



An Examination of Skills Requirements in Businesses in Mesa County

Joshua Marsden, Hannah Kois, Mark Domingo, Wendy Walters, Avery Cantrell, Jarrott Brown, Carlos Baldo, Crystal Baker

Colorado Mesa University
1100 North Ave
Grand Junction, CO 81501

Markle Foundation Skillful Project

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Joshua Marsden, Hannah Kois, Mark Domingo

With special help from

Wendy Walters, Avery Cantrell, Jarrott Brown,

Under the guidance of

Dr. Carlos Baldo & Dr. Crystal Baker





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Tom Benton – Innovation Center CMU

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Contact Information

For questions or comments, please email Dr. Crystal Baker at

cbaker@coloradomesa.edu

Or

Joshua Marsden at

joshuawademarsden@gmail.com

jmarsden@mavs.coloradomesa.edu



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Overview

Mesa County, as part of the Western Slope of Colorado, provides unique insight into the developing business ecosystem of a growing community. In this report, we investigate various aspects of skill-based hiring practices, on-boarding, and leadership within Mesa County. A job market analysis was performed to understand the current business environment in Mesa County. Both electronic survey and in-person interviews were conducted with multiple businesses to better understand the causes of turnover, recruitment practices, employee skills preferred by organizations during candidate selection, technological changes within organizations and the reasons for implementing these changes, training and employee development practices, common barriers and obstacles of businesses, and the role of leadership within an organization. Employee positions were broken down into three skill levels (low, mid, and high) to better understand hiring and on-boarding practices at each level. Descriptive statistics were used and common trends were identified in the data.

Purpose of Study

The purpose of this study was to better understand the employer landscape in Grand Junction. To this aim, we reviewed the hiring practices local businesses are currently engaged in and the use of technologies in this process. We also inquired how local businesses are supporting employee development as they adopt new technologies and examined the leadership and onboarding practices.



Need for Topic


As technological advances are made in the workplace, employers are continually adapting to the changing demands of their industry and the changes in positions at various skill levels. These changes do not necessarily impact all positions within a company equally, sometimes having the biggest impact on jobs that require lower level skills. Preliminary evidence provided by the Markle Foundation indicated that employers recruiting candidates for lower-skilled positions often receive overqualified applicants rather than candidates more aligned to the skills required. This results in hiring practices that do not necessarily meet the needs of the workforce: employers may hire overqualified employees, and individuals who are qualified for these positions may not have the opportunity to work at these jobs due to this misalignment.

To support initiatives that may help to solve this problem, it is important to understand how employers are integrating new technology into the recruitment process and how this integration is impacting their hiring practices and supporting employee development. Skillful of the Markle Foundation and the Colorado Office of Economic Development and International Trade are interested in supporting businesses as these technological advances impact the Western Slope, especially regarding positions requiring lower skill levels. They contracted us to assist in better understanding how technology has impacted the hiring process and individuals depending on their skills levels in various industries.

Research Questions and Hypotheses

The research questions that drove our study included:

1. How do employers conceptualize the skill-set needed for low-, mid-, and high-skilled positions?

- 
2. How do local businesses support technological literacy in candidates and employees' skills?
 3. How do leadership teams in local businesses recruit employees for positions at various skill levels?
 4. Is leadership style associated with practices in recruitment, selection, and onboarding practices?

Since our study was exploratory in nature, we did not have specific hypotheses.

Job-Market Analysis

In this section, we present our Labor Market Report based on key indexes and information gathered from February 2018 until May 2018. Therefore, this report includes information from the first and second quarter of 2018 and related trends. The format used for this project is an adaptation of the Labor-Market Trends Report used by the World Bank Group in regions around the world.

Methodology

The following content has been developed analyzing primary and secondary data gathered by the research team. To test veracity from one source to another, we have triangulated the data. This is a common method used in qualitative research to validate data consistency. The data sources consulted include:

- Mesa County Economic Newsletter, Second Quarter 2018, developed by Dr. Nathan Perry from the Department of Business at Colorado Mesa University.

- Grand Junction Economic Partnership (GJEP).
- Mesa County Workforce Center.
- Grand Junction Chamber of Commerce.
- Colorado Workforce Development County.


Findings

Economic Development

During the last two semesters, the Mesa Economy has been positively affected primarily by the Oil and Gas industries, as well as Mining. It is important to keep in mind that there are large related sub-sectors (e.g., heavy machinery, consulting, chemical, logistics) that provide services to oil and gas. Their economic impact is highly connected to such sectors. This, along with some changes among locals' organizations have helped to improve our outlook. Among those changes are the operation increase in the local sectors like Distilleries, Wineries, Breweries (Micro, Brewpub, Contract Brewing Company, Regional Craft), outdoors and recreation.

The Mesa County GDP remains low (4450 Millions of chained dollars) compared to the record high in 2008 (5700 Millions of chained dollars). Nevertheless, economic reports indicate that the GDP will slightly increase in the next two semesters due to Oil and Gas. This estimation is based on indicators like a decrease in the unemployment rate (from 3.9% to 3.8%) and the increase in City and Mesa county sales tax collections (up 8.6% and 15%, respectively).

Two social-economic phenomena have also impacted the internal migrations in Mesa County. First is a group from California (mostly retired people), and secondly a group from the Front Range looking for a better quality of life. These two, along with the slight increase in employment (2,496 from Q1 2017 to Q2 2018), has triggered the housing demand. The actual



real estate inventory does not satisfy housing needs for buyers in the below \$250K price range. This housing shortage has triggered an increase in residential constructions; hence, there is a labor demand in this sector.


Currently, the Grand Junction Economic Partnership is having conversations at different stages with more than 20 companies in manufacturing, software, and aeronautics to relocate their Headquarters to GJ. These companies GJEP would be offering positions requiring mid-level skills with salaries above \$44k per annum. If some of those potential companies move into Mesa County, an increase in population is expected.

Finally, there are some other circumstances that may be beneficial for Mesa County. For example, there are currently conversations to move the Bureau of Land Management from Washington DC to Grand Junction. The County, along with other county entities, are in the process of requesting a Customs Office on our regional airport. This may expedite and increase the foreign trade for our local companies. Conditional to the customs' initiative, there are talks about a Free Trade Zone.

All these previous elements allow us to infer a positive but conservative outlook for the Economic Development in Mesa County.

Population

Based on the data provided by the US Census, the Mesa County population estimate as of July 1st 2017 was 151,616, with a 3.3% increase from 2010. The median age was 38.8 years. The population sex composition is almost 50-50 for males and females, slightly favoring females. The racial composition is predominantly White (81.7%) and Hispanic (14.4%). The remaining



populations are small groups, which include American Indians, Mix-race, African American, and Asians.

Working Age Population

Mesa County has a working-age population of 50 to 55% of the total (calculation based on those below 65 years and a proportion of those over 16 years). As indicated in the Mesa County Economic Newsletter Q2 2018 (Perry, 2018) the current workforce is composed of 74,572 individuals in working age, with an increase of 3.2% compared to last year. The unemployment rate is close to 3.8%. Nevertheless, that rate has lower fluctuations considering some seasonal workers, mainly in agriculture and farming activities.

Activity Rates

The employment per sector or industry is somewhat diversified in Mesa County. The most-recent data, which indicates this situation, is from 2017. This is included in the Census of Employment. As shown in Table 1, the large proportion (57%) of employment relates to Health Care, Government, Retail and Hospitality. Nevertheless, some current changes or dynamics are not reflected in this table. For instance, there will be a reduction in the workforce for the Retail sector, along with increases in Mining & Oil and Construction.

Table 1. Percentage workforce per Sector or Industry in Mesa County 2017

| Sector-Industry | % |
|--|----------|
| Health Care and Social Assistance | 17 |
| Government | 15 |
| Retail Trade | 13 |
| Accommodation and Food Services | 11 |
| Construction | 7 |
| Manufacturing | 5 |
| Administrative and Waste Services | 5 |
| Mining, Oil, and Gas Extraction | 4 |
| Wholesale Trade | 4 |
| Transportation and Warehousing | 4 |
| Professional and Technical Services | 3 |
| Finance and Insurance | 3 |
| Other Services, Ex. Public Admin | 3 |
| Real Estate and Rental and Leasing | 2 |
| Arts, Entertainment, and Recreation | 1 |
| Information | 1 |
| Agriculture, Forestry, Fishing & Hunting | 1 |
| Educational Services | 1 |
| Utilities | 0 |
| Management of Companies and Enterprises | 0 |

Adapted from: Mesa County Economic Newsletter, Second Quarter 2018.

Table 2 is aligned with the data provided by the Grand Junction Chamber of Commerce published in The Daily Sentinel in January of 2018. It shows major employers in the county and the number of self-reported employees.

Table 2. Major employers and number of employees in Mesa County

| Rank | Organization Name | # of Employees | Size based on # of Employees |
|------|-----------------------------------|----------------|------------------------------|
| 1 | Mesa County School District | 2715 | Enterprise |
| 2 | St. Mary's Hospital | 2300 | Enterprise |
| 3 | Mesa County (All Departments) | 1025 | Enterprise |
| 4 | State of Colorado | 1012 | Enterprise |
| 5 | Colorado Mesa University | 1006 | Enterprise |
| 6 | City Markets, Inc. | 800 | Large |
| 7 | Community Hospital | 800 | Large |
| 8 | VA Medical Center | 720 | Large |
| 9 | Startek USA, Inc | 700 | Large |
| 10 | City of Grand Junction | 629 | Large |
| 11 | Hilltop Community Resources, Inc. | 600 | Large |
| 12 | West Star Aviation | 413 | Medium |
| 13 | Rocky Mountain Health Plans, Inc. | 404 | Medium |
| 14 | Family Health West | 370 | Medium |
| 15 | Strive | 350 | Medium |
| 16 | Hopewest | 350 | Medium |
| 17 | Primary Care Partners | 304 | Medium |
| 18 | Mind Springs Health | 272 | Medium |
| 19 | Capco | 254 | Medium |
| 20 | United Companies | 232 | Small |
| 21 | Navarro | 186 | Small |
| 22 | Coors Tek Inc. | 150 | Small |
| 23 | The Daily Sentinel | 146 | Small |
| 24 | Union Pacific Railroad | 136 | Small |
| 25 | Reynolds Polymer Technology | 130 | Small |



| | | | |
|----|-----------------------------|-----|-------|
| 26 | Mantey Heights Rehab & Care | 130 | Small |
|----|-----------------------------|-----|-------|

Adapted from: GJ Chamber of Commerce, published on The Daily Sentinel 01/28/2018.

