.

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