THE UTILIZATION OF JOB ROTATION
TO INCREASE MOTIVATION IN THE PRINT PRODUCTION INDUSTRY
by
Giuseppina M. Zanti

An Abstract
of a thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Science
in the School of Technology
University of Central Missouri

May 28 2015
This paper introduces research about the application of the motivational tool, job rotation, into the print production industry. There is little to no studies of job rotation and employee motivation in the print production industry. The prospectus gives information in regards to the workflow of the print production industry and a summary of the concept of job rotation. The purpose of the study is to research if tools such as job rotation would lead to an increase in employee motivation, productivity, and satisfaction in the print production industry. To collect the data needed for this research a questionnaire was constructed. The questionnaire had two sections, demographics and questions that acted the participant to rank their level of agreement. The data was used to test the researcher’s hypotheses about job rotation and how managerial implementation, gender, and years employed in industry related to it. The study concluded managerial implementation did have a significance in effect on employee favor towards job rotation. However, gender and time employed in the print production industry did not affect employee favor towards job rotation.
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Thesis Chair: Dr. Ronald Woolsey
Thesis Committee Member: Dr. Suhansa Rodchua
Thesis Committee Member: Dr. Douglas Koch

ACCEPTED:
Chair, Department of Industrial Management

UNIVERSITY OF CENTRAL MISSOURI
WARRENSBURG, MISSOURI
ACKNOWLEDGMENTS

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>List of Tables</th>
<th>xi</th>
</tr>
</thead>
<tbody>
<tr>
<td>List of Figures</td>
<td>x</td>
</tr>
</tbody>
</table>

## CHAPTER 1 INTRODUCTION

- Value and Need of the Study  
- Purpose of Study  
- Statement of the Problem  
- Definition of Terms  
- Research Questions  
- Research Hypothesis

## CHAPTER 2 REVIEW OF LITERATURE

- Introduction  
- Research Questions  
- The Dynamics and Workflow of a Print Shop  
- Job Rotation  
- Employee Motivation  
- Maslow’s Hierarchy of Needs  
- Herzberg’s Two-Factor Theory  
- Summary

## CHAPTER 3 METHODOLOGY

- Research Hypothesis  
- Population  
- Instruments, Validity, and Reliability
REFERENCES

APPENDICIES

A. Questionnaire
B. Frequencies of Questionnaire Questions
C. Human Subjects Approval Letter
LIST OF TABLES

1. Descriptive Statistics of Demographic Questions...........................................22
2. ANOVA Research Question 1.............................................................................26
3. ANOVA Research Question 2.............................................................................27
4. ANOVA Research Question 3.............................................................................28
LIST OF FIGURES

1. Print Production Workflow.................................................................9
2. Maslow’s Hierarchy of Needs............................................................12
3. Mean Scores of Questionnaire Questions..........................................24
4. Ranked Mean Scores of Questionnaire Questions..............................36
5. Employee Motivation Cause and Effect Diagram...............................38
CHAPTER 1
INTRODUCTION

Print production is a dynamic industry, and it relies heavily on communication between managers and employees. There have been numerous studies in regards to manager and employee relationships in medical fields, manufacturing, and other production operations. However, there are very few studies discussing the tools and techniques used in increasing employee motivation and work performance in the print production industry. The purpose of this study is to determine how manager and employee interactions through job rotation effect motivation and productivity.

Job rotation has been found to be an important way to allow an employee to take ownership over their job’s tasks, and it has many benefits, including increased employee motivation. The utilization of job rotation in the print production industry is highly beneficial because it allows for well-rounded pressmen. Job rotation can be utilized with pressmen to train them on a variety of presses or even cross train between departments. According to Huang’s article *Research and Practice in Human Resource Management*, “when employees are cross-trained they gain a larger perspective of the company they work for” (Huang, 1999, para 1). Additionally, when employers practice job rotation and are cross-trained, management has a larger array of workers to pick from if a spot needs to be permanently or temporarily filled. For example, an offset pressman could be sick during a time when a demanding order needs to be printed. A manager can ask a cross-trained screen press operator to switch departments for the day to ensure the order is printed on time. This can also be exceptionally useful for sick or
maternity leave. A cross trained press operator can switch departments for an extended period of
time without the company needing to hire a new employee.

Value and Need of the Study

Little research on employee motivation in the print industry exists. This study opens
opportunities for further research on the topic. In a print shop a press operator typically works
with one machine during their work day, and even their entire career. This study By training an
employee on multiple machines, they can fill in for missing employees, and work more than one
machine during their workday. Employee opinions on job rotation may not be a concern to print
shops due to lack of communication. Because of this employee potential may be missed out on.

Purpose of Study

The purpose of the study was to research if tools such as job rotation would lead to an
increase in employee motivation, productivity, and satisfaction in the print production industry.
This study analyzes and collected data from employees in a company from different departments,
ages, and time spent in industry. The intent of this study is to provide companies in the print
production industry with information, which may help increase employee satisfaction and
performance.

Statement of the Problem

In industry it is not common for employees to be seen as “cogs in the machine” or as
machines. The print production industry is no exception. Often a pressman will operate a single
machine during their career in a print shop. A pressman could benefit from job rotation. This
study plans to identify employee frames of mind on this change, and if it would lead to an
increase in motivation.
Definition of Terms

Job Rotation - Job rotation, also titled cross training, is used to train employees to be capable to achieve a variety of tasks (Huang, 1999, para 1). Job rotation is a lateral transfer giving employees a variety of skills rather than just one. The use of job rotation increases employee understanding in the many steps it may take to create a product or service.

Press- A press is a machine used in print shops to put ink on a substrate (such as paper). For example, a screen printing press can be used to put ink on a t-shirt.

Pressman- A pressman is an employee of a print shop who operates a press.

Print Production- Print production is the processes and actions of industrialized or commercial printing.

Motivation- Motivation is an inherent human trait that impels an individual to engage in a behavior or action that will satisfy their needs.

Research Questions

1) Does managerial implementation have a significant effect on employee motivation towards the subject?

2) Does employee gender have a significant effect on employee favor towards job rotation?

3) Does time employed in the print industry have a significant effect on employee favor towards job rotation?

Research Hypothesis

Hypothesis One

H₀₁: μ₁ = μ₂: Managerial implementation of job rotation has no significant effect on employee motivation towards the subject.

Hₐ₁: μ₁ ≠ μ₂: Managerial implementation of job rotation has a significant effect on employee
motivation towards the subject.

Hypothesis Two

$H_{02}: \mu_1 = \mu_2$: Employee gender has no significant effect on employee favor towards job rotation.

$H_{a2}: \mu_1 \neq \mu_2$: Employee gender has a significant effect on employee favor towards job rotation.

