# ALX Foundations: Milestone 3 Worksheet

# **Instructions:** Provide responses to all items in the orange boxes. The worksheet consists of Sections A-E. Work on this worksheet one section at a time throughout your week, and return to Savanna after each section for the next set of content and further instructions.

# SECTION A: Problem Statement

### Step 1: Your GCGO

Which Grand Challenge or Great Opportunity (GCGO) do you want to play a part in addressing? (Pick one.)

As a reminder, the GCGOs are:

* Urbanization
* Education
* Infrastructure
* Healthcare
* Climate change
* Governance
* Job creation
* Agriculture
* Natural resources
* Arts, culture, and design
* Tourism
* Empowerment of women
* Regional integration
* Wildlife conservation

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| GCGO: Job Creation |

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### Step 2: Describe Your Problem

You are going to take a first pass at briefly describing your chosen problem. This can be any problem that speaks to you, as long as it is a real-life occurrence that is clearly linked to your chosen GCGO, that occurs in a certain place and for certain people (and/or animals), and that it can be clearly defined.

For example, if you chose wildlife conservation as your GCGO, you might first state your chosen problem as:

*There are very few white rhinos left in Kenya and they are in danger of going extinct.*

*Another example, if you choose infrastructure as your GCGO:*

*Residents of major cities in South Africa endure prolonged periods without electricity, significantly hampering their ability to generate income.*

Note that this is just your first attempt stating the problem, and you don’t need to quantify the problem yet. In order to get to your official problem statement (which does need to be quantifiable) first answer the following questions. The more specific your answers, the better. You may also ask Google, Wikipedia, , ChatGPT, and/or other reliable online sources to help you. Please be sure to cite (give credit to) any sources that you use.

Describe your problem using What/Who/When/Where/Why/How….

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| 1. **What** is the problem? What is reality like because of this problem? What will reality be like if the problem continues?   **Problem:** The problem is the significant challenge of job creation in Africa, where the economy struggles to generate enough employment opportunities to accommodate its rapidly growing population.  **Reality:** Widespread unemployment among numerous individuals, besides a skills mismatch which impedes the overall economic growth leading to very low wages.  **Future Reality:** Deterioration in quality of life could lead to protests and escalate into economic and political unrest. |
| 1. **Who** does this problem impact, directly and indirectly? Who contributes to the problem?   **Impacted:** The unemployed individuals and the overall society which eventually impacts families, businesses and governments.  **Contributors:** Governments and educational institutions. |
| 1. **When** did this problem begin? When does it occur?   The issue has been going on for decades and it is intensifying due to the rapid growth in population |
| 1. **Where** is this problem occurring? What is the context in which it occurs?   It’s prevalent across Africa but it affects some countries more clearly than others. |
| 1. **Why** is this a problem? What are the pain points or gaps? Why do you personally care about this problem?   Insufficient job creation that leads to lower quality of life and hindering countries development.  **Pain points:** unemployment, skills mismatch, low wages, poor quality of life.  **Personal Connection:**  Growing up in Africa, I faced similar challenges and had to work hard to overcome them. That's why I'm passionate about tackling this issue to empower others and create a better future for everyone on the continent. |
| 1. **How** would reality be different if this problem were solved? (This can be your opinion.)   Africa would be immensely different, having better quality of life for its individuals, improved living standards, prosperity, low immigration levels, economic growth, foreign investments in the continent and a lot of other implications, you name it! |

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### Step 3: Understand and Quantify Your Problem

Next, you will conduct some basic web research to better understand, define, and quantify your problem. You will do this through a combination of Google search, Wikipedia, credible web sources, ChatGPT or other AI research tool, and your own synthesis of information from these sources. Be sure to give credit to your sources, and paraphrase (use your own words) rather than quoting directly.

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| 1. What is the historical context for this problem? What happened in the past that contributes to the problem now?   Africa is influenced by colonial legacies, structural adjustment programs, political instability, rapid population growth, and challenges in education and skills development. Globalization and technological advancements also play a role.  (credit: https://www.mckinsey.com/) |
| 1. What are the possible economic (money-related) reasons why this problem exists and continues?   Africa’s job creation problem stems from rapid population growth outpacing job creation, dominance of the low-wage informal sector, and limited access to finance and infrastructure. A skills mismatch and insufficient focus on labor-intensive sectors exacerbate the issue. Capital-intensive sectors contribute to GDP but create few jobs.  (Credit: https://blogs.worldbank.org/) |
| 1. What are the possible political reasons why this problem exists and continues?   political factors such as corruption, instability, and policy inconsistencies, which deter investment, disrupt economic activities, and hinder job creation initiatives. Addressing these challenges necessitates governance reforms, stability promotion, and transparent policies to foster an enabling environment for sustainable employment and economic growth.  (https://www.ilo.org/africa/) |
| 1. What cultural beliefs and/or social norms possibly contribute to this problem?   Job creation in Africa is tough due to corruption, unstable politics, and inconsistent policies. These issues scare off investors and disrupt the economy, making it hard to create jobs. To fix this, we need better governance, stability, and clear policies. This will help create a good environment for jobs and economic growth.  (Credit: https://blogs.worldbank.org/) |
| 1. Who are the people potentially responsible (directly or indirectly) for creating and/or maintaining this problem?   Government officials, educational institutions, international organizations, civil society, community leaders, and individuals all bear responsibility for either creating or addressing the job creation problem in Africa. |

