## Step 6 (Full Life Cycle) Worksheet

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| Sketch of How the End User Currently Solves Their Problem |
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| Full Life Cycle Use Case Worksheet | | | | | | | | | | |
| **Stage #** | **1: Need Identification** | **2: Discover Options** | **3: Analyze Options** | **4: Acquire Product** | **5: Payment** | **6: Install/Setup** | **7: Use & Get Value** | **8: Determine Value** | **9: Buy More** | **10: Tell Others** |
| **Action** | Recognize research inefficiencies and the need for a more integrated, automated approach. | Explore academic  forums, conferences, and  online research to  identify innovative  tools. | Evaluate digital research platforms based on integration, usability, and cost-benefit. | Sign up or download the AI-driven research platform/API. | Process payment via university budgets, research grants, or subscription fees. | Follow online tutorials and documentation to integrate the API with existing systems. | Use the platform for automated hypothesis  generation, data analysis, and experiment planning. | Assess improvements by comparing research speed, quality, and breakthrough outcomes pre-and post-adoption. | Renew subscriptions or scale usage as research needs grow. | Share successes  and positive  outcomes  through  academic  channels,  publications, and social media. |
| **Who is involved** | Academic  researcher,  mentors, and  research team. | Researcher, peers,  academic advisors,  and IT support. | Researcher  along with  input from  colleagues  and technical  support. | Researcher  and, if needed,  institutional  procurement or IT departments. | Researcher,  department  finance  personnel, and  grant  administrators. | Researcher, IT  support, and  technical  integration  specialists. | Researcher and  research  collaborators. | Researcher,  academic peers,  and review  committees. | Researcher,  department  heads, and IT  procurement  teams. | Researcher and  the broader  academic  community. |
| **When** | At the start of a  new research  project or when  current methods  stall progress. | During the early  planning phases of a research project. | After discovering  potential new  tools. | Once a decision  is made to try a new solution. | At the time of  procurement or subscription  renewal. | Immediately  after acquisition,  before beginning  the research  cycle. | Throughout the  active phases of  research and  experimentation. | After reaching  initial milestones  or successful  research  outcomes. | At subscription  renewal or  when scaling  research  operations. | After achieving  significant  improvements or  breakthroughs. |
| **Where** | In the research  lab, office, or  personal  workspace. | On campus, at  academic  conferences, or  within online  academic  communities. | In the lab or at  the researcher's  workstation. | Online via the  product’s  website or  digital platform. | Through online  payment portals  or institutional  channels. | On personal or  lab workstations  with internet  access. | Within an  integrated digital  research  environment. | In academic  presentations,  labs, or  publications. | Online or via  institutional  procurement  systems. | At conferences,  seminars, or on  academic social  media platforms. |
| **How** | By identifying  gaps through  literature reviews, self-assessment,  and team  discussions. | Through peer  recommendations,  academic networking, and  exposure to tech  trends. | By testing trial  versions,  reading reviews, and  comparing  features. | Via a  streamlined  digital signup or download  process. | Using credit  cards, invoicing, or allocating  university funds. | Following  detailed setup  guides, tutorials, and support  resources. | By inputting data  into the system and leveraging its AI-driven insights. | Using metrics  such as time  saved, quality of outputs, and peer feedback. | Through an  easy online  subscription management  system. | Via word-of-  mouth, academic  endorsements, and documented  case studies. |
| **Misc.** | Driven by the  pressures of  academic  competition, the  need for innovation, and the pursuit of  breakthrough  research. | Influenced by  current academic  trends and exposure  to emerging  research tools. | Focus on ease  of integration  and reliable  performance. | Often supported  by institutional  endorsements. | Limited by  academic  budgets and  funding cycles. | Requires  minimal  downtime and  robust technical  support. | Offers clear value  by accelerating  research timelines  and enhancing  output quality. | Measured by  tangible  improvements in  research  outcomes and  efficiency gains. | May include  loyalty  discounts or  volume-based  pricing options. | Encouraged by  proven success  and enhanced  academic  reputation. |

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| Sketch of How End User Will Use Your Product |
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### Reflection on Full Life Cycle Use Case

1. Looking at these worksheets now, where do you see the gaps in your understanding?

 **How the AI agents work together**: there are specialized agents for different tasks—like generating ideas or running experiments—and a Manager Agent that runs the show. But I am fuzzy on how they collaborate. What is the step-by-step handoff like?

 **What reinforcement learning really does here**: The system is supposed to "learn" from real-world outcomes, but I’m not sure how that plays out. Does it tweak its approach based on whether a research project succeeds or fails? How does it decide what "success" even means?

 **How much control humans have**: There is this “human-in-the-loop” idea, which sounds cool, but I don’t fully understand when or how researchers step in. Can they jump in anytime, or are there specific moments where they are prompted to take over?

1. How do you intend to fill those knowledge gaps?

 **Dig into technical details**: I would hunt down more in-depth docs—like a user manual or a white paper—that explain the nuts and bolts of how the agents interact and how the system learns over time.

 **Look at real examples**: Finding case studies or stories from researchers who have used the platform would help me see how it works in practice, especially the human oversight part.

 **Ask the experts**: If I could, I would reach out to the team behind it or chat with users in a forum to get straight answers about how it all comes together.

1. Which stages of the Full Life Cycle Use Case are you most concerned about as posing risks to the adoption of a new solution?

 **Use & Get Value**: This is where researchers use the AI to do their work—like submitting problems and reviewing results. If the AI’s suggestions are off-base or the interface is clunky, they might not trust it. Trust is huge in research, so this stage must nail it.

 **Determine Value**: After using it, researchers need to feel like it was worth it—faster results, better insights, whatever. If they cannot see a clear win, or if it is hard to measure, they might ditch it and tell others it is not worth the hype.

 **Install/Setup**: Getting started could be a hurdle if it is tricky to set up or doesn’t play nice with tools researchers already use. No one wants to wrestle with tech when they are busy chasing breakthroughs.