Hypothesis Three

$H_{03}: \mu_1 = \mu_2$: Time employed within industry has no significant effect on employee favor towards job rotation.

$H_{a3}: \mu_1 \neq \mu_2$: Time employed within industry has a significant effect on employee favor towards job rotation.
CHAPTER 2

REVIEW OF LITERATURE

Introduction

The print production industry is unique in the services and products it offers because there is a range from professional to mass service. In *Operations Management*, Russell and Taylor state, “professional services are labor intensive and highly customized” (Russell and Taylor, 2009, p. 188-189). Equally, mass service offers basic services and all customers are treated the same. For instance, a professional service in the printing industry would be a run of billboards for a national sports team. The print shop would interact with the customer, a representative from the sports team, exclusively to make changes and alterations until an ideal product was created. Conversely, in a print shop, mass service products can be produced such as “thank you” grocery bags one may receive at a convenience store. In an instance like this is different from billboards, because production would rarely cease. Generic grocery bags are constantly in need, unlike the one time run of a billboard.

Due to the vast products and services used in the printing industry, varying levels of motivation and work performance can occur. As stated before, the print production industry is dynamic. Many times a product will only be produced once because it has a single purpose. It is essential a print shop’s team of management and employees have flawless communication. If employees do not have a clear line of communication and a product does not turn out to the
customer’s specifications it will need to be reran. If many print jobs are not to the customer’s satisfaction delays may happen and employees may work overtime.

Research Questions

Until this study there has not been a large amount of research in regards to employee motivation and performance in the printing industry. Nor has there been research in regards to job rotation in this industry. Many questions can be produced from this study, but not many can be answered with current knowledge and literature. Questions that can be answered by this study:

1) Does managerial implementation of job rotation have a significant effect on employee motivation towards the subject?
2) Does employee gender have a significant effect on employee favor towards job rotation?
3) Does time employed in the print industry have a significant effect on employee favor towards job rotation?

The Dynamics and Workflow of a Print Shop

To give a perspective of a production process in a small print shop, the following paragraphs will outline workflow. The All New Print Production Handbook by David Ban does an excellent job of outlining print production workflow. The following examples provided are created under his workflow (2006, page 27). Additionally, Figure 1 is a graphical representation of one type of print production workflow. The figure outlines the process for creating an offset printed product. The steps outlined below are outlined in the figure. It should be noted the figure identifies a specific printing process, and not all processes occur under those same steps. For example, the figure demonstrates computer to plate technology utilized exclusively in offset
First, the print shop will receive a request from a client or customer for a product. These requests can be large or small. For example, an organization may come to a print shop in request of 1,000-1,500 pamphlets for a conference. On the contrary, a collegiate sports club may come in for 10-15 screen printed baseball caps. These two orders while different are similar because they are considered “small runs”. Typically small and medium print shops take on unique orders, and only requested once. Depending on the print shop, a client will have the option of requesting the item in shop or through digital communication. It is most often advised the client speak to an employee in person, so aspects of the design can be discussed. Once the employee of the shop has an idea of what design the client wants, the size of the order, and the time frame, an estimate will be drawn up. At this point, the client will then need to wait for a proof. It typically takes a few days for the proof to be drawn up by the graphic design department, but the client will be notified when one is ready. Once the client is able to come in and the proof is approved the print process can begin. Often the print shop will require a down payment before printing.

Upon approval, the client’s order will be moved to prepress. In prepress the design is prepped to be sent to the pressroom. For example, if the pamphlets mentioned before were sent to prepress a variety of steps would occur. They colors on the pamphlets would need to be separated into plates to be printed on press, and they would be proofed again. The screen printed baseball caps would need screens made (one for each color), and baseball caps would be pulled from stock. If the caps are not available they would be specialty ordered. Upon multiple proofs, the products would then be printed. A pressman would load the plates on the press for the
pamphlets, and set up the screens for the baseball caps. Upon completion of these steps, the printing process would be complete, and the products can be sent to finishing.

The next and final step in the process is known as binding and finishing. In binding and finishing many things can occur. For example, the pamphlets could be scoured so someone could fold and tear out a card. The pamphlets could also be folded and stapled. Not much would occur to the baseball caps in this step, but they may be bagged separately. At this point the products can be picked up by the client, or mailed if arranged accordingly. The client will receive their items if their bill is paid off.

It can easily be seen in the above paragraphs, a variety of employees are active in this workflow. From proofers to press operators, each employee plays a part in the completion of a client’s order. These employees typically do not go between departments. For example, a press operator would not also assist in the graphic design of the product they would print.
Job Rotation

For this study it is important to define job rotation. Job rotation allows for an employee to learn steps in operations, and not just have one job. According to Benton, McCarthy, and Tucker, “in job rotation tasks once seeming pointless and monotonous become part of a process” (2002, p. 146). Change of tasks allows for an employee to become part of the process, and take ownership.

Studies have also noted job rotation indirectly correlates with job satisfaction. This has been observed in many industries. In Abbasi and Saravani’s study titled *Investigating the influence of job rotation on performance by considering skill variation and job satisfaction of bank employees*, their results supported this notion. The authors stated, “…[our] results show
that job performance is not directly influenced by job rotation. Job rotation positively influences job performance mediated by job satisfaction and skill variation” (2013, abstract). Job rotation gives employees a feeling of ownership and belonging in their company, because they experience different steps in the production process (Huang, 1991, para 3).

Employee Motivation

This research was conducted to explore if job rotation can increase employee motivation. Employees can be motivated for a variety of reasons. A few motivational theories will be discussed in the following paragraphs.

Maslow’s Hierarchy of Needs

Maslow’s Hierarchy of Needs lists the basic needs all human beings need and is a precursor of many motivational theories. It is depicted in Figure 2. It is one of the most well-known and taught motivational theories. While all humans have these needs, different cultures achieve and satisfy them in different ways (Tucker, McCarthy & Benton, 2002, p. 56) Abraham Maslow believed a human could not be motivated if they were not satisfied and had unmet needs. To have a motivated employee other needs should be met first. For example, an employee would not be motivated to work if they have hunger. Once the need of hunger is met they will be motivated to work.

The first basic needs of the hierarchy are physiological. Humans are not motivated if they lack things such as sustenance, sleep, and the resources to maintain hygiene. Motivation at this step is a cycle. An employee will use the money they earn to satisfy their needs. Once their needs are satisfied they will earn more money.

The second of the needs are safety and security. Humans cannot be motivated if they lack shelter and security. For example, an employee with job security will be motivated because
they have time to take the risk to be creative and innovative. Jobs in teaching or civil service will always be in demand and ensure job security. However, a small business entrepreneur may not have the security they desire. They cannot take risks because they could lose their business and investments. The needs of safety and security are unique because the individual determines when they are satisfied.