Now that you have the preliminary information you need, you’ll continue your web research to find some numbers, or quantifiable information, to help describe your problem:

What numerical data can you find that is relevant to your problem? Be sure to use your own words and also cite (give credit to) your sources.

Example 1:

*According to Chat GPT, there are about 880 white rhinos currently living in Kenya. This population is very small, and they are critically endangered.*

Example 2:

*Johannesburg has approximately 5.8 million residents (per ChatGPT) and had approximately 4.7 million international overnight visitors in 2019 (according to the South African Tourism Annual Report for 2019/2020).*

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| 1. Approximately how many people (and/or animals) are **directly** impacted by this problem? Explain.   Millions of individuals in Africa, including unemployed, underemployed, youth, women, are directly impacted by the job creation problem, facing economic insecurity and limited opportunities. (Credit: https://blogs.worldbank.org/) |
| 1. Approximately how many people (and/or animals) are **indirectly** impacted by this problem? Explain.   Families, communities, businesses, and governments, facing financial strain, reduced economic vitality, and constrained growth prospects, with broader implications for market stability and overall socio-economic development.  (Credit: https://blogs.worldbank.org/) |
| 1. What other numerical data can you share that is relevant to your problem? What can you find out about its size and scope? What can be measured? (For example, the amount of trash produced in Nairobi each day, the number of people without access to clean water, etc.)   Youth unemployment in Africa is estimated to be as high as 60%. Northern Africa has the highest regional youth unemployment rate in the world, at close to 30% in 2015. Job creation hubs are being developed to address this issue.  (https://www.brookings.edu) |

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### Step 4: Describe Your Solved State

Without having to come up with *how* to solve the problem, describe what the desired, solved state looks like. Please use numbers wherever possible, and make your solved state specific and measurable.

Example 1:

*There would be a population of 10,000 healthy and protected white rhinos living in the wild in Kenya.*

Example 2:

*All 5.8 million residents of Johannesburg would have affordable and consistently available power from clean energy sources, 99.5% of the time.*

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| 1. If the problem were addressed/solved, what would reality be like?   If the job creation problem is solved, unemployment would drop below 5% with increased formal job opportunities, leading to economic growth, improved income levels, and a better quality of life for the population. |
| 1. Are there other benefits that would come from your problem being solved? Name at least one.   One additional benefit would be the reduction of social inequalities leading to overall well-being. |

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### Step 5: Clarify Your Problem Scope

You are more effective at solving a problem when you know where its limits are. That is, when you know what is “in scope” and “out of scope.” For this reason, it is important to list what is out of scope, or NOT included as part of your problem definition.

Example 1:

*The scope of the problem does not cover any other animal species besides white rhinos. It does not include white rhinos outside of Kenya.*

Example 2:

*The scope of the problem does not include any businesses or people outside of the legally-defined Johannesburg city limits. It does not apply to tourists or visitors staying for less than 1 year in Johannesburg.*

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| 1. What is NOT in scope for your problem?   The overall macroeconomic factors beyond control and its impact on the issue. |

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### Step 6: Areas for Learning

What do you not know or understand that you would like to know more about? This can be anything related directly or indirectly to your problem. Let your curiosity run wild!

