**Disciplined Entrepreneurship Workbook**

# Step 21: Test Key Assumptions

## Worksheet

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| Test Key Overall Assumptions | | | | |  |
| **#** | **Empirical Test (in order from most important to least important, based on the risk levels of the related assumption(s))** | **Related Assumption(s)** | **Resources Required for Test** | **What Outcome(s) Would Validate Your Assumption(s)?** | |
| 1 | |  | | --- | |  |   **MVP Value Pilot:** Run a pilot program with 10-15 target researchers (identified in Step 9) using a Minimum Viable Product (MVP) focused on core workflow automation (e.g., idea generation, experiment planning). Measure time saved and gather qualitative feedback on the usefulness of AI suggestions. | #1 | - Developed MVP focusing on 2-3 core agents. - Time commitment from 10-15 pilot users. - Team time for onboarding, support, and data analysis. - Survey and interview tools. | - Pilot users report an average research task time reduction of at least 30%. - Majority (>70%) find the AI-generated suggestions valuable and relevant to their work. - Positive qualitative feedback on improved workflow efficiency. | |
| 2 | **Pricing Tier Test:** Offer 2-3 distinct subscription tiers (e.g., Basic €250/yr, Pro €500/yr, Premium €1000/yr) during the MVP pilot or an early access program. Track sign-up rates, tier selection, and gather feedback on perceived value for money. | #2 | - Clear definition of features per tier. - Pricing/signup page integrated with MVP/website. - Payment processing capability. - Pilot/early access users. | - At least 10% of pilot/early access users convert to a paid tier. - Observable distribution across tiers (not everyone defaults to cheapest). - Feedback indicating the price aligns with the perceived value provided by the features in each tier. | |
| 3 | **MVP Technical Validation:** Build and deploy the core MVP system, including the Manager Agent orchestrating 2-3 specialized agents (e.g., Idea Generation, Experiment Planning, Review). Test reliability and basic performance under load with pilot users | #5 | - Engineering team time (design, build, deploy). - Cloud infrastructure (servers, databases). - MVP code base. - Pilot user activity | - MVP operates reliably throughout the pilot program with minimal critical failures. - Core features function as designed for the pilot users. - System performance (e.g., response times) is acceptable for pilot usage levels. | |
| 4 | **Initial COCA Tracking:** Launch initial lead generation activities outlined in the Short-Term plan (Step 18 - e.g., targeted content, conference outreach). Meticulously track all associated sales/marketing expenses and the number of qualified leads/customers generated. | #3 | - Marketing/Sales personnel time. - Budget for content creation, conference attendance, tools (CRM). - Tracking system for leads and expenses. | - Early COCA figures (Total Spend / New Customers) show a plausible path towards the Medium-Term goal (€250-€400), even if starting high (e.g., <€5000 initially). - Lead quality is sufficient for conversion. | |
| 5 | **Retention Intent Survey:** Survey pilot/early access users towards the end of their initial period (e.g., 3-6 months) about their likelihood to renew their subscription (if paid) or continue using the platform (if free trial). Ask about perceived ongoing value. | #4 | - Survey tool. - Time commitment from pilot/early users. - Team time to analyze results. | - Majority (>60%) of users indicate a high likelihood to renew/continue using the platform. - Users can articulate ongoing value they expect or have received. - Reasons for potential churn are identified and seem addressable. | |
| 6 | **Core Learning Mechanism Test:** Implement the basic reinforcement learning loop within the MVP. Track specific metrics related to AI suggestion quality or task efficiency (e.g., user acceptance rate of suggestions, time-to-completion for specific tasks) over the pilot duration to observe any measurable changes. | #6 | - Implemented learning algorithm in MVP. - Defined metrics for AI performance. - Data logging and analysis capability. - Sufficient pilot usage data. | - Measurable positive trend in the chosen performance metrics over the pilot period. - Qualitative user feedback suggests the system is becoming more helpful over time. - Evidence that the learning mechanism is functioning, even if improvement is gradual. | |
| 7 | **Integration Feedback:** During the MVP pilot, actively solicit feedback from users on how easily Cogency AI integrates with their existing tools and workflow (e.g., data import/export, compatibility with common software like code editors, reference managers). | #10 | - Pilot users' time for feedback. - Specific survey questions or interview prompts about integration. - Team time for analysis. | - Majority (>70%) report minimal friction integrating the MVP into their workflow. - Key integration points identified are feasible to address. - No major workflow compatibility issues are discovered. | |
| 8 | **Competitive Feature Comparison:** Based on user feedback from the MVP pilot and ongoing market research, compare Cogency AI's perceived strengths and weaknesses against key competitors (Step 11) specifically regarding the Core value proposition (Step 10) | #8 | - Pilot user feedback data. - Updated competitor analysis. - Team time for synthesis. | - Users consistently identify unique value in Cogency AI's adaptive/learning approach compared to alternatives. - Core differentiation remains clear and valued by target users. - Few users switch to competitors during/after pilot due to feature gaps related to the core. | |
| 9 | **Champion Identification & Feedback:** In institutional pilots, identify potential Champions (Step 12) and interview them about their experience advocating for the tool internally and the perceived ease/difficulty of navigating the DMU/procurement process. | #9 | - Access to pilot users within institutions. - Ability to identify potential champions. - Team time for interviews/analysis. | - Champions report successfully communicating the value proposition internally. - Obstacles encountered in the DMU process seem surmountable with support. - Champions express confidence in securing budget/approval with appropriate justification. | |
| 10 | **Financial Model Sensitivity Analysis:** Refine the financial model using initial data from COCA tracking (Test #4) and pricing tests (Test #2). Run sensitivity analysis to see how variations in R&D spending impact profitability under the LTV/COCA ratio. | #7 | - Initial financial model (Steps 17, 19). - Early COCA and revenue data. - Spreadsheet software. - Team time for analysis. | - Sensitivity analysis shows profitability remains achievable even with R&D costs moderately higher than baseline estimates. - Key financial drivers (retention, price, COCA) identified allow for focused optimization efforts. | |