Based on this information, most of the employers in the county are Micro and Small businesses, and inevitably their needs may be unique. This strongly suggests the need for a clear review on these organizations and the employees' skills.

Employment Trends and Skills

A relevant element directly linked with the project and this report concern the job market fluctuations and implications when comparing skills. For instance, in a Georgetown University Center on Education and the Workforce analysis of Current Population Survey (CPS) data, 2007-2016 demonstrates how the unemployment fluctuates depending on academic credentials. The report explains that during the recession periods from 2007 to 2010, jobs that required a high school education or lower lost more than 5 million jobs, and as of 2016, only 80,000 jobs have been recovered. Compared to the jobs recovered in the same periods for those positions that required at least an Associate's degree (3.1 million jobs) and Bachelor's degree (8.4 million), the jobs recovered with fewer academic credentials (high school or less) is paltry. This indicates that there is a potential shift in the job market towards jobs with higher skills. This concurs with an article published in Harvard Business Review online where Professor Peter Cappelli from Wharton School of Business describes the talent shortage.

Nevertheless, it is important to indicate that the skill gap mentioned above is based on national numbers. Therefore, it is imperative to contrast Mesa County figures with the local job market. As it is indicated on the Mesa County Economic Newsletter, Second Quarter 2018, by

July 2016, the national unemployment rate was the same level as in Mesa County. Thus, it is probable to infer similarities in the jobs created per academic credentials mentioned above.

Data Collection

Methodology


Participants

Survey

Our population of interest included those in executive leadership positions in businesses in Mesa County. We used convenience sampling to recruit survey participants through local organizations including the Western Colorado Human Resources Association, Chamber of Commerce, and Workforce Center. In addition, we emailed those in leadership positions in businesses in Mesa County. Our sample size was 23 and included 8 fully completed responses

Interview

For the interview, our population of interest included those in executive leadership positions in businesses in Mesa County with a primary focus on those in the position of Human Resource Director or a hiring manager. We used convenience sampling from a dataset of over 200 companies with more than 50 employees in the Mesa County provided by the CMU Business Department. We pre-selected 100 businesses based on the inclusion of lower-skilled workers that had opportunities for advancement (indications provided by the Markle Foundation's Skillful). These 100 were then coded by industry, and two business each from small-, mid-, and large-sized companies were selected based on number of years in business and profits for a total of 25 businesses. We also obtained contact information for additional participants through local individuals who have contact with these businesses and our team




members. Human Resources Directors and other leadership personnel from these businesses were contacted for an interview opportunity with the recruitment email (see Appendix G). If no response was received, we followed-up with phone calls. Our sample size consisted of 13 leadership personnel.

Measurement

The survey and interview were used to understand the following: job recruitment such as how positions are described, incentivized to attract job seekers and what platforms and methods were used to reach out to candidates; how candidates were selected for the position including tests and assessments, skill level versus education, and hiring authority; technology changes in the workplace and how they affect both the organization, employees, and productivity; potential obstacles for organizational growth and the causes of these obstacles; how training is implemented and how new and tenured employees are upskilled; and leadership and overall organizational goals.

Soft and hard skills were assessed using a 5-point Likert scale according to how important it is to the position being filled. The ratings ranged from 1 being unimportant to 5 being important. This scale was subsequently broken down into the subcategories of positions low-skilled, mid-skilled, and high-skilled for each of the skills assessed. A low-skilled level position was defined as a position that generally requires the employee to have at least a high school education and up to 1 year of experience. A mid-skilled level position was defined as generally requiring the employee to have at least some college up to a bachelor's degree or equivalent certification and/or training. A high-skilled level position was defined as generally requiring the employee to have at least some form of post-baccalaureate training/advanced



degree and more in-depth job specific experience. Within both interviews and surveys, a number of sections were included such as skills-based practices, technological changes, and leadership. With these three sections, established scales on the subject matter were used or modified to satisfy our research questions. For the skills-based practices section, Aasheim, Shropshire, and Kadlec (2012)'s table of knowledge and skills requirements for entry-level IT workers were used as well as McMurtrey et al. (2008)'s table of critical skill sets for entry-level IT professionals. For the technological changes, a scale assessing resistance to technological changes created by AL-Ameri (2013) was utilized. Lastly, in the leadership section, a scale on transformational leadership, produced by Rafferty and Griffin (2004) was adapted into the questionnaires.


Procedure

Survey

Participants were sent the recruitment email (see Appendix F) with a link to the Qualtrics survey. There they were asked to read the consent form and agree or disagree to participate in the study. From there, if they selected "agree", they were directed to the survey items. The survey was expected to take 15-30 minutes. After completing the survey, there was a debriefing form to tell them more about the study and provide contact information for the researchers and IRB.

Interview

Participants who expressed an interest in being interviewed were contacted to set up a meeting time that was convenient for them to meet with a member of the research team. These interviews took approximately 45 to 60 minutes. They were taken through the consent process



and asked to read and sign a consent form if they agreed to participate. We then went through the interview protocol (see Appendix D), and the entire interview was audio recorded with their consent. After completing the interview, the purpose of the interview was discussed and any questions answered. Following the interviews, they were also given a debriefing form with contact information for the researchers and IRB.

Results

We used descriptive statistics to examine the electronic survey data. This was performed by comparing the sum of responses against the total number of the 8 fully completed survey responses to identify trends. To get an accurate depiction of the responses from the interviews, we went through each and highlighted any repetitions of responses. Questions were analyzed one at a time and the general trends for each question were noted. At times, participants provided more in-depth information to elaborate on the topics asked about during the interview process.

Demographics

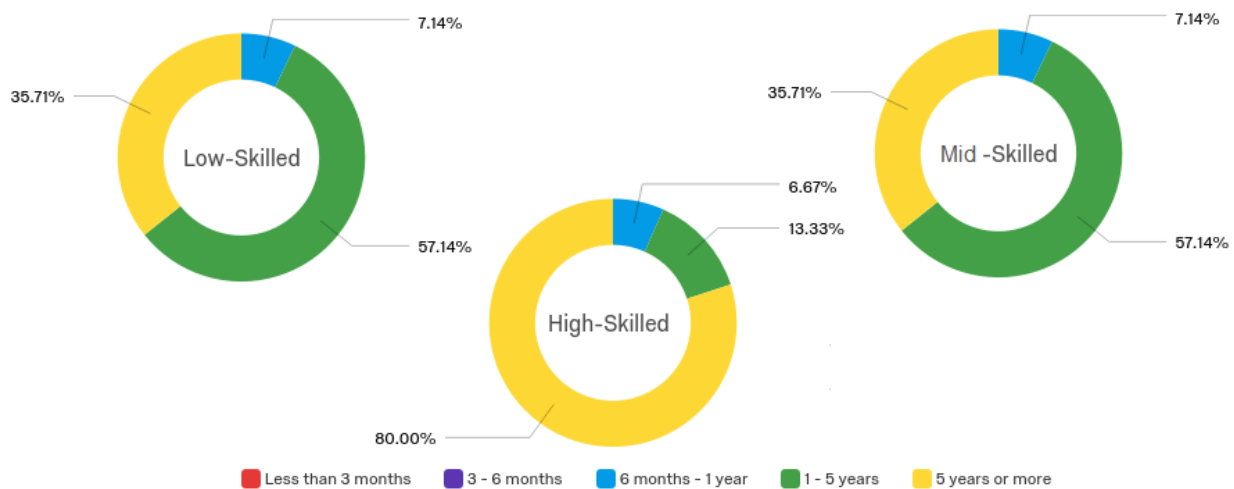
Employee Demographics and Hiring

The interview data allowed us to notice several general trends among organizations in the Grand Junction area. From a total of 13 interviews, the average number of employees was 278, with the largest employee pool being 1000 and the smallest being 9. Of these, five organizations had less than 50 employees. Two organizations had more than 500 employees, and the remaining six organizations had between 65 and 450 employees. By combining this data with the 8 total survey responses it was found that:

- 75% of employees are local to Mesa County
 - o 27.66% low-skilled positions
 - o 35.30% mid-skilled positions
 - o 37.04% high-skilled positions

According to the survey, the length of time an employee remained with an organization varies by the position skill level. High-skill level positions tend to have the highest retention rate among organizations as shown in Figure 1.


Figure 1. Length of time an employee remains with an organization by skill level – Survey



Turnover

Competition and other work opportunities are the primary cause of turnover at organizations resulting in a 15% turnover rate. The oil and gas industry was named as a major competitor for jobs in Mesa County. Organizations also stated that 23% of their employees retire and 15.4% leave for personal or family issues.

When asked what the main cause of turnover was in their company, a majority of the interview participants stated that it included potential employees finding other job



opportunities, and in the Grand Valley, most go into the oil and gas industry. Other causes consisted of families relocating or that the expectations of the employee were not met. Some participants mentioned that the economy and wages played a role:

“It depends on the economy. Sometimes we lose people for wage reasons.”