Example 1:

*I’d like to know where most of the demand for rhino horn is coming from. I’d like to know who are the primary buyers and who is behind the trafficking of rhino horn. I’d like to know how long the average rhino’s lifespan is. I’d like to know how many babies a typical female rhino has, and how many babies typically survive into adulthood. I’d like to know more about what diseases impact rhinos. I’d like to know more about the kinds of habitats that rhinos thrive in. I’d like to understand what international organizations do the best job supporting wildlife conservation and what their practices are. I’d like to know what models of community involvement have been most successful in keeping wildlife safe and thriving. I’d like to understand how much land is available in Kenya for rhinos to roam.*

Example 2:

*I’d like to better understand the utility company Eskom and its history. I’d like to understand why Eksom has failed to plan properly to update its infrastructure. I’d like to understand the relationship between Eksom and the South African government. I’d like to know if there are private utility companies providing competition to Eksom. I’d like to know what the latest breakthroughs are in solar power. I’d like to know what other possible energy sources might be made available in Johannesburg. I’d like to know how much energy tourists and temporary visitors use. I’d like to better understand the process of how limited energy supply gets allocated to people and businesses. I’d like to better understand the economic impact to people and businesses of not having power.*

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| 1. What else would you like to know or understand better? (It can be anything related to your problem.) List 5-10 things.   I’d like to understand better the following points:   1. The influence of government intervention in job creation 2. The role of the private sector and business leaders in solving this issue 3. The impact of technology and AI on future jobs and job creation 4. The future of teachers coping with technological advancements. 5. To what extent would AI replace human jobs? |

### Step 7: Problem Statement

This step is the culmination of all you have done in Part A. You will synthesize the work you have done above to create a problem statement of 150 - 250 words. This should be in narrative form, 2-4 paragraphs, and should NOT use bullet points.

Your problem statement should:

* Provide a succinct description of the problem **in the first sentence**.
* Indicate specific population affected
* Explain the impact (cost, time, environmental, personal) and why the problem matters.
* Explain what reality would look like if the problem were solved. The gap that exists between present reality and the desired outcome should be clear.

Please cite (give credit to) where your information came from directly in your statement. Avoid word-for-word quoting and instead paraphrase (use your own words), as modeled in the example. Also list your sources and their urls (web addresses) at the end.

Example :

*Kenya’s white rhinos are in critical danger of extinction. There are currently about 880 white rhinos in the country of Kenya, per Wikipedia. According to Chat GPT, Rhinos are considered a keystone species, meaning they have a disproportionately large impact on their ecosystem compared to their population size. Rhinos help shape their environment by influencing vegetation growth and acting as seed dispersers, which creates habitat for other species (per ChatGPT).*

*The extinction of white rhinos would have cascading effects on other plant and animal species in their habitat. According to the Kenya Wildlife Service, rhinos’ presence in reserves and parks bring millions of tourists each year, contributing to local economies and supporting conservation efforts. Once a species goes extinct, it is gone forever. The extinction of rhinos would represent the loss of millions of years of evolutionary history, and unique genetic diversity that science has yet to fully understand and benefit from (per ChatGPT).*

*My problem would be considered solved when the population of wild, white rhinos in Kenya reaches 10,000, and when all imminent threats to their population including poaching and habitat destruction are not present. If this were the reality, it would create ecosystem balance, create large revenues from ecotourism, preserve important cultural symbols, and allow for genetic diversity that could benefit humanity in ways we may not yet fully understand.*

*Sources:*

*Kenya Wildlife Services Annual Report 2017,* [*https://www.kws.go.ke/content/annual-reports*](https://www.kws.go.ke/content/annual-reports)

*ChatGPT,* [*https://chat.openai.com/*](https://chat.openai.com/)

*“White Rhinoceros”, Wikipedia,* [*https://en.wikipedia.org/wiki/White\_rhinoceros*](https://en.wikipedia.org/wiki/White_rhinoceros)

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| 1. My problem statement is:   Unemployment is a significant challenge for Africa's social and economic development. High unemployment rates, especially among young people and women, hinder progress and keep the cycle of poverty going. Limited job creation slows economic growth, innovation, and social mobility, leading to unrest and migration.  Tackling unemployment and boosting job creation in Africa is crucial for sustainable development and prosperity. By creating more job opportunities, particularly in sectors like agriculture, manufacturing, services, and technology, people can earn stable incomes, contribute to their communities, and improve their living standards.  Enhancing entrepreneurship and skills training can empower marginalized groups and unlock the continent's vast potential, fueling economic growth. By bridging the gap between present reality and the desired outcome, we can build a more inclusive and prosperous society where everyone has the opportunity to thrive and contribute to the collective well-being. By focusing on creating more jobs, encouraging new businesses, and improving skills training, Africa can unlock the potential of its people and drive steady economic progress. This will lead to better living conditions and shared prosperity for all Africans. |
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| 1. Please list all sources that you used to form your problem statement:   (<https://www.brookings.edu>)  ( <https://blogs.worldbank.org/>)  (<https://www.ilo.org/africa/>)  (<https://www.mckinsey.com/>) |



**Please go back to Savanna and continue with your learning content. You will be filling out Step 8 after you’ve completed the Peer Activity.**

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### Step 8: Peer Activity Report

This step is related to your peer activity and should help you to improve your problem statement. Answer the following questions as part of the activity and then update your Problem Statement in Step 7 above, based on your feedback.

