**MODULE 6 UNIT 2**

**Assignment**

Learning outcomes:

LO3: Propose an initiative for a specific business application of AI.

LO4: Produce a roadmap for an organization to gain strategic advantage using AI.

# Name: Dee Ann Belsky

## Instructions and guidelines (Read carefully)

### Instructions

1. Insert your name and surname in the space provided above, as well as in the **file name.** Save the file as: **First name Surname M6 U2 Assignment** – e.g., Zadie Smith M6 U2 Assignment. **NB:** *Please ensure that you use the name that appears in your participant profile on the Online Campus.*

2. Write all your answers in this document. There is an instruction that says, “Start writing here” under each question. Please type your answer there.

3. Submit your assignment in **Microsoft Word only**. No other file types will be accepted.

4. Do **not delete the plagiarism declaration** or the **assignment instructions and guidelines**. They must remain in your assignment when you submit.

PLEASE NOTE: **Plagiarism cases will be investigated in line with the terms and conditions for participants.**

IMPORTANT NOTICE: Please ensure that you have checked the Online Campus for the due date for this assignment.

### Guidelines

1. There are 4 pages and 1 question in this assignment.

2. Make sure that you have carefully read and fully understood the questions before answering them. Answer the questions fully but concisely and as directly as possible. Follow all specific instructions for individual questions (e.g., “list,” “in point form”).

3. Answer all questions in your own words. Do not copy any text from the casebook, readings or other sources. **The assignment must be your own work only.**

|  |
| --- |
| **Plagiarism declaration:** |
| **1. I know that plagiarism is wrong. Plagiarism is to use another’s work and pretend that it is one’s own.**  **2. This assignment is my own work.**  **3. I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.**  **4. I acknowledge that copying someone else’s assignment (or part of it) is wrong, and declare that my assignments are my own work.** |

For each assignment submission included in Modules 1 to 5 of this program, you were asked to complete activities that should now help you complete a final, polished AI roadmap. The roadmap will function as a starting point for the successful deployment of AI into an organization of your choice, with the aim of achieving competitive advantage.

For this final assignment, use your answers from previous modules as a guide to populate the roadmap template below. You should be using the organization that formed the basis of your ongoing project submissions from Modules 1 to 5 to fill in your roadmap. Please ensure that you consult the assignment guide in Unit 2 of this module for details on the specific content required for each section. Furthermore, you can use the feedback you have received in previous modules to refine your answers here.

Please adhere to the word limit for each section.

Review guidelines:

Your assignment will be reviewed according to each individual section of the roadmap, and the structure and logic of your writing. View the detailed rubric on the Online Campus.

**Question 1**

Complete the four sections of the following roadmap template.