-A mid-size manufacturing industry employer

“The main reason people leave is due to wages. It’s kind of a game here in the Grand Valley. We have to compete with other healthcare employers. The second most common reason is people relocating outside of Grand Junction.”

-A large, healthcare industry employer

Hiring

Hiring Authority

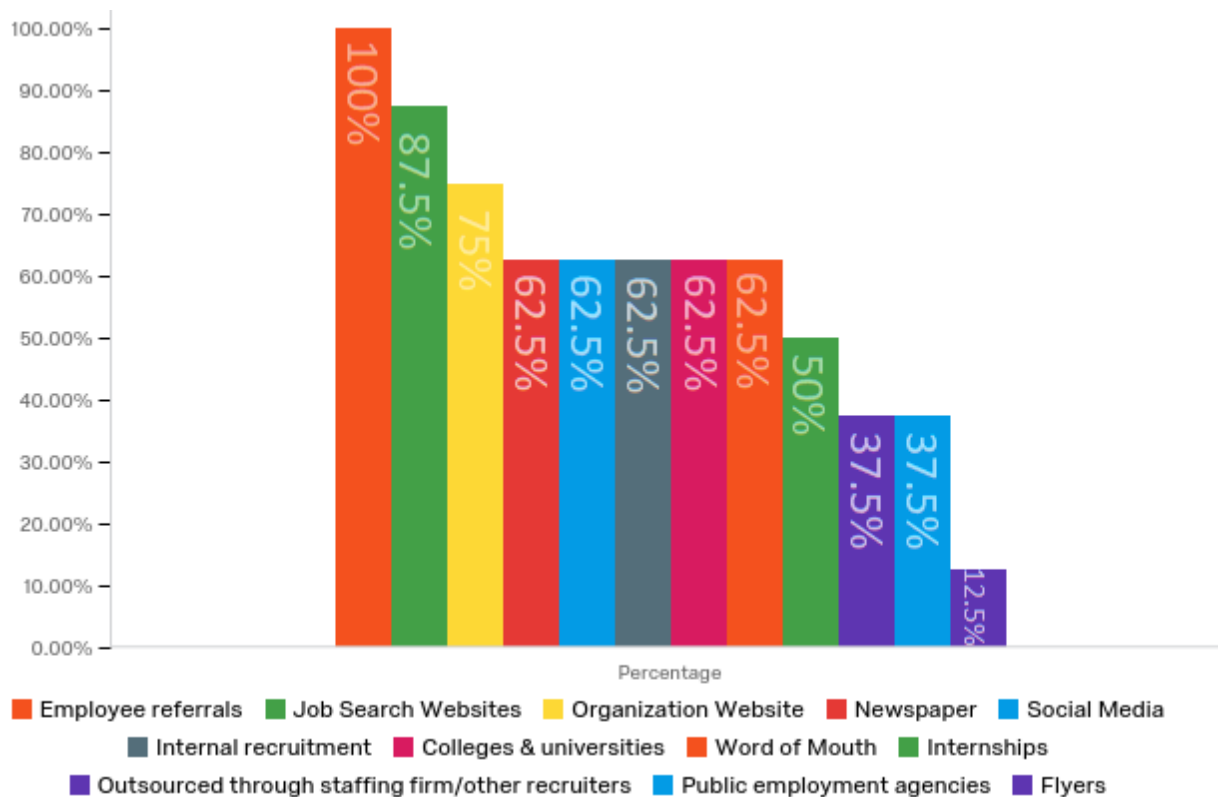
Hiring authority is held by 36% of Supervisors or Managers at organizations, with Human Resource having authority to hire at 30% of organizations and CEOs or Organization Owners making the final decision for 23% of employees hired. A large portion of organizations (46.15%) allowed the head of the hiring department to have the final say in the hiring process, with Human Resources department (30.77%) and other authorities (23.08%) being the other possibilities.

Recruiting

For the question "Within your job postings, do you focus more on educational requirements or the skills needed to do that job", every interviewee said they emphasized skills, and three said they also made education a priority.

For the survey, in terms of what diverse sources of talent were used within the Western Slope, hiring managers utilized university recruitment, the Mesa County Workforce Center, temp agencies, out-of-state recruiters, as well as word-of-mouth (WOM) or employee referrals as the highest occurrence. In addition, some participants used the Western Colorado Human Resources Association (WCHRA) and other external organizations (see Figure 2).

Figure 2. Forums used for recruitment – Survey

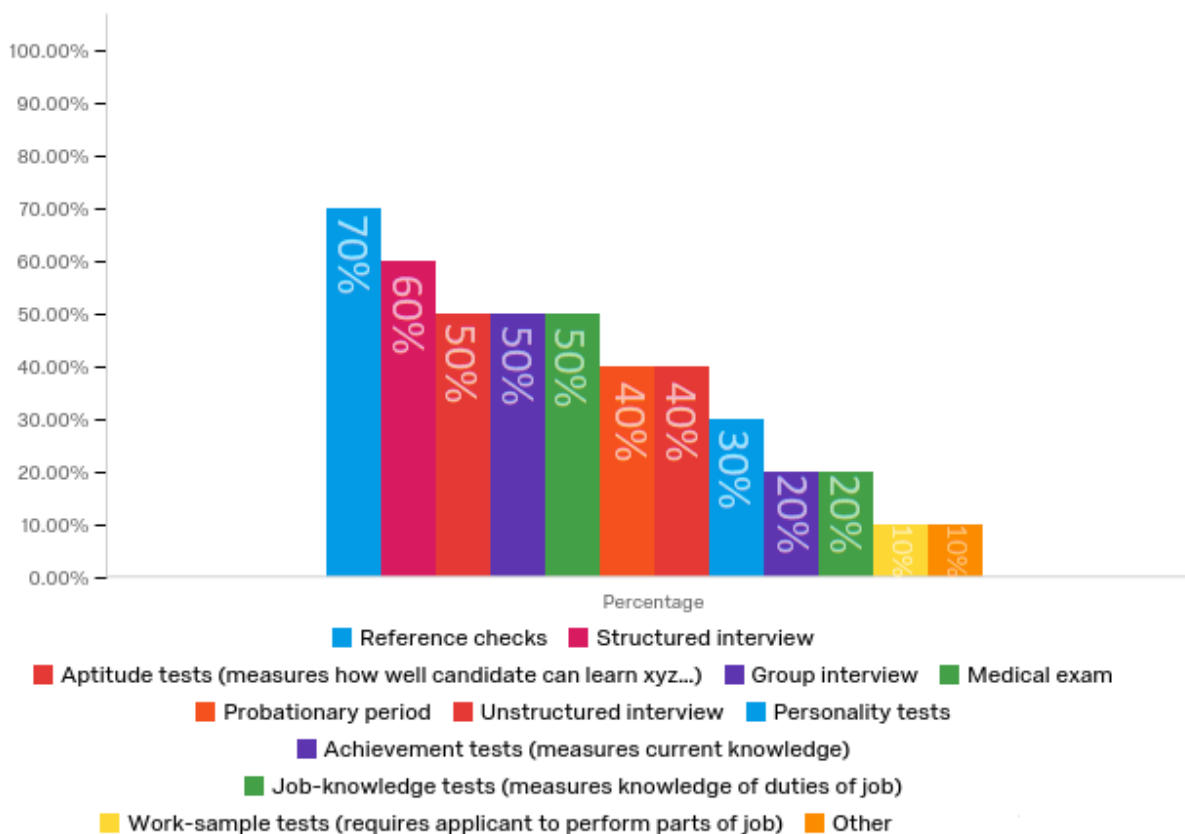


Candidate Selection

According to the in-person interviews, organizations could use a multitude of different practices, so we looked specifically at the most-referenced, including structured interviews, simulations and work sample tests, probationary periods, and job knowledge tests. Of these, 84.62% of organizations used structured interviews, 69.23% used simulations or work sample tests, 46.15% used a probationary period, and 38.46% used some form of job knowledge test.

This contrasted well with the electronic surveys that demonstrated Structured interviews as one of the highest used forms for candidate selection at 60%. Figure 3 depicts the processes used for hiring during candidate selection, according to the survey.

Figure 3. Processes used during employee selection – Survey



Desired Employee Skills

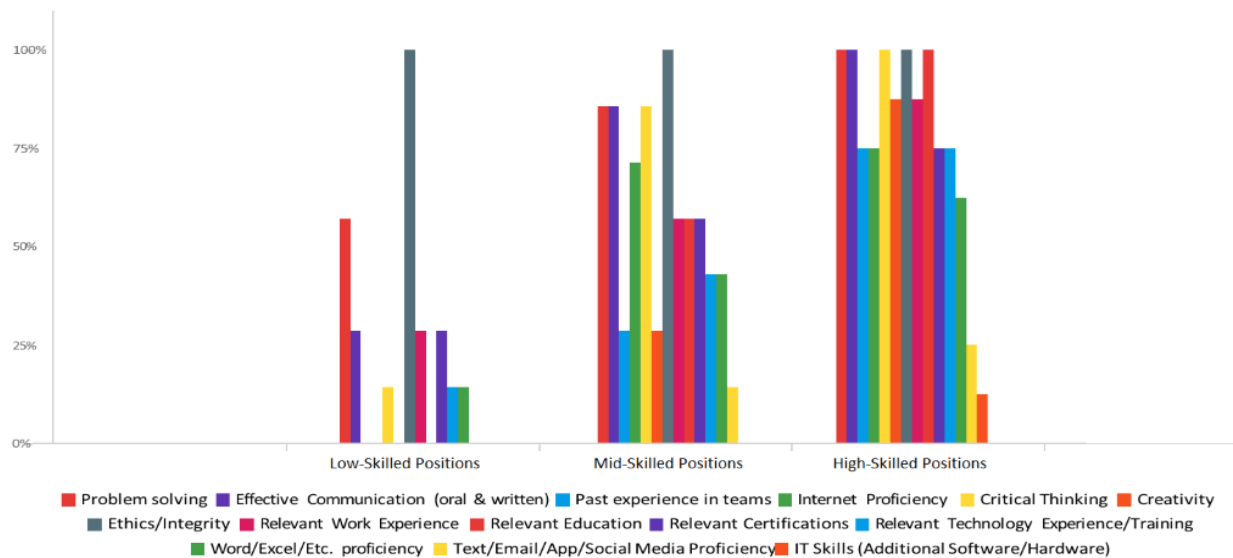
Participants were asked electronically to rate how important each of the following skills were as a requirement for each skill level position within their organization. The higher the skill level of a position, the more important skills were for a position; in addition, a wider range of skills were rated as important to high-skilled positions. This demonstrates that High-skilled positions demand a greater skill set, and that these skills are more important to these positions.