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| 1. Who reviewed your problem statement? (Give the first and last names of your 2 peers).   Peer1: Mahmoud Younes  Peer2: Nehal Allam |

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| 1. In brief, what feedback did they give to you?   The unemployment crisis in Africa is a significant challenge that deserves clear and actionable strategies. To enhance the problem statement, it would be beneficial to provide more specifics on the current state of unemployment, including sector-wise data and measurable indicators for progress. This additional context would help readers better understand the scope of the issue. Furthermore, outlining feasible solutions with consideration for stakeholder involvement and practical implementation would strengthen the proposal. |

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| 1. Was their feedback useful to you? Did it feel kind? Why or why not?   Yes, of course. It has broadened my mindset and offered fresh insights that greatly contribute to my research, enabling me to achieve robust solutions for addressing the problem. |

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| 1. Who did you give feedback to? (Give the first and last names of 2 peers- they may be the same or different peers from above.)     Peer1: Mahmoud Younes  Peer2: Nehal Allam |

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| 1. Do you feel that you gave useful and kind feedback to your peers? Why or why not?   Yes, I did. I believe it was useful and kind. Giving feedback on areas of improvement without being overly critical is crucial. Considering that there might be a main aspect overlooked, exploring various perspectives helps in arriving at a robust conclusion. |



**Please go back to Savanna and continue with your learning content. You will be prompted on when to return to complete Section B.**

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# SECTION B: Research Questions & Hypothesis

**IMPORTANT:** Complete this section AFTER completing the Savanna Modules *Asking Effective Questions* and *Web Research.*

### Step 9: Research Questions

Based on what you have learned so far and on ‘Step 6: Areas for Learning’ from this worksheet, come up with 3 research questions. **Research questions should be complex enough that they can’t be answered by a single Google search.** If appropriate, form a hypothesis that your research may confirm or reject. (As a reminder, a hypothesis is a prediction of how you think your research will answer your research question. It is your best guess. If you truly have absolutely no idea, state “not applicable.”)

Example Research Question #1:

*What are some ways can we increase rhino populations?*

Hypothesis*:*

*Rhino populations will be increased by creating more open spaces for them to roam, increasing their protection, increasing international interest in them, and other reasons I have yet to uncover.*

Example Research Question #2:

*Which organizations have been effective at wildlife conservation and what practices do they use?*

Hypothesis*:*

Not applicable; I don’t know.

Example Research Question #3:

*How many babies can a typical female white rhino have in her lifetime, and what are the reasons a female may not have high fertility?*

Hypothesis*:*

*A typical female white rhino can have 5 babies in her lifetime, and fertility may be affected by diet, amount of grazing territory, poaching, stress, mate availability, and other reasons I have yet ot uncover.*

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| 1. Research question #1:   How does government intervention influence job creation and economic growth?  Hypothesis (if applicable):  Increased government intervention, through targeted policies and investments in education, infrastructure, positively correlates with higher rates of job creation and economic growth. |

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| 1. Research question #2:   What are the impacts of technological advancements on future job markets?  Hypothesis (if applicable):  Technological advancements will lead to a transformation of the job market, with certain occupations being displaced by automation while new opportunities emerge in sectors leveraging AI and advanced technologies. |

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| 1. Research question #3:   What strategies and initiatives are most effective in engaging the private sector and business leaders in addressing unemployment and promoting job creation?  Hypothesis (if applicable):  Collaborative efforts between government, businesses, focusing on skill development, and entrepreneurship support, result in higher rates of job creation and reduced unemployment. |

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**Please go back to Savanna and continue with your learning content. You will be prompted on when to return to complete Section C.**

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# SECTION C: Web Research

### Part 1: Research Plan

You can plan out your research, for each of your research questions, using the template below.

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| 1. Step # 1: Define your objectives, 3 research questions & associated hypotheses. |
| Key Questions: What are you trying to accomplish with this research? What do you wish to find out that will accelerate your work in the right direction? |
| **Your Response:**.  The main objective is to explore the relationship between government intervention, technological advancements, private sector engagement, and their impacts on job creation, economic growth, and unemployment. The research aims to provide insights that can inform policymakers, business leaders, and individuals on effective strategies to address the issue |
| 1. Step # 2: Determine your end outputs. |
| Key Questions: What type of data/information is ideal for you to find, based on what you are trying to accomplish? Do you need to present it in any particular format? |
| **Your Response:**  Research findings presented in a comprehensive report format, including statistical analysis of data related to government interventions, technological impacts, and private sector engagement. Visual representations such as graph, boxplots may be useful as well in showcasing the overall picture. |
| 1. Step # 3: Scope your main sources of information. |
| Key Questions: Do you already know where you might want to go to find the information you're seeking? Are there particular entities or organizations that you know are seen as "experts" on the topic? |
| **Your Response:**  Sources to explore the issue include government reports & websites, journal, academic databases, and international organizations such as the UN. All these entities would serve the purpose of my research. |