|  |
| --- |
| Executive summary Summarize your plan for the strategic implementation of AI into your chosen organization. (Max. 500 words.)  Start writing here:  Our organization’s future will be to provide consumers with personalized sounds, music, and images which they can access to personalize everything from their smart clock sounds, smart phone screens, car alarms, or a house wall (via LED technology). Each User will always be presented personalized content selections based on their individual interests. And, as each User’s interest in content changes, the content we serve them will change with their changing interests.  In order to accomplish this level of personalization, the organization must adopt machine learning and NLP applications that accurately identify a Users’ interests, properly defines categories to uploaded content, and handles multiple layers of automated, personalized sub-categories that are continually refined to meet each unique individuals’ sense of taste and interest.  The first project the organization undertakes will be to personalize return User’s content feeds and update New User content as they search and consume content on Zedge. This initiative will define re-engagement and retention goals for these Users across each product team and assign team accountability in the areas of data cleansing, machine learning and NLP modeling, defining and running A/B testing operations, assigning and monitoring KPI performance reporting and tracking, and the back-end automation of these processes across marketing, monetization, and personalization (User Journey, User Discovery) channels.  The successful implementation of AI within Zedge will derive from the vision set forth by the Chief Executive Officer (CEO). The executives will promote and foster a collaborative culture amongst the different product teams responsible to execute the goals set forth by the CEO. And, Information Technology (IT) will continue to play a dominant role within the organization. They will continue balancing current technology needs with the anticipatory future needs of advancement required in data collection and storage, real-time process automation, and rapid cycle business testing.  AI at Zedge will refine the organization’s ability to transition from a cost leadership model to a more focused strategy, concentrating on its niche product offering, tailoring personalized content to its User base. As the organization builds User engagement and improves revenue, the real benefit of AI will transition Zedge to a differentiated strategy in its competitive category. The longer-term natural progression of AI in the organization will drive new product innovation and identify new, internally designed content that will drive competitive advantage and growth at Zedge. |
| Current state Describe the current state of your chosen organization. (Max. 500 words.)  Start writing here:  Over the past 12 months, Zedge has been investing in its data infrastructure and technology. Data capture and storage was transferred from Hadoop to Click House. And, currently, Zedge has begun to aggregate data to Google Cloud. In addition, Zedge is one month away from its first deployment of a phase-I launch of an internal A/B testing product which will enable segmentation testing across any defined cohort, including key User segments of New and Best Users within Zedge.  Zedge has been restructured toward the concept of autonomous and collaborative  teams responsible for specific User channels; Acquisition (Marketing), Personalization (User Journey and User Discovery), and Monetization. These respective teams are empowered to identify product enhancements that achieve the high-level goals set forth by our CEO. Each team has a Product Manager, Developers, Operations Support, a Data Scientist, and UX team members that utilize resources cross functionally from the Data Warehouse team. Each team is responsible to receive approval of their Quarterly goals by the Head of Operations and approval from the Data Warehouse team. With the approval of their goals, each team is responsible to execute them throughout the following Quarter. All projects roll into monthly Android application releases.  With regard to User personalization, a recent internal survey to existing Users identified that 52% of the responding Users stated their two primary (and similar) complaints of Zedge are:   1. lack of ability to find the content the content they are looking for 2. inadequate Search process to locate content   Of these Users, 65% communicated they would utilize Zedge more often if these areas of Zedge were improved.  Zedge, in its infancy, was a niche market innovator within its industry category. As a result of being an early innovator in its industry category, it was successfully acquired by a family owned telecommunications company. However, the telecommunications company ran its business based on a cost leadership model and assumed this approach onto Zedge. In retrospect, there has been an overarching conflict with our parent company selecting this approach onto a growing, niche startup that was an early innovator in its industry category. Managing costs and being required to achieve high margins in the early stages of Zedge’s growth have not been advantageous to advance Zedge’s innovation, particularly in regard AI related projects.  Zedge’s strength over its emerging and current competitors has been its organically grown 35 million monthly active Users, and its vast volume of diversified content. Zedge’s competitive threats are new, niched competitors emerging with seed money that surpasses Zedge’s annual revenue. In addition, competition for User time spent on phones continues to be further dominated by gaming, social media, and text message apps. |