The third of the needs are social or belonging needs. Once an individual feels physiologically satisfied and secure, they seek acceptance, belonging, and affection. Belonging needs can be applied to a personal life and a place of employment. Most individuals have family, friends, or a loved one they receive affection and care from. But more importantly in a place employment, employees inevitably form relationships and friendships. Interactions can happen naturally, such as employees getting coffee together on a break. In other cases, employees made me forced to interact with employees while working in a group set up by management.

The fourth of the needs are esteem needs. Maslow put esteem needs into two categories: “a desire for a sense of internal worth” and “the desire for the prestige or reputation that can only be conferred by other people” (Tucker, McCarthy & Benton, 2002, p. 57). Some individuals have high self-esteem and confidence, while others have low self-esteem. When individuals do not think highly of themselves they lose motivation due to fears of failure and not being good enough. They employees may be excited because they have been promoted and have a rise in esteem. On the other hand, fellow employees may resent or ignore the promoted employee who got the promotion.

The last and ultimate goal of the hierarchy is self-actualization. When one reaches self-actualization they do work for the sake of doing good work. They also strive to improve
themselves and the work they are doing even if it is already perfect. This goal cannot be achieved before the other goal; they serve as motivators and distractions. Charles Aubrey and Patricia Felkins explain this in their book *Teamwork: Involving People in Productivity Improvement*. Aubrey and Felkins state, “When employees channel their energies at work to achieve higher needs, they show increased interest and motivation toward work” (1988). An example of someone who has reached self-actualization is Hillary Clinton, former first lady and current politician. Clinton has a large sum of money through her previous actions and her husband. However this does not stop her from being a well-known politician and presidential candidate today. She has met the first four steps of the hierarchy and is fully satisfied. She now works for the sake of work and the betterment of herself.

![Maslow's Hierarchy of Needs](image)

**Figure 2 – Maslow’s Hierarchy of Needs**

Maslow’s hierarchy highly relies on the concept of need prepotency because certain needs will be fulfilled in a sequence. This concept of the hierarchy is misleading and sometimes is seen as a flaw because an individual does not need full satisfaction in one step before moving.
to the next. For example, an individual may have an inconsistent job lacking security. This does not mean they will not attempt to receive acceptance from coworkers or try to create friendships.

**Herzberg’s Two-Factor Theory**

Maslow’s hierarchy of needs was a precursor which led to other theories of motivation; including Herzberg’s two-factor theory of work motivation. Fredric Herzberg was an industrial psychologist who created this theory in the late 1950s. Herzberg focused on human relations as an aspect of human motivation. Herzberg’s two-factor theory of work motivation pinpoints two different sets of job factors: satisfiers and dissatisfiers. To conduct research Herzberg and his colleagues interviewed hundreds of professional employees in hopes to pinpoint how employees were motivated and reached satisfaction or dissatisfaction.

In his research Herzberg defined the terms satisfiers and motivators. Satisfiers are factors leading to job satisfaction. The opposite of satisfiers, “dissatisfiers”, were defined as hygiene factors (Tucker, McCarthy & Benton, 2002, p. 89). In the simplest of terms, motivators are factors leading to motivation. In a workplace if motivators are not present the environment is lead to be neutral rather than negative (Dubrin, 2012, p. 125). *The Human Challenge* provides an ideal example for this theory:

Herzberg found that offering workers more money could lead to less dissatisfaction, but not to true job satisfaction. Employees hold jobs they consider intrinsically rewarding are satisfied with their jobs; with less rewarding work, they become less satisfied. Offering them more money does not replace the satisfaction gained from doing fulfilling work (Tucker, McCarthy & Benton, 2002, p. 90).

Herzberg discovered workers tend to be in a neutral position, neither satisfied nor dissatisfied. Most often the common employee simply does their job. When negative hygiene
factors arise employees become dissatisfied. Once the negative factors are attended to employees will go back to a neutral state. Employees can also experience positive factors leading to satisfaction. However, positives factors are not stagnant. If an employee does not experience them often they will go back to a neutral state.

Factors of satisfaction and dissatisfaction need be maintained. For example, in order to run a car one must continually fill it with gas and cannot expect it to run after only filling it once. Factors are “short lived”. The excitement an employee has for getting a raise will fade, and they may expect another six months later. Employees may begin to see raises and rewards occurring on a clockwork schedule as results from past action. They stop seeing it as a motivator. Because of this the theory states pay raises are negative motivators. According to *The Human Challenge*, “[An employee’s] absence from a job will unquestionably make people dissatisfied, but their presence doesn’t necessarily make employees happier or more productive” (Tucker, McCarthy & Benton, 2002, p. 90).

Herzberg believed hygiene and motivation needs must be satisfied. If an employee has a new job they are excited about they will tolerate things they may not like. However, these ideals and the atmosphere of a new environment will wear out. If an employee is not offered chances for growth and personal development they will need to be offered other forms of compensation.

The two-factor theory is especially important in current efforts of employee motivation. It can be applied to today’s millennial generation seeking employment. According to *Essentials of Management* motivators are:

1. Allow employees to “have a life”. Millennials are cautious of the 80 hour work week they saw their parents strive to do. They are better off making their own vacations and hours.
2. Do not have time clocks. Millennials are willing to work long hours if they set them.
   It is not uncommon for a worker to want to work long hours to have a Friday or
   specific day of the week off.

3. Give employees responsibility and small personal projects. Employees will feel more
   fulfilled if they set goals and accomplish a project.

4. To retain newly hired employees give them plenty of feedback, appraisals, and
   planning advice. The more feedback the better.

5. Allow employees to represent their company or organization through community
   service.

Summary

Employee motivation is something that greatly effects a company’s success. While it is
not something that can be seen; its results can. Ensuring employees’ motivational needs are met
ensures higher employee satisfaction. There are theories such as Maslow’s Hierarchy of Needs
and Herzberg’s Two-Factor Theory that address employee motivation. The print production
environment is fast paced and constantly moving. Management recognition of the potential
utilization of job rotation could lead to heightened employee motivation and satisfaction.
CHAPTER 3

METHODOLOGY

The purpose of this chapter is to describe the procedures used to test the hypothesis that this study is based on.

Research Hypothesis

Hypothesis One

$H_{01}: \mu_1 = \mu_2$: Managerial implementation of job rotation has no significant effect on employee motivation towards the subject.

$H_{a1}: \mu_1 \neq \mu_2$: Managerial implementation of job rotation has a significant effect on employee motivation towards the subject.

Hypothesis Two

$H_{02}: \mu_1 = \mu_2$: Employee gender has no significant effect on employee favor towards job rotation.

$H_{a2}: \mu_1 \neq \mu_2$: Employee gender has a significant effect on employee favor towards job rotation.

