1. Target User Groups for Research

   a. High school and college students with ADHD or executive functioning challenges

      These students frequently struggle with:

      - Starting assignments
      - Managing multiple deadlines
      - Estimating how long tasks will take to complete
      - Breaking down large projects

        * This group is relatively easy to find through schools, universities, online communities, and student organizations!

   b. Adults with ADHD in the workplace

      Many adults with ADHD continue to experience difficulties after entering the workforce, which include:

      - Prioritizing tasks
      - Starting complex work
      - Organizing a daily schedule
      - Maintaining focus throughout long projects

        * This group may provide insights on how to improve productivity and workplace support.

   c. Individuals with functioning difficulties who do not have a formal ADHD diagnosis

      People may experience task initiation difficulties for a variety of reasons, including:

      - Anxiety
      - Depression
      - Stress
      - Learning differences
      - Burnout

        * Many existing tools focus only on ADHD, likely overlooking a much larger group that experiences similar challenges.

2. Credible Sources

Source 1: Barkley, Russell A. Executive Functions: Hallberg, Sofia, et al. "Executive and Daily Life Functioning Influence the Relationship Between ADHD Symptoms and Mood Symptoms in University Students." PLOS ONE, vol. 16, no. 8, 2021, article e0256172. PubMed Central, nih.gov.

Key Findings:

- Executive function deficits in university students directly interfere with daily functional abilities and worsen overall mood stability.
- Traditional academic environments put strain on neurodivergent students because daily routines require continuous self-regulation.
- Students with ADHD face a struggle where executive dysfunction affects their academic performance while increasing risks of anxiety and depression.

Research Gap:

Many studies focus solely on the grades of students with ADHD, but they fail to address how functional impairments and executive dysfunction directly affect a student's mental health and emotional well-being.

Source 2: "ADHD in Adults." Centers for Disease Control and Prevention, www.cdc.gov/adhd/about/adhd-in-adults.html.

Key Findings:

Adults with ADHD commonly experience difficulties with :

- Time management
- Organization
- Planning
- Completing tasks
- Maintaining attention

Research Gap:

Many existing tools/interventions focus more on medication and therapy rather than a technology-based support.

Source 3: "Attention-Deficit/Hyperactivity Disorder (ADHD)." National Institute of Mental Health, U.S. Department of Health and Human Services, www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd.

Key Findings:

Executive functioning deficits affect multiple aspects of daily life, which include education, employment, and relationships.

Research Gap:

Current digital tools often fail to effectively adapt to changing contexts, such as school, work environments, and home.

Source 4: Kessler, R. C., et al. (2006). "The prevalence and effects of adult ADHD on work performance."

Journal of Occupational and Environmental Medicine.

Key Findings:

Adults with ADHD demonstrate significantly reduced workplace productivity.

Major struggles/barriers include:

- Delayed task initiation
- Difficulty maintaining attention
- Problems with prioritizing tasks

Research Gap:

Not many digital tools specifically target workplace executive functioning support.

3. Main Unmet Needs and Research Gaps

Gap 1: Existing tools focus on organization rather than activation

Many applications seem to help users create to-do lists more than helping users begin working. Creating something focusing specifically on task activation can help address this problem.

Gap 2: Existing tools provide limited personalization

Current tools are not dynamic and often assume that every user processes tasks in the same way.

Users may require different task sizes, reminder frequencies, time estimates, and motivational approaches.

Gap 3: Existing tools do not account emotional barriers

Users frequently report feeling overwhelmed, anxiety, fear of failure, and perfectionism.

Most productivity applications treat tasks as organizational problems rather than cognitive challenges.

Gap 4: Existing tools fail to convert intention into actions

Users often know exactly what they need to complete. The problem is bridging the gap between planning and action.

Gap 5: Existing tools uncommonly are designed for multiple environments

Students, employees, and individuals at home face different challenges that require different solutions instead of a one-size-fits-all fix.

4. Semi-Structured User Interview Questions

Question 1 = Can you describe the last time you needed to complete an important task but had difficulty getting started? (Identifies task initiation barriers)

Question 2 = What usually prevents you from starting a task? (Identifies the most common activation barrier)

Question 3 = What strategies or tools do you currently use to manage tasks? (Identifies current workflows)

Question 4 = If a tool could break a large task into smaller steps, what would make those suggestions actually useful for you? (Identifies preferences for decomposing tasks)

Question 5 = How often do you underestimate or overestimate the amount of time required to complete a task? (Evaluates the need for accurate time prediction)

Question 6 = What type of reminders would help you the most in starting or completing tasks? (Guides a reminder system design)

Question 7 = If you could design your ideal productivity support tool, what features would it include? (Allows user to identify what needs are unmet or overlooked)

Links:

Executive and Daily Life Functioning Influence the Relationship Between ADHD and Mood Symptoms in University Students - PMC

ADHD in Adults | Attention-Deficit / Hyperactivity Disorder (ADHD) | CDC

Attention-Deficit/Hyperactivity Disorder (ADHD) - National Institute of Mental Health (NIMH)

The prevalence and effects of adult attention deficit/hyperactivity disorder on work performance in a nationally representative sample of workers - PubMed