However, as shown in Table 3 and Figure 4, Integrity was rated as the most important skill desired from an employee regardless of the position skill level.

Table 3. Five-point Likert on importance of skill by position level - Survey

| Level | 1-Unimportant < 5-Important | Mean score by Position | | |
|-------|--|------------------------|------|------|
| | | Low | Mid | High |
| | Skill | | | |
| | ● Problem solving | 4.25 | 4.86 | 5.00 |
| | ● Effective Communication (oral & written) | 4.13 | 4.86 | 5.00 |
| | ● Past experience in teams | 3.25 | 4.00 | 4.63 |
| | ● Internet Proficiency | 2.88 | 4.71 | 4.75 |
| | ● Critical Thinking | 3.50 | 4.86 | 5.00 |
| | ● Creativity | 2.75 | 4.29 | 4.88 |
| | ● Ethics/Integrity | 4.75 | 5.00 | 5.00 |
| | ● Relevant Work Experience | 3.63 | 4.57 | 4.88 |
| | ● Relevant Education | 2.88 | 4.43 | 5.00 |
| | ● Relevant Certifications | 3.13 | 4.43 | 4.63 |
| | ● Relevant Technology Experience/Training | 2.88 | 4.00 | 4.86 |
| | ● Word/Excel/Etc. proficiency | 2.86 | 4.29 | 4.50 |
| | ● Text/Email/App/Social Media Proficiency | 2.38 | 4.00 | 4.25 |
| | ● IT Skills (Additional Software/Hardware) | 1.63 | 2.86 | 3.13 |

Figure 4. Importance of skill by position level - Survey



Skills-Based Practices

When using elements to attract job seekers, 30% of organizations said they posted no educational requirement when it was unnecessary for the job. An additional 54% of organizations mentioned they place priority on the benefits of the position when attracting job seekers. In addition, every organization focuses on the skills necessary for the job. However, 23% of organizations mentioned that they still place a heavy emphasis on education despite their focus on the skills necessary for their job positions.

In an attempt to attract job seekers, the hiring managers who were interviewed indicated that they proposed no educational requirements as a job attraction. At the same time, other participants stated that they pose educational requirements for the same purpose. Furthermore, a wide-range of benefits were presented:



“A good environment. We don’t hire people, we adopt them.”

-A small, health services industry employer

“We have a tuition-assistance program. Once an employee has been here for a year and if they want to further their education, they can ask for assistance. It’s through a grant so they don’t have to pay it back, but it goes toward getting their certification or degree.”

– A large, healthcare industry employer

Within job postings, a mix of educational requirements and skills were emphasized. An important trend was that depending on the position, the requirements differed. For example, someone applying for a management position needed a higher educational background. For entry-level positions, hiring managers focused more on the skills imperative to the job. On the same note, most companies maintain an annual review to assess the skills of their employees with work-performance being the number one factor. Also, some companies offer mentoring and coaching for career pathways, upskilling needs and future outlooks.

After hiring, organizations continue to assess employees’ mastery of skills through general work performance. This is primarily assessed on the basis that the minimum requirements of the job are being performed (54%). An additional 15% of organizations mentioned that they use Annual Reviews to assess employee mastery. To assist employees in upskilling their needs for career pathways, 38.5% of organizations also mentioned they use in-house coaches and mentors.

To build a culture that encourages employees to contribute their skills, 38.5% of organizations stated they use some form of verbal affirmation. These affirmations generally take

the form of compliments, encouragements, figurative pats on the back, and many others. An additional 23% of organizations mentioned they will use physical rewards such as gift cards, company barbeques, and cash incentives. The majority of organizations, 61.5%, mentioned they try to build a family-like dynamic among employees.

When using external thought leaders and organizations, 30.7% of organizations stated they partner with the Western Colorado Human Resource Association (WCHRA), 15% mentioned they partner with industry specific organizations, and 54.3% said they do not partner with any other organizations or thought leaders. Participants were asked electronically to rate the extent to which their organization is incorporating the following skills-based practices into their hiring practices. Figure 5 shows these questions rated on a 7-point Likert with 1 being no incorporation and 7 being complete incorporation of these practices.

Figure 5. Extent skills-based practices are implemented during hiring- Survey




Change

Technological Changes

Within the past year, nearly all companies have switched to electronic formatting in their banking and billing, consolidation of services, and security. The main reason for the implementation of this change included keeping up with times, growth, and efficiency and effectiveness. Employers train their employees on new technologies through meetings and one-on-one trainings. Not only have these adaptations increased efficiency but they has also made productivity within companies easier. A downside to implementing new technologies was the learning curve. Hiring managers reported that employees express their frustration in learning the technology and the amount of time it takes to adjust.

When identifying technological changes within a company during the last 1-3 years, 30.7% of organizations identified Banking and Billing. An additional 15% said they implemented a technological consolidation of services to streamline payroll, employee scheduling, inventory, and many other industry specific needs. According to 46% of organizations technology changes were needed to keep up with current times and continue industry growth. Efficiency and effectiveness of the organization was another goal as described by 30.7% of these organizations.

To assist new and current employees in learning and adapting to new technologies, 54% of organizations said they held training meetings and 23% of organizations mentioned they also used one-on-one sessions. However, 15% of organizations stated that the technology learning process posed a challenge. Another 46% of organizations' employees described that they experienced much frustration and struggling, and an additional 23% of organizations said they




found cross-generational issues when cross-training the aging population on the new technology change.

The new technology changed the job of many employees by adding an additional learning curve during the training process as mentioned by 23% of the organizations. Nearly 10% of organizations stated the new technology created jobs, 23% said it streamlined the requirements of employees' positions and 15% said it made employee jobs more efficient. An additional 61.5% of organizations said they found the new technology made overall organization performance more efficient, with 23% who mentioned finding overall effectiveness to increase productivity and 23% saying it made performance and jobs easier. Out of all these organizations, 23% mentioned they not change anything about the new technology, 15% would want "quirks" and the learning curve needed for the technology to be refined, and 62% were indifferent.

Barriers and Obstacles

When considering potential employees 30.7% of organizations felt that understanding the candidate's personality causes one of the biggest challenges. This was primarily in the case of hiring an individual with good work ethics and integrity. Job and Culture fit is another concern for 23% of organizations. Additionally, 15% of organizations find the applicant pool of qualified candidates to be limited and another 15% of organizations found identifying the appropriate salary to offer candidates a major concern when weighing candidate skills and training with the position. Identifying the appropriate soft and hard-skills for a position is difficult for 61.4% of organizations. Lastly, 46% of organizations stated that cost inhibited them from implementing a needed change, 38.5% of organizations found having both supervisors and employees on board



with the needed change to be an issue when implementing the change, and 23% of organizations lack the qualified personnel to make the change.

With acknowledgement of changes for improvement within the company, hiring managers have also identified barriers and obstacles that are hindering the application of the needed modifications. Cost was the number one drawback in applying the desired changes as well as replacing qualified personnel and making sure that all employees are kept in the loop and on the same page. Here are some quotes supporting these findings:

“Cost and internal support. Differing ideas of how it should be done can also be an issue.”

-A small IT industry employer

“The valley is only so big; so, we are competing every day for people. Finding applicants who are employable is very different than finding an applicant. To offset that, we reach out to temp agencies and try to find something someone can identify with that we otherwise wouldn’t have found.”

-A mid-size, manufacturing industry employer

With the issue of a small applicant pool, the lack of qualifications of these individuals can pose another problem. A mid-size manufacturing industry employer highlighted that people do not do their research; at some point, applicants are looking for any job they can acquire. Moreover, a large, healthcare industry employer pointed out that applicants can also fluff their resume. They may say that they are proficient in programs such as Microsoft Excel, but when asked if they can create pivot tables and formulas, they cannot. Although some individuals do not perform the necessary research and preparation in applying for the job, a few hiring

managers asserted that they lack the skills in accurately describing the job. Other challenges faced when advertising for certain positions comprised of targeting and reaching the appropriate audience, specifically the Millennial generation. In pursuit of reaching a vast audience, participants expressed that cost can eventually become an obstacle. Along with traditional job postings such as the newspaper, hiring managers also look into online advertising such as through Facebook and Indeed.

Figure 6. Word cloud of obstacles and barriers - Interview



The word cloud in Figure 6 represents all the interview responses for questions related to "obstacles and barriers". The responses for each question were tallied, and the result shows the most cited reasons that organizations in the Grand Valley have troubles integrating new technologies. The larger the word, the more often it came up in responses. The highest frequency barrier was cost, which was referenced 13 times. Next most prevalent was the small applicant pool in the Grand Valley, which was stated a total of five times.