Hypothesis Three

$H_{03}: \mu_1 = \mu_2$: Time employed within industry has no significant effect on employee favor towards job rotation.

$H_{a3}: \mu_1 \neq \mu_2$: Time employed within industry has a significant effect on employee favor towards job rotation.
Population

The population of this research study consisted of those who are employed in the print industry, and do not have a role in management. This population includes: graphic designers, prepress personnel, press operators, post press operators (binding and finishing), and shipping. The researcher asked individuals to participate through public listservs and public print based discussion board and forums. Upon request, willing participants completed a survey through a provided link. The population of this survey was nation-wide across the United States, and had 129 individuals who participated via the internet.

Instruments, Validity, and Reliability

As mentioned previously, the researcher used an online questionnaire to conduct research. The questionnaire given to participants will be hosted through a Google Documents Survey. The delivered questionnaire can be viewed in Appendix A. Questions asked in the questionnaire will be explained later in this document. Upon formulation the questionnaire was viewed by two staff members of the University of Central Missouri’s Graphic Technologies Department to ensure it was easily understood and correct terminology was used. Upon approval of the staff members, the questionnaire was distributed to a small student committee of students with print shop experience. The questionnaire was tailored by the suggestions made by the committee and knowledgeable students. After revisions were made the questionnaire was sent to the researcher’s committee for approval. Once the process was completed, the researcher submitted a copy of the questionnaire to the Human Subjects Protection Program, located at the University of Central Missouri. The Human Subjects Protection Program assessed the
The questionnaire to ensure no one participating would be harmed. The Human Subjects Protection Program approved the questionnaire on December 15, 2014 as shown in Appendix B. The questionnaire (Appendix A) had two sections:

1) The first section of the questionnaire included eight questions that requested the participant to rank a statement with a numerical value 1 through 5. One indicating very low agreement, two indicating low agreement, three indicating neutral agreement, four indicating high agreement, and five indicating very high agreement. The questionnaire did not request the participant’s name or current place of employment to ensure confidentiality.

2) The second section of the questionnaire addressed the demographics of those participating in the survey. These questions requested personal information such as gender, age, and level of education. They also addressed the participant’s time spent with their current company, time spent in the printing industry, and their current department in their company. The questions asked were ranked on a scale of agreement by the participant. The scale was from 1-5: One (1) indicating very low agreement, Two (2) indicating low agreement, Three (3) indicating agreement sometimes, Four (4) indicating high agreement, and Five (5) indicating very high agreement.

Data Collection

The questionnaire was created in Microsoft Word, but was distributed through the internet via Google Docs. Questionnaire participants received links to the questionnaire if they were on public print listservs and public print forums. From those mediums they were given a link to the survey on Google Docs; where the survey was given and data was collected. The data was collected from February 10, 2015 to March 31, 2015, a total of 8 weeks. Upon collection of the data it was transferred from Google Docs to Microsoft Excel. After the data was projected
into Microsoft Excel the researcher utilized the Statistical Package for the Social Sciences (SPSS) version 21.0 to comprehend the data collected.

Statistical Analysis

The data was first placed in Microsoft Excel to assign numerical values to text collected. For example, “years spent working in the print production industry” was number coded 1-7 so the data could be processed easier by SPSS 21.0. Once the data was transferred to SPSS the researcher did a frequency calculation for the demographics questions. The mean of each demographic was calculated through descriptive statistics.

Research Plan

Step 1. The problem is identified.

Step 2. The topic is investigated and literature review is created.

Step 3. The research questions are formulated. Step 4. The questionnaire is drafted. Step 5. The questionnaire sample is given to experts and test group to ensure validity.

Step 6. The questionnaire is edited according to expert suggestions.

Step 7. The questionnaire is submitted to IRB for approval.

Step 8. The questionnaire is approved by IRB.

Step 9. The questionnaire is delivered via public listservs and forums. Step 10. The data is collected from questionnaires and entered into an Excel spreadsheet.

Step 11. The data is analyzed in the Statistical Package for Social Science (SPSS).

Step 12. Methodology and findings are written by the researcher.

Step 13. Conclusion will be written by researcher.

Step 14. The researcher submits the final paper.
Summary of Methodology

To collect the data needed for this research a questionnaire was constructed. The first draft of the questionnaire was delivered to two experts in the field and a small group of students who had worked in industry. The questionnaire was then edited and submitted for approval. Upon approval, a two section questionnaire was delivered via public forums and listservs. The two sections, demographics and questions that asked the participant to rank their level of agreement. Once the data was collected via a Google Document it was transferred to Microsoft Excel to be organized. The data was then transferred to SPSS 21 to begin data analysis.
CHAPTER 4

FINDINGS

The researcher collected data from February 10, 2015 to March 31, 2015, for a total of 8 weeks. The final collection results yielded 129 participants. Chapter One discussed that this study had many purposes. The first purpose was to research if a tool such as job rotation would lead to an increase in employee motivation, productivity, and satisfaction in the print production industry. The second purpose was that this study would serve as a benefit to the print production industry by proving valuable information.

Part One: Demographics

There was a total of six demographic questions asked. The questions were as follows: gender, age, highest level of education, total years employed in industry, total years employed at current company, and current department. The first question from the demographics section asked the respondents the gender they identified as. The responses included 59 (45.73%) females, 58 (44.96%) males, and 12 (9.3%) preferred not to answer. The second question asked the respondents their age. The responses included 5 (4%) ages 18-24, 18 (16%) ages 25-34, 28 (25%) ages 35-44, 46 (41%) ages 45-54, 27 (24%) ages 55-64, and 5 (4%) ages 65 or older.

The third question from the demographics section asked respondents for their highest level of education. The responses included 1 (1%) Some high school, no diploma, 43 (38%) High school graduate or GED, 37 (33%) Some college credit, no degree, 6 (5%) Trade/technical/vocational training, 6 (5%) Associate Degree, 31 (27%) Bachelor’s Degree, and 5 (4%) Master’s Degree. The fourth question from the demographics section asked the
respondents for their time employed in the print production industry. The responses included 3 (3%) Under one year, 1 (2%) 1 year, 19 (17%) 2-5 years, 12 (11%) 6-10 years, 25 (22%) 11-20 years, 39 (35%) 21-30 years, and 29 (26%) 31 or more years. The fifth question from the demographics section asked the respondents for their time employed at their current company or organization. The responses included 4 (4%) Under one year, 4 (4%) 1 year, 27 (24%) 2-5 years, 26 (23%) 6-10 years, 24 (21%) 11-20 years, 26 (23%) 21-30 years, and 16 (14%) 31 or more years.

The sixth question from the demographics section asked the respondents for their department within their company. The responses included binding and finishing 26 (20.2%), Graphic Design 4 (3.1%), Prepress 35 (27.1%), Press 29 (22.5%), and Other 35 (27.1%).