**After you updated earlier parts of the worksheet based on your research plan, please go back to Savanna and continue with your learning content. Return to Part 2 and Part 3 prior to submitting your milestone.**

### Part 2: Conducting Research

You can answer the following questions as you complete conducting your research into your research questions.

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| 1. Step 1: Begin gathering your required information. |
| Key Questions: What search terms should you use? How many reports/articles do you want to read before deciding you have seen enough? |
| **Your Response:**   * Search terms would include keywords such as (job creation, economic growth, technological advancements, AI, unemployment, private sector engagement) * Number of reports and articles would be at least 15 reports from credible source to be able to evaluate the topic and gain holistic understanding of the topic. |
| 1. Step 2: Evaluate the Validity/Credibility of Your Sources and Information |
| Key Questions: Are the sources credible and reliable? Consider the authority, accuracy, objectivity, and currency of the information to ensure its validity for your research. |
| **Your Response:**  To assess source validity and credibility, I consider different key factors to ensure the reliability and credibility of the information at hand. These factors include: authority (reputable experts/organizations), accuracy (supported by evidence), objectivity (fair and unbiased), and currency (up-to-date and relevant). |
| 1. Step 3: Synthesize and Communicate Your Key Findings. |
| Key Questions: Summarize the key information and findings that you have gathered during your research. Organize these findings in a clear and coherent manner, ensuring that they directly address your research objectives and questions. |
| **Your Response:**  Increased government support, technological advancements reshaping job markets, and businesses working with people to develop skills all link to more jobs being created. However, issues like skills gaps, and unequal access remain. Embracing innovation, digital skills, and inclusive progress is key for lasting job creation and tackling unemployment in the days to come. |
| 1. Return to Your Original Objectives and Key Questions. |
| Key Questions: Revisit your initial objectives and key questions to ensure that your research findings adequately address them. Reflect on whether your findings have effectively contributed to solving the identified problem. |
| **Your Response:**  The research findings have addressed the issue outlined earlier. It aligns with the desired outcome of the research of promoting sustainable job creation that lead to overall economic growth and prosperity. |

### Part 3: Research Summary

In 200-300 words, provide an executive summary of your research in the text box below. You should be synthesizing information from multiple sources. Provide answers and explanations for the 3 questions you investigated and your key research findings. This should be in a narrative format (no bullet points), and be at least 3 paragraphs long.

Please use at least 3 different online sources such as ChatGPT, organizational websites, Wikipedia, etc. Please cite (give credit to) where your information came from directly in your statement. Avoid word-for-word quoting, paraphrase instead (use your own words), as modeled in the example. Also, list your sources and their URLs (web addresses) at the end.

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| 1. Research Summary   This research examines the factors that influence job creation and unemployment, focusing on government intervention, technological advances, and private sector involvement.  The study sought to answer three key questions: first, how does government intervention impact job creation and economic growth? Second, what are the implications of technological advancements for future job markets? And third, what strategies are effective in engaging the private sector to address unemployment and promote job creation?  The study reveals that government intervention, through targeted policies and investments, can stimulate job creation and economic growth. However, bureaucratic inefficiencies and policy misalignment can hinder these efforts.  Regarding technological advancements, the research underscores the transformative nature of emerging technologies on the job market. While automation and AI may displace certain occupations, they also create new opportunities in sectors leveraging advanced technologies. Therefore, there is a need for proactive measures to upskill the workforce and ensure a smooth transition to the digital economy.  The study also emphasizes the role of the private sector in addressing unemployment. The government and businesses have worked together to improve job skills, support entrepreneurship, and create more jobs. Studies show these efforts have been effective. The research also shows how government policies, technology changes, and the private sector work together to shape the job market and employment. This information is very useful for policymakers, business leaders, and people trying to navigate the modern job market and promote economic growth.  Sources & credits:  (<https://www.brookings.edu>)  ( <https://blogs.worldbank.org/>)  (<https://www.ilo.org/africa/>)  (<https://www.mckinsey.com/>)  (www.wikipedia.org) |

**Once you have completed this worksheet, export/convert to .pdf, rename it per the instructions, and upload to Savanna as your Milestone # 3 Submission. Celebrate a job well done!**