On-boarding


Training and Development

We also examined training and development within the organizations we interviewed. Mentoring or coaching and on-the-job training were used by all organizations interviewed, technology-based trainings were used by ten organizations (77%) and group discussions were used by nine organizations (69%).

Management leaders supported these methods of training and development by knowing the specifics of the lower level employees for 38.5% of organizations, maintaining open communication and engagement for 30.7% of organizations, using encouragement to keep the employees engaged and working forward for 23% of organizations, and by management leaders being aware and identifying any needs for change for 23% of organizations. Additional training was needed for employees in 31% of organizations, and 15% of organizations use small group training sessions or impromptu huddles to provide this additional training.

Managers spend most their time training employees instead of correcting them for 53.8% of organizations, 15% of organizations stated it depends on the employee, 15% of organizations use both training and correcting, and 7.7% of organizations primarily correct employees.

Training methods are assessed by 61% of organizations through some form of report from employees such as 15% from direct feedback, 23% from employee surveys and 23% from direct employee reviews, and 15% of organizations regularly assess their training methods. When using Key Performance Indicators in training and development, 38.5% of organizations focus on overall job performance, whereas 23% of organizations uses accuracy measurements. When considering best practices, 47.5% of organizations did not mention if they were familiar, 15% know best



practices, and 30.7% outsource or network when using and implementing best practices. Regular assessment and additional training were employed to enhance these training methods. When asked about the knowledge and application of best practices, most participants noted that they knew of such best practices but did not enforce them. However, a majority of hiring managers put effort in networking and outsourcing to improve their onboarding. In order to keep track of the effectiveness of these training methods, companies distribute surveys to their employees and obtain verbal feedback.

A myriad of responses was given when asked how the company builds a culture that welcomes employees not only for their skills contributions but as an individual overall:

“We have a mentoring program. Even after the training, they have a key-person so nobody feels like they’re left behind. So, the onboarding is how you make someone feel comfortable”.


-A mid-size manufacturing industry employer

“We want people to feel like we look out for them.”

-A small, health services industry employer

“We have a very different culture; we are a standalone non-profit company. It’s more relaxed, family-oriented and we offer a work-life balance through flexible shifting. We encourage employees to function outside of work. It’s a friendly environment where the CEO has an open-door policy; any employee can discuss ideas or issues with him. Every quarter, he will visit each section to get their feedback.”

-A large, healthcare industry employer



“We have a wide range of employees; we have some who have been with the company for two months and then, we also those who have been with us for 25 years. Every day at nine in the morning we have a break, and when you go into the break room, you smell delicious food. This is them, they do the planning.”


-A mid-size, manufacturing industry employer

Leadership

The last section that we interviewed participants about was on the topic of leadership. Through open communication, encouragement, and brainstorming sessions, many company leaders challenge their employees in thinking about old problems in new ways. They also consider their employees' interests through open-door policies. As for congratulating and acknowledging employees who do a better-than-average job, monetary incentives, verbal congratulations, and public recognition are encompassed. On another note, 77% of interviewees noted that their company's leaders have a clear sense of where they want the company to be in the future. Future plans include industry-specific growth and expansion for 54% of respondents while 23% want to remain the same.

Discussion

The purpose of this study was to understand the employer landscape in Grand Junction. In addition, we reviewed the hiring practices of local businesses and the use of technologies in this process. We also identified how local businesses are supporting employee development as



they adopt new technologies and aimed to better understand leadership style and onboarding practices within local organizations.

The research questions driving our study included: 1) How do employers conceptualize the skillset needed for low-, mid-, and high-skilled positions? 2) How do local businesses support technological literacy in candidates and employees skills? 3) How do leadership teams in local businesses recruit employees for positions at various skill levels? 4) Is leadership style associated with practices in recruitment, selection, and onboarding practices? Since our study was exploratory in nature, we did not have specific hypotheses.

Major Findings

From our preliminary analysis of the Grand Valley's work environment, some predominant findings can be discerned. To begin, skills relating to technology were not as highly ranked in importance as other skills. Ethics/Integrity was rated highest across all skill levels, while problem solving and effective oral and written communication follow closely behind. Technology skills such as internet proficiency and relevant technology experience were rated high for mid- and high-skilled positions relative to low-skilled positions.

Along these same lines, skills showed to be more important than education in hiring decisions. While some interviewees cited both skills and education as important when hiring, not a single person neglected to say that skills were taken into consideration in hiring decisions. One final finding that will prove to be a pivotal piece in the understanding of the Grand Valley is cost as a barrier. This component was stated as the biggest barrier for change among companies.



Implications of the Research

The findings from the survey and interviews can assist in a more holistic view of the workforce of the Grand Valley. All participating companies showed a few major themes. These themes can easily be applied to the greater Grand Junction area to rationalize the area's workforce culture. For example, all companies either stated themselves as being family-oriented or showed responses that could be connected to family-related themes. This included benefits, such as a flexible schedule, being routinely emphasized and used as a way to attract job applicants as well as maintain current employees. When asked questions relating to employee praise and recognition, all companies made this a priority, and each had their unique way of doing so. Lastly, a majority of employees from the surveyed organizations came from within the Grand Valley. These key elements make it clear that the culture in the Grand Valley is a welcoming one and employees expect to create meaningful relationships within their workplace.

In relation to this culture within the area, there are also some changes to be expected. From our surveys and interviews, it was clear that one of the main complaints of employers in the area was the small participant pool. However, with Colorado Mesa University and the Grand Valley growing exponentially within the coming years, it can be deduced that the problem will be alleviated in some way because of the growing applicant pool. Another change we can expect to see in the Grand Valley is the use of technology. Most companies said that their technological advances in recent years were basic and mostly relating to the updating or automatization of current systems. With this adaptation, a change in training can also be expected.




Limitations and Future Research

While our research will benefit both the Western Slope and the state of Colorado as a whole, there are some limitations to take into account. The most palpable limitation was the sample size, with only 13 interviews and 8 complete survey responses. Because of the in-depth nature of these responses, we were able to make some generalizations, but in the future, it would be much more beneficial with a larger participant pool.

Another limitation was the short period of time in which the study was conducted. The project got a late start, and IRB approval took longer than anticipated, so the window of time to distribute surveys and conduct interviews was extremely limited. It would be beneficial to conduct more than one interview with each company and collect more in-depth data relating to the changes these professionals may want to make in the future. By addressing what they would like to see done in addition to what is already being done, it would be easier to predict potential changes in the area. The industry-level differences in the results could also emerge with a larger sample size.

A third limitation was the potential for overlap between survey and interview responses. Because our participants remained completely anonymous, we cannot be sure that the people who completed the survey were different from those we scheduled interviews with. It is possible those who were interviewed could also be members of the Western Colorado Human Resources Association, which was one of the entities that recruited participants for the survey. Therefore, it is possible that some data were repetitive and not as representative of the population.

Lastly, many of our respondents noted having to compete with the oil and gas industry. It was noted as a significant cause of turnover, with people leaving companies to go make better




money in the oil and gas industry. This was an industry that we failed to connect with, so we do not have data on their causes of turnover or the barriers that they face in implementing change. Due to this gap, future research would benefit from specifically targeting this industry and asking many of the same questions from this research.

Conclusion

In conclusion, our survey and interview results were in alignment regarding use of skills-based practices. Most organizations cited skills as being important in the hiring process but that education was also an important consideration. In our small sample, when hiring for low-skilled positions, employers are primarily interested in ethics/integrity, problem solving, and communication skills. While all organizations had experienced recent technological changes within the workplace, most of these changes were important for keeping current in their industry and improving efficiency within the workplace. Most organizations provided employee training for new technologies and experienced some frustrations with software quirks as well as generational differences in familiarity with technology.

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Appendix A

Institutional Review Board (IRB) Approval Letter



Sponsored Programs

1100 North Avenue • Grand Junction, CO 81501-3122
970.248.1424 (o) • 970.248.1812 (f) • 1.800.982.6372

TO: Crystal Baker, Carlos Baldo, Hannah Kois, Josh Marsden, Mark Domingo, Avery Cantrell, Jarrott Brown & Wendy Walters

FROM: Chris Belcher
Grant & Compliance Specialist

SUBJECT: IRB Approval – Exempt

DATE: April 17, 2018

STUDY: **Protocol 18-56: An Examination of Skills Requirements in Businesses in Mesa County**

The Colorado Mesa University Institutional Review Board (IRB) also known as the Human Subjects Committee has approved the above study. This project is deemed exempt. No further IRB review is necessary unless modifications to the protocol related to human research subjects are proposed.

IRB Number: 18-56 This number is your protocol number that should be used on all correspondence with the IRB regarding this study.

Expedited Start Date: April 1, 2018
Expedited End Date: August 31, 2018

If you have any questions, please feel free to contact me at 248-1485.

Appendix B

An Examination of Hiring in Mesa County - Interview Consent Form

You are asked to participate in a research study conducted by students at the Colorado Mesa University from the Business and Social and Behavioral Sciences department in conjunction with the Skillful project at the Markle Foundation.

PURPOSE OF THE STUDY:

Colorado Mesa University Students, under the guidance of their professors, in partnership with Markle Foundation Skillful and the Colorado Office of Economic Development and International Trade are conducting a research study about the skills-based hiring practices and the changing workforce in the Western Slope. The information gathered during this study will be used independently by Colorado Mesa University in further market research and the Markle Foundation's Skillful project in conjunction with LinkedIn for market research.

PROCEDURES:

If you volunteer to participate in this study, we would ask you to do the following things: After you read through the informed consent, you will have the option to continue in a face-to-face interview. By continuing the interview, you are implying your consent to participate. You will be asked a series of demographic questions. These questions will be followed by a variety of items regarding hiring practices and changes in the workforce at your organization.