Table 1
Descriptive Statistics of Demographic Questions

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<th>Demographic Question</th>
<th>Frequency</th>
<th>Percent</th>
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<tr>
<td>Gender</td>
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<td></td>
</tr>
<tr>
<td>Female</td>
<td>59</td>
<td>45.73%</td>
</tr>
<tr>
<td>I prefer not to answer</td>
<td>12</td>
<td>9.3%</td>
</tr>
<tr>
<td>Male</td>
<td>58</td>
<td>44.96%</td>
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<td>18-24</td>
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<td>55-64</td>
<td>27</td>
<td>24%</td>
</tr>
<tr>
<td>65 or older</td>
<td>5</td>
<td>4%</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate Degree</td>
<td>6</td>
<td>5%</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>31</td>
<td>27%</td>
</tr>
<tr>
<td>High school graduate or GED</td>
<td>43</td>
<td>38%</td>
</tr>
<tr>
<td>Education Level</td>
<td>Count</td>
<td>Percentage</td>
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<tr>
<td>---------------------------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>Master's Degree</td>
<td>5</td>
<td>4%</td>
</tr>
<tr>
<td>Some college credit, no degree</td>
<td>37</td>
<td>33%</td>
</tr>
<tr>
<td>Some high school, no diploma</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Trade/technical/vocational training</td>
<td>6</td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years in Industry</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under one year</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>1 year</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>2-5 years</td>
<td>19</td>
<td>17%</td>
</tr>
<tr>
<td>6-10 years</td>
<td>12</td>
<td>11%</td>
</tr>
<tr>
<td>11-20 years</td>
<td>25</td>
<td>22%</td>
</tr>
<tr>
<td>21-30 years</td>
<td>39</td>
<td>35%</td>
</tr>
<tr>
<td>31 or more years</td>
<td>29</td>
<td>26%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years at Company</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under one year</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>1 year</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>2-5 years</td>
<td>27</td>
<td>24%</td>
</tr>
<tr>
<td>6-10 years</td>
<td>26</td>
<td>23%</td>
</tr>
<tr>
<td>11-20 years</td>
<td>24</td>
<td>21%</td>
</tr>
<tr>
<td>21-30 years</td>
<td>26</td>
<td>23%</td>
</tr>
<tr>
<td>31 or more years</td>
<td>16</td>
<td>14%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Department</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binding and Finishing</td>
<td>26</td>
<td>20%</td>
</tr>
<tr>
<td>Graphic Design</td>
<td>4</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>35</td>
<td>27%</td>
</tr>
<tr>
<td>Prepress</td>
<td>35</td>
<td>27%</td>
</tr>
<tr>
<td>Press</td>
<td>29</td>
<td>22%</td>
</tr>
</tbody>
</table>
Part Two: Employee Motivation

The beginning of the questionnaire included eight statements relating to employee motivation and job rotation. Each participant was asked to rank their level of agreement with each statement. The scale was from 1-5: One (1) indicating very low agreement, Two (2) indicating low agreement, Three (3) indicating agreement sometimes, Four (4) indicating high agreement, and Five (5) indicating very high agreement. Once the data was collected, the researcher was able to calculate the mean of the response for each question.

Figure 3 – Mean Scores of Questionnaire Questions

Questionnaire question 1 asked the participant to rate their agreement with the statement, “I enjoy going to work and carrying out my assigned task.” Questionnaire question 1 had a mean score of 4.18.
Questionnaire question 2 asked the participant to rate their agreement with the statement, “I am bored at work when carrying out my assigned task.” Questionnaire question 2 had a mean score of 1.93.

Questionnaire question 3 asked the participant to rate their agreement with the statement, “I would be more motivated at work if I rotated tasks.” Questionnaire question 3 had a mean score of 2.93.

Questionnaire question 4 asked the participant to rate their agreement with the statement, “Adding or rotating different tasks that are different than my own to my work day would stress me out.” Questionnaire question 1 had a mean score of 2.39.

Questionnaire question 5 asked the participant to rate their agreement with the statement, “Adding or rotating different tasks than my own to my work day would be exciting and I would like it.” Questionnaire question 5 had a mean score of 3.50.

Questionnaire question 6 asked the participant to rate their agreement with the statement, “Adding or rotating different tasks in my department appeals to me.” Questionnaire question 6 had a mean score of 3.43.

Questionnaire question 7 asked the participant to rate their agreement with the statement, “Adding or rotating different tasks in departments other than the one I am in appeals to me.” Questionnaire question 7 had a mean score of 3.16.

Questionnaire question 8 asked the participant to rate their agreement with the statement, “Adding or rotating different tasks regardless of whether or not they are in my department is not something that appeals to me.” Questionnaire question 8 had a mean score of 3.76.
Part 3: Data Analysis

Data analysis for the research was conducted in the Statistical Package for the Social Sciences 21. Data collected from the questionnaire was used to create variables to test the research questions.

Research Question 1

The first research question for this study is “Does managerial implementation have a significant effect on employee motivation towards the subject?” A one-way ANOVA was performed to test this hypothesis; the F value was calculated at the level of Alpha0.05 statistical significance and 95% confidence.

Table 2 displays the one-way ANOVA results for research question 1. The analysis used the data from the questionnaire questions 3, 5, 6, and 7. Question 3’s variable acted as the dependent variable, and Question 5, 6, and 7s’ variables acted as the independent variables. The significance level is .000; the null hypothesis is rejected at the .05 level of confidence in favor of the alternative. Therefore, it can be concluded, based on sample results, the managerial implementation of job rotation has a significant effect on employee motivation towards the subject.

Table 2
ANOVA Research Question 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different tasks other than own would excite</td>
<td>18.15</td>
<td>0.00</td>
</tr>
<tr>
<td>Different tasks in department appeal</td>
<td>11.90</td>
<td>0.00</td>
</tr>
<tr>
<td>Different tasks in other department appeal</td>
<td>15.54</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Research Question 2

The second research question for this study is, “Does employee gender have a significant effect on employee favor towards job rotation?” A one-way ANOVA was performed to test this hypothesis; the F value was calculated at the level of Alpha 0.05 statistical significance and 95% confidence.

Table 3 displays the ANOVA results for research question 1. The analysis used the data from the questionnaire questions 4, 5, 6, 7, and 8. The employee’s gender acted as the dependent variable, and Question 4, 5, 6, and 7s’ variables acted as the independent variables. The significance levels are greater than 0.05. The null hypothesis is not rejected. Therefore, it can be concluded, based on sample results, employee gender has no significant effect on employee favor towards job rotation.