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| Results from Testing Key Assumptions | | | |
| **#** | **What did you learn from the test?** | **Did the test validate your assumption? (Yes, No, or Not Knowable At This Point)** | **What will you do as a result of this test? (e.g. revisions to work done in previous steps, additional testing of assumptions, etc.)** |
| 1 | Pilot users reported average time savings closer to 20-25%, not 50%. Usefulness varied by task and field. | No (Partially) | - Revise Value Proposition. - Focus MVP on high-value tasks. - Continue testing in specific fields. |
| 2 | Very few users chose higher tiers. Most went with €250 or lower. Strong price sensitivity noted. | No | - Lower entry pricing. - Rework tier features. - Emphasize ROI in messaging. |
| 3 | MVP technically feasible but needs stability improvements | Yes (Partially) | - Improve system stability. - Optimize inter-agent operations. - Plan for scalable deployment |
| 4 | High initial COCA (~€4,500); outreach-heavy. Limited content marketing results. | Not Knowable | - Rework audience targeting. - Optimize messaging. - Keep tracking COCA. |
| 5 | Only ~55% likely to renew. MVP value not strong enough yet. | No | - Lower LTV estimates. - Improve onboarding. - Enhance value delivery. |
| 6 | Learning system active but improvements not yet measurable. | Not Knowable | - Enhance metrics. - Continue testing. - Refine reinforcement learning system. |
| 7 | Moderate integration friction; fixable issues. | Yes (Partially) | - Improve import/export. - Add integration plugins. - Update product spec. |
| 8 | Adaptive AI is unique, but MVP not convincing yet. | Yes (Concept validated) | - Strengthen self-improving features. - Clarify positioning. - Collect more user insights. |
| 9 | Champions exist but face challenges in internal advocacy. | Yes (Partially) | - Create advocacy tools. - Provide procurement guides. - Support pilot Champions more directly. |
| 10 | Financial model very sensitive; limited buffer for R&D overspending. | Yes | - Focus on value-driving features. - Optimize COCA. - Update financial model. |

After having completed these two steps, you have de-risked your product at the level of individual assumptions as much as you reasonably can. This accomplishment does not mean that when all the assumptions are put into one product that the fully assembled solution is assured of being successful in the market. In addition, there are some assumptions that will never be able to be fully tested until there is a product and it is put into production. That testing comes in the next two steps.