POTENTIAL RISKS AND DISCOMFORTS:


The risks associated with participation in this study are no greater than what you encounter during a typical day at work.

POTENTIAL BENEFITS TO SUBJECTS AND/OR SOCIETY:

There is no direct benefit to you for participation; however, the results of this study may provide a better understanding of the development of hiring practices and change in the workplace to the human resource community.

CONFIDENTIALITY:

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. The only people who will know that you are a research subject and may have access to the records of this research are: members of the research team and representatives of Colorado Mesa University's IRB which approves and monitors research studies. These authorized representatives may see your name or the name of your organization, but they are bound by rules of confidentiality not to reveal your or your organization's identity to others.



When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. If photographs, videos, or audiotape recording of you will be used for educational purposes, your identity will be protected or disguised.

For this interview, your identity is known by the researcher and will be kept confidential. Data from the audio recording of the interview will be transcribed, and the transcription and audio recording will be saved on a password-protected computer. After the research is completed, the data obtained from this study will be maintained for three years and then deleted.

For this research project, the researchers are requesting demographic information. Due to the make-up of certain populations, the combined answers to these questions may make an individual person identifiable. The researchers will make every effort to protect your confidentiality. However, if you are uncomfortable answering any of these questions, you may choose not to respond.

PAYMENT FOR PARTICIPATION:

By participating in this interview, you will receive CMU merchandise (value \$10-\$20).

PARTICIPATION AND WITHDRAWAL:

Participation or non-participation will not affect you grade, treatment, care, employment status, or any other personal consideration or right you usually expect. You may also refuse to answer any questions you do not want to answer and remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

You can choose whether to participate in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind.

STUDY CONTACTS:

If you have any questions or concerns about the research, please feel free to contact Dr. Carlos Baldo at cbaldo@coloradomesa.edu or (970) 248-1719 or Dr. Crystal Baker at cbaker@coloradomesa.edu or (970) 248-1454.

RIGHTS OF RESEARCH SUBJECTS:

Your participation in this research is voluntary. If you decide to participate, you may withdraw your consent at any time and discontinue participation without penalty or loss of benefits to which you are otherwise entitled. If you have questions regarding your rights as a research subject, contact Dr. Louis Nadelson with the CMU Institutional Review Board (IRB) at (970) 248-1424.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE:

I understand my participation is voluntary. I understand the procedures and conditions of my participation described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Printed Name of Subject

Printed Name of Legal Representative (if applicable)

Signature of Subject or Legal Representative Date

Printed Name of Witness

Signature of Witness Date

Appendix C

An Examination of Hiring in Mesa County - Survey Consent Form

You are asked to participate in a research study conducted by students at the Colorado Mesa University from the Business and Social and Behavioral Sciences department in conjunction with the Skillful project at the Markle Foundation.

PURPOSE OF THE STUDY:

Colorado Mesa University Students, under the guidance of their professors, in partnership with Markle Foundation Skillful and the Colorado Office of Economic Development and International Trade are conducting a research study about the skills-based hiring practices and the changing workforce in the Western Slope. The information gathered during this study will be used independently by Colorado Mesa University in further market research and the Markle Foundation's Skillful project in conjunction with LinkedIn for market research.

PROCEDURES:

If you volunteer to participate in this study, we would ask you to do the following things: After you read through the informed consent, you will have the option to continue the online survey. By continuing the survey, you are implying your consent to participate. You will be asked a series of demographic questions. These questions will be followed by a variety of items regarding hiring practices and changes in the workforce at your organization.

POTENTIAL RISKS AND DISCOMFORTS:


The risks associated with participation in this study are no greater than what you encounter during a typical day at work.

POTENTIAL BENEFITS TO SUBJECTS AND/OR SOCIETY:

There is no direct benefit to you for participation; however, the results of this study may provide a better understanding of the development of hiring practices and change in the workplace to the human resource community.

CONFIDENTIALITY:

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. The only people who will know that you are a research subject and may have access to the records of this research are: members of the research team and representatives of Colorado Mesa University's IRB which approves and monitors research studies. These authorized representatives may see your name or the name of your organization, but they are bound by rules of confidentiality not to reveal your or your organization's identity to others.



When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. If photographs, videos, or audiotape recording of you will be used for educational purposes, your identity will be protected or disguised.

For this survey, names are not collected. The online data are secure, and at the close of the survey, data will be downloaded into a spreadsheet that will be saved on a password-protected computer. After the research is completed, the data obtained from this study will be maintained for three years and then deleted.

For this research project, the researchers are requesting demographic information. Due to the make-up of certain populations, the combined answers to these questions may make an individual person identifiable. The researchers will make every effort to protect your confidentiality. However, if you are uncomfortable answering any of these questions, you may leave them blank.

PAYMENT FOR PARTICIPATION:

By participating in this survey, you will have the opportunity to voluntarily enter a drawing for a \$50 gift card.

PARTICIPATION AND WITHDRAWAL:

Participation or non-participation will not affect you grade, treatment, care, employment status, or any other personal consideration or right you usually expect. You may also refuse to answer any questions you do not want to answer and remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

You can choose whether to participate in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind.

STUDY CONTACTS:

If you have any questions or concerns about the research, please feel free to contact Dr. Carlos Baldo at cbaldo@coloradomesa.edu or (970) 248-1719 or Dr. Crystal Baker at cbaker@coloradomesa.edu or (970) 248-1454.

RIGHTS OF RESEARCH SUBJECTS:

Your participation in this research is voluntary. If you decide to participate, you may withdraw your consent at any time and discontinue participation without penalty or loss of benefits to which you are otherwise entitled. If you have questions regarding your rights as a research subject, contact Dr. Louis Nadelson with the CMU Institutional Review Board (IRB) at (970) 248-1424.

DIGITAL SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE:

I understand my participation is voluntary. I understand the procedures and conditions of my participation described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.



Appendix D

Interview Questionnaire

Introductions:

Hi, my name is _____. It is so nice to meet you. Thank you for taking the time to meet with me today.

Colorado Mesa University in partnership with Markle Foundation Skillful is conducting a research study about the skills-based hiring practices and the changing workforce in the Grand Valley. We are conducting an in-person interview that will last between 45 minutes to 60 minutes. The interview will be performed by a research student. The following is an overview of what will be asked.

Consent process:

[hand them consent form] Please read over this consent form for more information about the study and sign it if you choose to participate in the study today. I'd like to reiterate that participation is completely voluntary and you can choose to skip any questions or terminate your participation at any time.

[must have signed consent form prior to proceeding—check to be sure it is signed and dated]

Are you okay with me audio recording our interview session today? [If yes, start recorder]

HR Demographic:

1. What is your position?
2. Number of employees

Employee Demographics/Hiring:

I am going to ask you some questions about employee demographics and hiring. Please respond to the best of your ability, and if you do not know the answer, please state that you do not know.

1. At the time of employee hiring, what percent of your employees come from Mesa County?

At the time of employee hiring, what percent of your employees came from another area of Colorado?
Another state?

2. What is the main cause of turnover? Do employees transfer to a different business, do they leave the state, do they leave to a city that pays more? What are some other reasons?

3. During employee selection and recruitment, which of the following processes do you use? [Proceed one-by-one and circle their response. If YES, stop and ask follow-up questions such as: Which ones? Under what conditions? Why do you use it? before moving to the next item]


- | | | |
|-------------------|-----|----|
| a. Aptitude tests | YES | NO |
|-------------------|-----|----|

- | | | |
|---|-----|----|
| b. Achievement tests | YES | NO |
| c. Personality tests | YES | NO |
| <ul style="list-style-type: none"> i. What kind of personalities do you look to hire? ii. Once you receive back the tests, what scores are you looking for? Is it relevant to the hiring manager? | | |
| d. Job-knowledge tests | YES | NO |
| e. Work-sample tests (requires applicant to perform parts of job) | YES | NO |
| f. Probationary period | YES | NO |
| g. Simulations | YES | NO |
| h. Structured interview | YES | NO |
| i. Unstructured interview | YES | NO |
| j. Group interview | YES | NO |
| k. Reference checks | YES | NO |
| l. Medical exam | YES | NO |
| m. Other | YES | NO |
4. Who has the hiring authority in your company? (who makes the final decision in hiring; e.g., HR, supervisor, consensual decision among _____ individuals)
- a. Does hiring authority change depending on position being filled? [If yes, follow-up with questions like: How so?]

Skills-Based Practices

The next section is about skills-based practices used within your company.

1. Have you included elements in your employee value proposition that will help job seekers (e.g., those who do not have a 4-year degree) understand the role is open to them and they will be supported? developmental tracking, training programs
2. Have you actively hired and tapped into different diverse sources of talent in the region?
 1. What sources have you used?
 2. Are there others that you would like to tap into but haven't?
3. Within your job postings, have you removed the college degree, where not required by law, and clearly stated skills needed for each role?
 1. Within your job postings, have you removed the college degree pre-requisite ?

- 
2. Have you clearly stated skills needed for each role?
 4. Do you assess candidates' skills using rigorous, innovative, and bias-free methods and technologies? What technologies do you use to assess candidate skills? How do you come to these decisions?
 1. How do you remove bias from this process?
 5. What are your on-boarding methods that outline skills and competencies needed currently and in the future for each position?
 1. What are your on-boarding methods that outline skills and competencies needed currently? What about in the future?
 6. How have you integrated the apprenticeship programs combining on-the-job training with classroom instruction, leading to skill development?
 7. How do you assess employees' mastery of and demonstrated achievement with skills necessary for their job role?
 8. Do you have in-house advisors or external coaches on career pathways, upskilling needs and future outlooks?
 9. How do you build a culture that welcomes employees for their skills and contribution, and values the diversity of background and experience that a skills-based approach to employment brings into a company? How does your company's culture welcome employees for their skills and contributions?
 10. How do you partner with leading external organizations or thought leaders across talent practices?