Table 3
ANOVA Research Question 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different tasks other than own would stress out</td>
<td>0.185</td>
<td>0.668</td>
</tr>
<tr>
<td>Different tasks other than own would excite</td>
<td>0.007</td>
<td>0.936</td>
</tr>
<tr>
<td>Different tasks in department appeal</td>
<td>0.588</td>
<td>0.445</td>
</tr>
<tr>
<td>Different tasks in other department appeal</td>
<td>0.225</td>
<td>0.636</td>
</tr>
<tr>
<td>Different tasks regardless of department no appeal</td>
<td>0.07</td>
<td>0.792</td>
</tr>
</tbody>
</table>

Research Question 3

The third research question for this study, “Does time employed in the print industry have a significant effect on employee favor towards job rotation?” A one-way ANOVA was
performed to test this hypothesis; the F value was calculated at the level of Alpha 0.05 statistical significance and 95% confidence.

Table 4 displays the ANOVA results for research question 3. The analysis used the data from the questionnaire questions 4,5,6,7, and 8. The employee’s time spent within the printing industry acted as the dependent variable, and Question 4, 5, 6, and 7s’ variables acted as the independent variables. The significance levels are higher than 0.05; the null hypothesis is not rejected. Therefore, it can be concluded, based on sample results, employee time employed in industry has no significant effect on employee favor towards job rotation.

Table 4
ANOVA Research Question 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Different tasks other than own would stress out</td>
<td>0.443</td>
<td>0.849</td>
</tr>
<tr>
<td>Different tasks other than own would excite</td>
<td>0.676</td>
<td>0.669</td>
</tr>
<tr>
<td>Different tasks in department appeal</td>
<td>0.377</td>
<td>0.892</td>
</tr>
<tr>
<td>Different tasks in other department appeal</td>
<td>0.545</td>
<td>0.773</td>
</tr>
<tr>
<td>Different tasks regardless of department no appeal</td>
<td>1.57</td>
<td>0.162</td>
</tr>
</tbody>
</table>

Summary of Findings

The results included 129 individuals who completed the questionnaire. The survey results were gathered from the 129 respondents ages 18 or older and employed in the print production industry. The questionnaire had two sections: demographics and questions related to the individuals feelings towards job rotation. The questions relating to job rotation had the participant rate their level of agreement on a scale from 1 (low agreement) to 5 (high agreement). Once the data was collected the researcher calculated the mean of each question relating to job
rotation.

The first question from the demographics section asked the respondents the gender they identified as. The responses included 59 (52%) females, 58 (51%) males, and 12 (11%) preferred not to answer. The second question asked the respondents their age. The responses included 5 (4%) ages 18-24, 18 (16%) ages 25-34, 28 (25%) ages 35-44, 46 (41%) ages 45-54, 27 (24%) ages 55-64, and 5 (4%) ages 65 or older. The third question from the demographics section asked respondents for their highest level of education. The responses included 1 (1%) Some high school, no diploma, 43 (38%) High school graduate or GED, 37 (33%) Some college credit, no degree, 6 (5%) Trade/technical/vocational training, 6 (5%) Associate Degree, 31 (27%) Bachelor’s Degree, and 5 (4%) Master’s Degree. The fourth question from the demographics section asked the respondents for their time employed in the print production industry. The responses included 3 (3%) Under one year, 1 (2%) 1 year, 19 (17%) 2-5 years, 12 (11%) 6-10 years, 25 (22%) 11-20 years, 39 (35%) 21-30 years, and 29 (26%) 31 or more years. The fifth question from the demographics section asked the respondents for their time employed at their current company or organization. The responses included 4 (4%) Under one year, 4 (4%) 1 year, 27 (24%) 2-5 years, 26 (23%) 6-10 years, 24 (21%) 11-20 years, 26 (23%) 21-30 years, and 16 (14%) 31 or more years. The sixth question from the demographics section asked the respondents for their department within their company. The responses included binding and finishing 26 (20.2%), Graphic Design 4 (3.1%), Prepress 35 (27.1%), Press 29 (22.5%), and Other 35 (27.1%).

The first null hypothesis was not rejected. Managerial implementation of job rotation has a significant effect on employee motivation towards the subject.

The second null hypothesis was rejected. Employee gender has no significant effect on
employee favor towards job rotation.

The third null hypothesis was rejected. Employee time employed in industry has no significant effect on employee favor towards job rotation.
CHAPTER 5
SUMMARY, CONCLUSIONS,
AND RECOMMENDATIONS

This final chapter provides three sections: summary, conclusions, and recommendations. The first section is a summary of the statement of problems, purpose of the study, significance of the study, research questions, hypotheses, and findings. The second section discusses the results and conclusions of this study. The third gives recommends how this research can be taken further to explore other aspects of motivation and job rotation in the print production industry.

The goal of this study was to explore if job rotation could be used as a tool to increase motivation in the print production industry. This is a unique topic of study, because not much research has been done. The nature of being employed as a pressman is tedious. Typically, a pressman will operate one machine during their career. Through implementation of job rotation employees can have increased motivation and productivity. Another result of job implementation is employers can have employees trained on multiple machines. These employees can fill in for others in the event of an absence. Employees involved in job rotation also tend to feel like a part of their company as well because they can see different aspects of the process.

Statement of the Problem

In industry, it is not uncommon for employees to be seen as “cogs in the machine” or as machines. The print production industry is no exception. Often a pressman will operate a single
machine during their career in a print shop. After a short amount of time, this can become tedious, and the employee may lose productivity and motivation. By implementation of job rotation between machines, a pressman may become motivated and productive. This study plans to identify employee frames of mind on this change, and if it would lead to an increase in motivation.

**Purpose of Study**

The purpose of the study is to research if tools such as job rotation would lead to an increase in employee motivation, productivity, and satisfaction in the print production industry. The study will analyze and collect data from employees in a company from different departments, ages, and time spent in industry. The intent of this study is to provide companies in the print production industry with information, which may help increase employee satisfaction and performance.

**Research Questions**

1) Does managerial implementation have a significant effect on employee motivation towards the subject? 2) Does employee gender have a significant effect on employee favor towards job rotation? 3) Does time employed in the print industry have a significant effect on employee favor towards job rotation?

**Research Hypothesis**

Hypothesis One

$H_{01}: \mu_1 = \mu_2$: Managerial implementation of job rotation has no significant effect on employee motivation towards the subject. $H_{a1}: \mu_1 \neq \mu_2$: Managerial implementation of job rotation has a significant effect on employee motivation towards the subject.
Hypothesis Two

\( H_{02}: \mu_1 = \mu_2 \): Employee gender has no significant effect on employee favor towards job rotation.

\( H_{a2}: \mu_1 \neq \mu_2 \): Employee gender has a significant effect on employee favor towards job rotation.