| Proposed initiative Outline your proposed initiative for using AI in your chosen organization to achieve competitive advantage. (Max. 800 words.)  Start writing here:  Zedge’s company-wide AI initiative will be to 1) personalize content for New Users during their first visit and 2) personalize content for returning Users. Automated, accessible, and dynamic User profiles will be created and then leveraged simultaneously across all departments: marketing, monetization, user journey, retention, and content discovery. Each team will build more targeted and personalized product solutions with the goal to improve engagement, retention, and revenue.  The required AI initiatives will be machine learning and NLP projects. Zedge logs 115 million daily interactions with content on Zedge; searches, clicks, previews, and downloads. User search data will require applications that handle foreign language translations, mis-spellings, and generic phrases that may appear ambiguous. User uploaded content will require applications to improve content categorization, removing any need for long-term User category input. Unique User based interests will be developed, evolving to smaller, uniquely defined User sub-categories as machine learning applications get more refined with User input.  It is the responsibility of the COO and Chief Technology Officer (CTO) to continually weigh the decisions on whether various technological needs should be built internally or purchased through a third-party provider. Currently, Zedge has uncovered a possible AI API solution provider which may have pre-built capabilities to jump-start Zedge’s AI initiatives.  Continual demands will be placed upon IT to ensure data is stored, mapped, and updated in real-time, moving data from the real-time event data storage environment (Click House) to the Data Warehouse (Big Query) environment where aggregated data will be stored. Data will need to be continually updated and refreshed with new User information, and the NLP and machine learning applications will be refreshed and refined according to IT’s budget and executive level benchmark goals.  The benefits of these AI initiatives will differentiate Zedge as a location to find new and unique content categories that further engage and attract our User base, and separate Zedge from its competition. |
| Plan of action and criteria for success Detail your plan of action for using AI in your chosen organization. (Max. 800 words.)  Start writing here:  Implementing the broader AI initiative is expected to be a 30 to 36-month project, with realistic timing dependent upon the early success seen from an initial prototype test. With Zedge currently following a cost leadership approach to its business, quantifiable success is required before further resources will be committed to the project.  Zedge will take an initial ‘small-step’ implementation approach to AI implementation. Zedge will begin a project that includes building and launching one personalized category, launching it into production to the User base. Over the past month via the monetization team, the team prioritized the creation of Zedge’s first personalized category utilizing machine learning. This project was successfully achieved entirely in-part because IT’s strategy is currently aligned with building, storing, and automating the access of User category profiles for each of the Product teams. At this time, the category is validated to be accurate, but broad in nature, and no sub-categories within this larger category will be further defined or automated. The distribution of this category thru marketing, personalization, and monetization channels is currently being researched in order to automate the category into production. IT is currently prioritizing this automation process and expects to be completed within the next 30 days. This first category will serve as the proof-of-concept prototype to identify the return on investment of implementing a broader based AI strategy. Based on performance, Zedge will re-evaluate the resources to scale further personalization efforts and re-visit the company budget with the Board Members.  Implementation of the personalized category will vary by channel over the next 3 months. The first channels that will leverage the category for personalized targeting to Users will be the Product Marketing and Monetization teams. Product Marketing has a leading technology for marketing automation that supports in-app messaging, email marketing, and push notifications to Users and existing A/B testing capabilities within their technology. Product marketing, within 2 weeks of receiving access to the category, will have the quickest ability to launch various A/B communication tests and measure the success of re-targeting to Users within this category. Product Marketing also has the ability to land Users on specific pages of related category content. The monetization team will leverage the category by A/B testing internal House advertising to these Users to attempt to increase their in-app purchasing within Zedge. The monetization team also has separate technology systems that can properly A/B test and evaluate performance.  Implementation of the personalization category will take approximately three to five months for the personalization teams based on current product roadmap priorities and constraints. These two personalization teams utilize in-house built technology that currently does not support User segmentation for A/B testing. This limitation is expected to be complete within the next 30 days. Afterward, the teams can develop application flow requirements that support User segment testing in order to launch their personalization tests within the app. It is expected, with clear direction and goals set from the CEO, the launch and initial results of this personalization effort can be seen within a total six months, or mid-Q1 of 2019.  The next six months are a critical time for Zedge. If Zedge can not show a growth strategy, the company is at risk of losing budget that could be utilized for future initiatives to personalize content for our Users. Our CEO’s main role is to set the vision and ensure each Product team’s roadmap is aligned to a common goal of identifying the return of investment of personalizing content for our User base. As a project leader for the initiative, the CEOs commitment will be the most critical element of success to ensure each Product team and IT prioritizes their components of the tasks to achieve results from this initiative.  The next six months of implementation will:   * Identify required resources within Data Science and IT to support a more scaled operation * Identify a quantifiable return on investment to gain approval for additional resources   In the short and long-term, Zedge is not at risk to lose any positions due to the advancement of AI within the organization. In fact, the organization will see positive growth across Product, Marketing, IT, and Data Science teams and potentially drive twice the revenue within a two-year period if the projects are prioritized and executed.  What is at risk, is not implementing this project over the next six months, and losing needed budget to support future, personalization of content to our Users. We risk not only losing competitive advantage in our industry vertical, but losing our ability to compete in a rapidly evolving personalized environment, where Users expect convenience and ease to discover and enjoy content. |