Technological Change:

The next section is about technological change as it has affected your hiring practices and the organization as a whole.


1. What technological changes have occurred at your company within the last year? Past three years? Was it an easy transition? Any obstacles?
 - a. What is the reason your company has implemented this change(s)?
2. How were employees trained on the new technology(ies)?
3. Has the technological change increased efficiency or productivity? How so?
 - a. If yes, how?
 - b. If no, why not? If it hasn't provided a positive benefit, what do you think are the reasons?
 - c. What would you change about this technology?
4. Has the technology changed the job of any employees? How so?
5. Have employees experienced any issues with the new technology(ies)?

Barriers and Obstacles

1. If your company has identified any changes that are needed to improve your organization, what obstacles or barriers are preventing your company from implementing those changes? (examples: cost, resources, internal support, information, training, etc.) Please be as detailed as possible.
2. What is the biggest challenge you face when identifying potential employees for a position?
3. What is the biggest challenge you face when identifying the appropriate skills employees should possess for those positions?
4. What is the process of advertising your open positions? Are there any challenges you face with advertising for certain positions?
5. What forms of media do you use to advertise jobs?

Training & development:

1. What general training method do you use?
 - a. Technology-Based Learning
 - b. Simulators
 - c. On-The-Job Training
 - d. Coaching/Mentoring
 - e. Lectures
 - f. Group Discussions & Tutorials
 - g. Role Playing
 - h. Management Games
 - i. Outdoor Training
 - j. Films & Videos
 - k. Case Studies
 - l. Planned Reading
 - m. Other
2. Do management leaders support these T&D methods? How so?
3. In what ways have you had to alter training methods? Why?
4. To what extent do you know best practices for training/onboarding in your industry?
5. To what extent do you use best practices for training/onboarding in your industry?

- 
6. How do you evaluate training methods? I.e. administer learning assessments?
 7. Do you have any Key Performance Indicators (KPIs)?
 8. Would you say managers spend more of their time training employees or correcting them?
 9. Do you provide continuing training for current employees contingent to technological change?

Leadership

1. Do supervisors understand their required job duties
2. Do supervisors understand the required duties and roles of their employees?
3. Our organization's leaders challenge us to think about old problems in new ways
4. Our organization's leaders consider our personal feelings before acting
5. Our organization's leaders see that the interests of employees are given due consideration
6. Our organization's leaders commend us when we do a better than average job
7. Our organization's leaders have a clear sense of where they want our company to be in 5 years

Appendix E

Survey Questionnaire

Q1 Please click on the link to read over the consent form. By completing this survey you are consenting to be a participant in this study. **(Consent Form Skillful)**

Q2 What position level are you in your company?

Upper Level Manager (CEO, CFO, CIO, COO, President, etc.)

Manager (Department, Region, Group, etc.)

Employee (all other positions)

Other _____

Q3 How long has your company been in business?

Less than 1 year

1-5 years

5-10 years

10 years or more

Other _____

Q4 Where is your company's headquarters located?

Q5 What industry is your company in?

Bank

Communications

Construction

Education

Food

Government

Healthcare

Hospitality

- Insurance
- IT
- Manufacturing
- Outdoor Recreation
- Retail
- Transportation
- Other (please specify) _____

Q6 Position levels have been broken down into 3 distinctions to better identify the basic requirements to perform at these levels. At each skill level, an employee in that position possesses the skills to perform adequately in that position. A low-skilled level position generally requires the employee to have at least a high school education and up to 1 year of experience. A mid-skilled level position generally requires the employee to have at least some college up to a bachelor's degree or equivalent certification and/or training. A high-skilled level position generally requires the employee to have at least some form of post-baccalaureate training/advanced degree and more in-depth job specific experience.

Q7 How many employees are currently at your company in the following position levels?


| | Low-skilled | Mid-skilled | High-skilled |
|--|-------------|-------------|--------------|
| | | | |

Q8 How many open positions does your company currently have in the following position levels?

| | Low-skilled | Mid-skilled | High-skilled |
|--|-------------|-------------|--------------|
| | | | |

Q9 How long do employees usually stay with your company for the following position levels?

| | Less than 6 months | 6 months- 2 years | 2 years- 5 years | 5 years or more |
|-------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Low-skilled | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



| | | | | |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Mid-skilled | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| High-skilled | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q10 How long have you been in this position?


- Less than 1 year
- 1- 5 years
- 5-10 years
- 10 years or more

Q11 What is your highest level of education?

- Grade school or less
- Some high school
- High school graduate
- Some college
- College graduate
- Some graduate studies
- Graduate degree recipient

Q12 Rate on a scale from 1-7 the extent to which your company is incorporating skills-based practices in hiring, (with 1 being “very minimal” and 7 being “complete incorporation”):

- 1) Include elements in employee value proposition that will help target job-seekers (e.g., those who do not have a 4-year degree) understand the role is open to them and they will be supported
- 2) Hiring processes actively tap into diverse sources of talent
- 3) Remove college degree where not required by law; clearly state skills needed for each role
- 4) Assess candidates’ skills using rigorous, innovative, and bias-free methods and technologies
- 5) Assessment of candidates (e.g., structured interview processes focused on skills) against required and preferred skills


- 
- 6) On-boarding methods that outline skills and competencies needed currently and in the future for each position
 - 7) Programs combining on-the-job training with classroom instruction, leading to skill development and in-demand jobs
 - 8) Assess employees' mastery of and demonstrated achievement with skills necessary for role
 - 9) Guidance by in-house advisors or external coaches on career pathways, upskilling needs and future outlooks
 - 10) Build a culture that welcomes employees for their skills and contribution, and values the diversity of background and experience that a skills-based approach to employment brings into a company
 - 11) Partner with external thought leaders (e.g., academia, non-profits, tech firms, workforce development boards) across talent practices (e.g., hiring, education & training, tools & technology) and experience that a skills-based approach to employment brings into

Q13 How important is each of the following skills as a requirement for each skill level position? Rate from 1-7 the extent to which the listed skill is important for low-skilled workers (with 1 being "unimportant" and 5 being "important")

A **low-skilled** level position generally requires the employee to have at least a high school education and up to 1 year of experience. A **mid-skilled** level position generally requires the employee to have at least some college up to a bachelor's degree or equivalent certification and/or training. A **high-skilled** level position generally requires the employee to have at least some form of post-baccalaureate training/advanced degree and more in-depth job specific experience.

Low Skilled

- 1) Problem solving
- 2) Effective Communication (oral & written)
- 3) Past experience in teams
- 4) Internet Proficiency
- 5) Critical Thinking
- 6) Creativity
- 7) Ethics/Integrity
- 8) Relevant Work Experience
- 9) Relevant Education
- 10) Relevant Certifications
- 11) Relevant Technology Experience/Training

- 
- 12) Word/Excel/Etc. proficiency
 - 13) Text/Email/App/Social Media Proficiency
 - 14) IT Skills (Additional Software/Hardware)

Q14 How important is each of the following skills as a requirement for each skill level position? Rate from 1-7 the extent to which the listed skill is important for low-skilled workers (with 1 being “unimportant” and 5 being “important”)

A **low-skilled** level position generally requires the employee to have at least a high school education and up to 1 year of experience. A **mid-skilled** level position generally requires the employee to have at least some college up to a bachelor’s degree or equivalent certification and/or training. A **high-skilled** level position generally requires the employee to have at least some form of post-baccalaureate training/advanced degree and more in-depth job specific experience.

Mid Skilled

- 1) Problem solving
- 2) Effective Communication (oral & written)
- 3) Past experience in teams
- 4) Internet Proficiency
- 5) Critical Thinking
- 6) Creativity
- 7) Ethics/Integrity
- 8) Relevant Work Experience
- 9) Relevant Education
- 10) Relevant Certifications
- 11) Relevant Technology Experience/Training
- 12) Word/Excel/Etc. proficiency
- 13) Text/Email/App/Social Media Proficiency
- 14) IT Skills (Additional Software/Hardware)

Q15 How important is each of the following skills as a requirement for each skill level position? Rate from 1-7 the extent to which the listed skill is important for low-skilled workers (with 1 being “unimportant” and 5 being “important”)


A **low-skilled** level position generally requires the employee to have at least a high school education and up to 1 year of experience. A **mid-skilled** level position generally requires the employee to have at least some college up to a bachelor's degree or equivalent certification and/or training. A **high-skilled** level position generally requires the employee to have at least some form of post-baccalaureate training/advanced degree and more in-depth job specific experience.

High Skilled

- 1) Problem solving
- 2) Effective Communication (oral & written)
- 3) Past experience in teams
- 4) Internet Proficiency
- 5) Critical Thinking
- 6) Creativity
- 7) Ethics/Integrity
- 8) Relevant Work Experience
- 9) Relevant Education
- 10) Relevant Certifications
- 11) Relevant Technology Experience/Training
- 12) Word/Excel/Etc. proficiency
- 13) Text/Email/App/Social Media Proficiency
- 14) IT Skills (Additional Software/Hardware)

Q16 What forums does your company use for recruitment? (please select all that apply and **type in which ones used**)

- 1) Newspaper
- 2) Flyers
- 3) Social Media
- 4) Job Search Websites
- 5) Organization Website
- 6) Employee referrals
- 7) Internal recruitment
- 8) Colleges & universities


- 
- 9) High schools/vocational schools
 - 10) Outsourced thru staffing firm/other agencies
 - 11) Public employment agencies
 - 12) Internships
 - 13) Open houses
 - 14) Word of Mouth
 - 15) Other (please specify)

Q17 During employee selection and recruitment, which of the following processes do you use? (please select all that apply)

- 1) Aptitude tests (measures how well candidate can learn xyz)
- 2) Achievement tests (measures current knowledge)
- 3) Personality tests
- 4) Achievement tests (measures current knowledge)
- 5) Personality tests
- 6) Job-knowledge tests (measures knowledge of duties of job)
- 7) Work-sample tests (requires applicant to perform parts of job)
- 8) Probationary period
- 9) Simulations
- 10) Structured interview
- 11) Unstructured interview
- 12) Group interview
- 13) Reference checks
- 14) Medical exam
- 15) Other

Q18 In the past 5 years, what hiring practice changes have you noticed within your organization?