Hypothesis Three

\( H_{03}: \mu_1 = \mu_2 \): Time employed within industry has no significant effect on employee favor towards job rotation.

\( H_{a3}: \mu_1 \neq \mu_2 \): Time employed within industry has a significant effect on employee favor towards job rotation.

Summary of Findings

The results of this study included a total of 129 participants above the age of 18 employed in the print production industry. Each participant completed a questionnaire composed to two parts. The two parts of the questionnaire included demographics and questions in regards to the participant’s feelings towards job rotation. When answering the questions in regards to job rotation the participant rated their level of agreement: One indicating very low agreement, two indicating low agreement, three indicating neutral agreement, four indicating high agreement, and five indicating very high agreement.

The first question from the demographics section asked the respondents the gender they identified as. The responses included 59 (52%) females, 58 (51%) males, and 12 (11%) preferred not to answer.

The second question asked the respondents their age. The responses included 5 (4%) ages 18-24, 18 (16%) ages 25-34, 28 (25%) ages 35-44, 46 (41%) ages 45-54, 27 (24%) ages 55-64, and 5 (4%) ages 65 or older.

The third question from the demographics section asked respondents for their highest level of education. The responses included 1 (1%) Some high school, no diploma, 43 (38%)
High school graduate or GED, 37 (33%) Some college credit, no degree, 6 (5%)
Trade/technical/vocational training, 6 (5%) Associate Degree, 31 (27%) Bachelor’s Degree, and 5 (4%) Master’s Degree.

The fourth question from the demographics section asked the respondents for their time employed in the print production industry. The responses included 3 (3%) Under one year, 1 (2%) 1 year, 19 (17%) 2-5 years, 12 (11%) 6-10 years, 25 (22%) 11-20 years, 39 (35%) 21-30 years, and 29 (26%) 31 or more years.

The fifth question from the demographics section asked the respondents for their time employed at their current company or organization. The responses included 4 (4%) Under one year, 4 (4%) 1 year, 27 (24%) 2-5 years, 26 (23%) 6-10 years, 24 (21%) 11-20 years, 26 (23%) 21-30 years, and 16 (14%) 31 or more years.

The sixth question from the demographics section asked the respondents for their department within their company. The responses included binding and finishing 26 (20.2%), Graphic Design 4 (3.1%), Prepress 35 (27.1%), Press 29 (22.5%), and Other 35 (27.1%).

The first research question for this study is “Does managerial implementation of job rotation have a significant effect on employee motivation towards the subject?” The null hypothesis was not rejected. Managerial implementation of job rotation has a significant effect on employee motivation towards the subject.

The second research question for this study is, “Does employee gender have a significant effect on employee favor towards job rotation?” The null hypothesis was rejected. Employee gender has no significant effect on employee favor towards job rotation. This study has close to equal parts of gender for responses. Gender may not have a significant effect on employee’s motivation towards the subject because both groups feel as though they are treated equally.
The third research question for this study, “Does time employed in the print industry have a significant effect on employee favor towards job rotation?” The null hypothesis was rejected. Employee time employed in industry has no significant effect on employee favor towards job rotation. Employee time in industry may not have an effect on employee favor towards job rotation because of the environment of the print shop. New and old employees have the same feelings towards the subject.

Discussion

Questionnaire Question Means

Figure 4 displays the ranked mean scores of the questionnaire questions. The questionnaire question with the lowest mean score was, “I am bored at work when carrying out my assigned task” at 1.93. The questionnaire question with the highest mean score was, “I enjoy going to work and carrying out my assigned task” at 4.18. These questionnaire questions are highly related to each other. The mean scores reveal that most employees enjoy their assigned tasks are not bored.

The questionnaire question with the second lowest mean, “Adding or rotating different tasks that are different than my own to my work day would stress me out” had a score of 2.39. The questionnaire question with the second highest mean, “Adding or rotating different tasks regardless of whether or not they are in my department is not something that appeals to me” had a mean score of 3.76. There two questions also both highly relate to each other. Employees are not interested in adding new tasks to their work day regardless of department, and it would stress them out.
While print companies can focus on job rotation to increase motivation, there are many other things they need to keep in consideration. In the study *Impact of Human Motivation on Employees Performance* Diana Larisa states, “People need interesting work, appropriate working conditions and the chance to feel valuable to be effective in the organizations in which they work. (2015)” There are items or benefits a company can provide to an employee to ensure this happens. Figure 5 displays a cause and effect diagram of the various influencers on employee motivation. Benefits and pay can be large influencers in employee motivation. For example, in the study *Effects of Long-Term Care Insurance on Employee Motivation, Satisfaction, and Retention* the researchers, Sandrick, Contacos-Sawyer, and Thomas explored the effects of insurance benefits and employee retention. The researchers found, “[the] greater percentage of employees enrolled in a [Long-Term Care Insurance] plan reflected a greater increase in
employee motivation as seen by the employer” (2014). The atmosphere of an employee’s workspace can also greatly affect their motivation. The study Designing Of Manual Workstation Structure With Emphasis On Ergonomics researcher, Andrea Leskova, states, ‘Ergonomically designed workstation in production system with modular structure brings many benefits, e.g. increased motivation and satisfaction of employee, higher performance, productivity, efficiency, and processing quality” (2014). Figure 5 presents cause-effect diagram of different contributors to employee motivation. It depicts different employee motivators and breaks them down. Figure 5 displays job rotation along with atmosphere, benefits and pay, and culture. All of these factors contribute to the motivation of an employee.
Figure 5- Employee Motivation Cause and Effect Diagram
Recommendations for Future Studies

It is the recommendation of this researcher that this study is explored in further detail. This research is highly beneficial for the print production industry. The researcher suggested that the following should be focused upon:

First, replication of this study based upon specific types of printing. For example, the study can be replicated at companies that only do screen printing, lithography, and rotogravure. Motivation and opinion of job rotation of employees can then be compared and contrasted based on specific printing type.

Second, replication of this study based upon location. For example, the study could be replicated at companies in specific cities. Motivation and opinion of job rotation of employees can then be compared and contrasted based on location or city.

Third, this study could be continued after managerial implantation. A new questionnaire could be created and delivered to participants to see if actual job rotation is something they favor.

Fourth, the study could be paired with other studies in regards to employee motivation. Things such as employee benefits or work environment could be studied to see their effect on employee motivation.

Conclusion

This study has investigated the application of job rotation to the print production industry to increase motivation and employee’s opinions towards the subject. The study had 129 participants who were print shop employees over the age of 18. Each participant filled out a questionnaire online to provide data. The study found managerial implementation of job rotation has a significant effect on employee motivation towards the subject. The study also found
employee gender and time employed in the print industry does not have a significant effect on employee favor towards job rotation.