Q19 What hiring practice changes do you expect to see in the next 5 years within your organization?



Q20 What are ways your company has attempted to eliminate discrimination and bias in recruitment and selection?

Q21 The following questions are related to hiring practices. Please think about recent job postings and answer each question.

Q22 Our job postings list the skills needed for the position.

Yes

No

Q23 Candidates are screened on whether they meet the minimum level of skills required to perform the job.

Yes

No

Q24 A scoring rubric with guidelines is used during the selection process to compare candidates.

Yes

No

Q25 If we hire a candidate who is overqualified for a position, they typically possess:

Higher credentials than needed for the position

More skills than needed for the position

Not applicable

Q26 Does your company conduct online business?

Yes

No

Q27 If so, what technology do you use to conduct business?

Q28 What applications are you using?

Q29 What are you measuring and what applications/software help you measure your metrics?

Q30 Rate your agreement with each of the following statements (with 1 being “Strongly Disagree” and 5 being “Strongly Agree”) (If several new technologies were introduced within the last 5 years, please focus on the one that has had the biggest impact for the following questions)

- 1) Within the last 5 years the company introduced a new technology in terms of new equipment or new programs.
- 2) If the company has introduced a technological change, the reasons for the technological change is visible to the employees.
- 3) The company provided adequate training on the new technology.
- 4) Company leaders meet with employees who encounter difficulties with new technology
- 5) The technological change improves the quality of work.
- 6) The technological change increases efficiency and productivity of the employees.
- 7) The technological change reduces the total number of errors.
- 8) The company was able to increase the job performance after adopting new technologies.
- 9) Work tasks are accomplished quickly with new technology.

Q31 How important are each of the following as a key driver to technological change in your company? (with 1 being “Unimportant” and 5 being “Important”)

- 1) Corporate evolution
- 2) Change of business strategy
- 3) Globalization
- 4) Privatization
- 5) Technological development
- 6) Mergers/acquisitions

Q32 What new technologies have been implemented over the past 3 years in your company?

Q33 When the company introduced new technology, was there any resistance from employees or difficulty with the transition?

- Yes



o No

Q34 If yes, in what ways?

Q35 How did the technological change influence the hiring process, if at all?

Q36 What technological changes does your company want to implement? (e.g. hiring assessment, Human Resources Information Systems, networking, cloud sourcing, etc.)


Q37 If your company has identified any changes that are needed to improve your organization, what obstacles or barriers are preventing your company from implementing those changes? (e.g. cost, resources, internal support, information, training, leadership, etc.)

Please be as detailed as possible.

Q38 What general training method do you use? (select all that apply)

- 1) Technology-Based Learning
- 2) Simulators
- 3) On-The-Job Training
- 4) Coaching/Mentoring
- 5) Lectures
- 6) Group Discussions & Tutorials
- 7) Role Playing
- 8) Management Games
- 9) Outdoor Training
- 10) Films & Videos
- 11) Case Studies
- 12) Planned Reading
- 13) Other

Q39 In what ways have you had to alter training methods?



Q40 Does top management support training and development methods?

- Yes
- No

Q41 Do employees at your company feel sufficiently trained for their job?

- Yes
- No

Q42 Do you evaluate training methods? (e.g. administer learning assessments)

- Yes
- No

Q43 Do managers spend more time training employees or correcting them?


- Training employees
- Correcting employees

Q44 To what extent do your company **know** best practices for training/onboarding in your industry?

- 1- don't know at all
- 2-slightly know
- 3-moderately know
- 4-know
- 5- know very well

Q45 To what extent does your company **use** best practices for training/onboarding in your industry?

- 1- don't use at all
- 2-slightly know
- 3-moderately know
- 4-know
- 5- use very often



Q46 Does your company provide continuing training to current employees when new technology is introduced?

- Yes
- No

Q47 Our organization's leaders have a clear understanding of where we are going.

- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Strongly Agree

Q48 Our organization's leaders have a clear sense of where they want our company to be in 5 years.


- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Strongly Agree

Q49 Our organization's leaders have no idea where the organization is going.

- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Strongly Agree

Q50 Our organization's leaders say things that make employees proud to be a part of this organization.

- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree



Strongly

Q51 Our organization's leaders say positive things about the work unit.

Strongly Disagree

Somewhat Disagree

Neither Agree nor Disagree

Somewhat Agree

Strongly Agree

Q52 Our organization's leaders encourage people to see changing environments as situations full of opportunities.

Strongly Disagree

Somewhat Disagree

Neither Agree nor Disagree

Somewhat Agree

Strongly Agree

Q53 Our organization's leaders have ideas that have forced us to rethink some things that we have never questioned before.

Strongly Disagree

Somewhat Disagree

Neither Agree nor Disagree

Somewhat Agree

Strongly Agree


Q54 Our organization's leaders challenges us to think about old problems in new ways.

Strongly Disagree

Somewhat Disagree

Neither Agree nor Disagree

Somewhat Agree



Strongly Agree

Q55 Our organization's leaders have challenged us to rethink some of my basic assumptions about our work.

Strongly Disagree

Somewhat Disagree

Neither Agree nor Disagree

Somewhat Agree

Strongly Agree

Q56 Our organization's leaders considers our personal feelings before acting.

Strongly Disagree

Somewhat Disagree

Neither Agree nor Disagree

Somewhat Agree

Strongly Agree

Q57 Our organization's leaders behaves in a manner which is thoughtful of our personal needs.

Strongly Disagree

Somewhat Disagree

Neither Agree nor Disagree

Somewhat Agree

Strongly Agree

Q58 Our organization's leaders see that the interests of employees are given due consideration.

Strongly Disagree

Somewhat Disagree

Neither Agree nor Disagree

Somewhat Agree

Strongly Agree

Q59 Our organization's leaders commend us when we do a better than average job.

- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Strongly Agree

Q60 Our organization's leaders acknowledge improvement in our quality of work.

- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Strongly Agree

Q61 Our organization's leaders personally compliment us when we do outstanding work.

- Strongly Disagree
- Somewhat Disagree
- Neither Agree nor Disagree
- Somewhat Agree
- Strongly Agree

DEBRIEFING FORM:

Thank you for your participation in today's study. Colorado Mesa University in partnership with Markle Foundation Skillful is conducting a research study about the skills-based hiring practices and the changing workforce in the Grand Valley. Our study addresses these results. All the information we collected in today's study will be confidential, and there will be no way of identifying your responses in the data archive. We are not interested in any one individual's responses; we want to look at the general patterns that emerge when the data are aggregated together. Your participation today is appreciated and will help Colorado Mesa University better understand the labor market in the Western Slope. This includes understanding of common hiring practices as they change along with technology. All information may improve said practices if implemented. We ask that you do not discuss the nature of the study with others who may later participate in it, as this could affect the validity of our research conclusions. If you have any questions or concerns, you are welcome to talk with Dr. Carlos Baldo at cbaldo@coloradomesa.edu or (970) 248-1719 or Dr. Crystal Baker at cbaker@coloradomesa.edu or (970) 248-1454. If you have any questions about subjects' rights, you may contact Dr. Louis Nadelson



with the CMU Institutional Review Board (IRB) at (970) 248-1424. THANK YOU AGAIN FOR YOUR PARTICIPATION.

Appendix F

Survey Recruitment Email

Greetings!

Colorado Mesa University, in conjunction with Markle Foundation's Skillful project and the Colorado Office of Economic Development and International Trade, is conducting a research study to better understand the business ecosystem of Mesa County.

We are requesting your participation in a survey about the skills-based hiring practices and the changing workforce in the Grand Valley. If you are willing to participate in the survey, it will take 15-30 minutes to complete and you can enter into a drawing for a \$50 gift card upon completion of the survey. Responses are anonymous, and you may choose not to respond to any items if you do not feel comfortable responding.

Please click on the link for the survey and additional information:

https://survey.az1.qualtrics.com/jfe/form/SV_6FfwZzSz3DiE5X7

If you have any questions, please do not hesitate to contact either Dr. Carlos Baldo at cbaldo@coloradomesa.edu or Dr. Crystal Baker at cbaker@coloradomesa.edu.

We greatly appreciate your time!

Sincerely,

The Research Team

Colorado Mesa University

Appendix G

Interview Recruitment Email

Hello Ms./Mr. Last name,

My name is _____, and I am a Psychology/Business student at Colorado Mesa University. This semester I have had the opportunity to work on a research project funded by the Colorado Office of Economic Development and International Trade. We have partnered with the Markle Foundation's Skillful project to better understand the business ecosystem of Mesa County.

We have specifically selected your business name to conduct an interview with your HR Director or Hiring Manager about recruiting and hiring for jobs within your company. Would it be possible to visit with you for about 40 minutes to an hour to ask you a few questions to get your insight on hiring for positions within your company? We would greatly appreciate any time you could afford offering your insight on the attached questions.

Please contact me at xxx-xxx-xxxx or by responding to this email if you are interested in participating in this research project. Thank you for your time and consideration.

Sincerely,

Student Name

Research Assistant, Skillful Project

Colorado Mesa University