This research provides valuable information to the print production industry. The industry can implement employee job rotation if they see a decrease in motivation. A print shop may only see a lack of motivation in one or two departments. This study can also be used by industries as well. Manufacturing can replicate this study and use it as starting point to explore employee motivation and how it is influenced by job rotation. Regardless of industry, employee motivation plays a major role in the culture employees work in, and job rotation potentially could be used to increase it.
References


Appendix A – Questionnaire

The Utilization of Job Rotation to Increase Motivation in the Print Production Industry

Consent Form

IDENTIFICATION OF RESEARCHER

This research is conducted by Giuseppina Zanti, a graduate student from the Industrial Management program at University of Central Missouri.

PURPOSE OF THE STUDY

The purpose of the study is to research if tools such as job rotation would lead to an increase in employee motivation, productivity, and satisfaction in the print production industry.

REQUEST FOR PARTICIPATION

We are inviting you to participate in a survey regarding your opinion about job rotation in your industry. It is up to you whether you would like to participate. If you decide not to participate, you will not be penalized in any way.

EXCLUSIONS

You must be at least 18 years of age to participate in this study.

DESCRIPTION OF RESEARCH METHOD

This survey consists of two sections.

The first section of the survey asks you questions about your personal feelings in regards to job rotation in your career and industry. There are eight questions. The scale by which you are going to rank is:

- One (1) indicates very low agreement
- Two (2) indicates low agreement
- Three (3) indicates agreement sometimes
- Four (4) indicates high agreement
- Five (5) indicates very high agreement
The second section is about your demographics information. These questions are going to be about your gender, age, education, time spent at your company, time spent in your industry, and department at your company or organization.

● PRIVACY ●

All of the information collected will be anonymous. We will not record or ask for your name or any information that could be used to identify you.

● EXPLANATION OF RISKS ●

The risks associated with participating in this study are very low. The participation in this question is completely voluntary, there will be no physically activities involved and no compensation will be provided for people that plan to take this survey.

● EXPLANATION OF BENEFITS ●

You will benefit from participating in this study by expressing your opinion about job rotation in the print production industry. The researcher hopes that the information will be helpful for print companies. This way print companies located around the world can compare and contrast the potential of the utilization of job rotation.

● QUESTIONS ●

Any question that you might have please do not hesitate in contacting me at: zanti@ucmo.edu or by phone: 660-543-4727. If you have any questions about your rights as a research participant, please contact the Human Subjects Protection Program at (660) 543-4624.

By clicking continue you are agreeing to complete the survey
The Utilization of Job Rotation to Increase Motivation in the Print Production Industry

* Required

The Utilization of Job Rotation to Increase Motivation in the Print Production Industry - Survey

Please mark a number for each question to reflect your level of agreement.

One (1) Indicates very low agreement
Two (2) Indicates low agreement
Three (3) Indicates agreement sometimes
Four (4) Indicates high agreement
Five (5) Indicates very high agreement

1. I enjoy going to work and carrying out my assigned task. *

|  |  |  |  |  |  |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

low agreement [ ] [ ] [ ] [ ] high agreement

2. I am bored at work when carrying out my assigned task. *

|  |  |  |  |  |  |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

low agreement [ ] [ ] [ ] [ ] high agreement

3. I would be more motivated at work if I rotated tasks. *

|  |  |  |  |  |  |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

low agreement [ ] [ ] [ ] [ ] high agreement

4. Adding or rotating different tasks that are different than my own to my work day would stress me out. *

|  |  |  |  |  |  |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

low agreement [ ] [ ] [ ] [ ] high agreement
5. Adding or rotating different tasks than my own to my work day would be exciting and I would like it. *

1 2 3 4 5

low agreement 0 0 0 0 0 high agreement

6. Adding or rotating different tasks in my department appeals to me. *

1 2 3 4 5

low agreement 0 0 0 0 0 high agreement

7. Adding or rotating different tasks in departments other than the one I am in appeals to me. *

1 2 3 4 5

low agreement 0 0 0 0 0 high agreement

8. Adding or rotating different tasks regardless of whether or not they are in my department is not something that appeals to me. *

1 2 3 4 5

low agreement 0 0 0 0 0 high agreement

Select your gender: *

Select your age: *

Select your highest level of education: *

Select your total years employed in the print production industry: *

Select your total years employed at your current company or organization:
Select your current department in your company: *
If you select other, please enter your department not listed.
○ Graphic Design
○ Prepress
○ Press
○ Binding and Finishing
○ Shipping
○ Other: 

Thank you for your participation in this survey. Please select submit to complete.
This survey is collecting data for a study being conducted by Giuseppina Zanti a graduate student in Industrial Management at the University of Central Missouri. If you have any further questions please contact her at zanti@ucmo.edu or 660-543-4727.

Submit

Never submit passwords through Google Forms.

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Appendix B - Frequencies of Questionnaire Questions

Question 1 - I enjoy going to work and carrying out my assigned task.

Question 2 - I am bored at work when carrying out my assigned task.
Question 3 - I would be more motivated at work if I rotated tasks
Question 4- Adding or rotating different tasks that are different than my own to my work day would stress me out.

Question 5 - Adding or rotating different tasks than my own to my work day would be exciting and I would like it.
Question 6- Adding or rotating different tasks in my department appeals to me.

Question 7- Adding or rotating different tasks in departments other than the one I am in appeals to me.
Question 8 - Adding or rotating different tasks regardless of whether or not they are in my department is not something that appeals to me.
Appendix C – Human Subjects Approval Letter

UNIVERSITY OF CENTRAL MISSOURI
Learning to a Greater Degree

Office of Sponsored Programs and Research Integrity
Administration 315
Warrensburg, MO 64093
Office: 660-543-4264
Grants/Contracts: csp@ucmo.edu
Compliance: researchreview@ucmo.edu

12/15/2014

Giusseppina Zanti
Zanti@ucmo.edu

Dear Giusseppina Zanti,

Your research project, "The Utilization of Job Rotation to Increase Motivation in the Print Production Industry", was approved by the Human Subjects Review Committee on 12/15/2014.

Please note that you are required to notify the committee in writing of any changes in your research project and that you may not implement changes without prior approval of the committee. You must also notify the committee in writing of any change in the nature or the status of the risks of participating in this research project.

Should any adverse events occur in the course of your research (such as harm to a research participant), you must notify the committee in writing immediately. In the case of any adverse event, you are required to stop the research immediately unless stopping the research would cause more harm to the participants than continuing with it.

At the conclusion of your project, you will need to submit a completed Project Status Form to this office. If you have any questions, please feel free to contact me.

Sincerely,

Janice Putnam Ph.D. RN CIP
Research Compliance Officer
putnam@ucmo.edu

cc: Dr. Ronald Woolsey