Step 1 (Market Segmentation) Worksheet

Market Segmentation Matrix Row Definitions:

1	**Market Segment Name**	*Carefully name the market segment so it appropriate captures precisely the group you want and no more; it is okay to be general at first but you will have to narrow this down in time to make real progress*
2	**End User**	*This is the person who is actually using the product not the economic buyer or the champion (more on this in step 12) – it is not a company or a general organization but real people*
3	**Task**	*What exactly is it that the end user does that you will significantly affect or allow her to do that she could not do before?*
4	**Benefit**	*What is the benefit that you believe the end user will get>*
5	**Urgency of Need**	*What is the level of urgency to solve the problem or capture the new opportunity for the end user?*
6	**Example End Users**	*Who are example users that you can, have or will talk to so as to validate to validate your perceptions on this market segment?*
7	**Lead Customers**	*Who are the influential customers (i.e., lighthouse customers) that if they buy, others will take note & likely follow?*
9	**Willingness to Change**	*How conservative is this market segment? How open are they to change? Is there something to force change (i.e., impending crisis)?*
10	**Frequency of Buying**	*How often do they buy new products? What is their buying cycle look like at a high level?*
11	**Concentration of Buyers**	*How many different buyers are there in this market segment? Is it a monopoly? Oligopoly (a small number of buyers)? Or many competitive buyers?*
12	**Other relevant market considerations**	*This allows for customization for your segment for relevant considerations such as "high employee turnover", "very low margins/ commodity", "high growth industry", "high virality effect (i.e., WOM -Word of Mouth", etc.*
13	**Size of Market (# of end users)**	*Estimation of the number of end users to a relevant range (10's, 100's, 1K's, 10K's, 100K's, 1M, etc.)*
14	**Est. value of end user ($1, $10, $100, $1K, etc.)**	*A first pass estimate of the value of each end user, again to a relevant order of magnitude so we can make some relative decisions now but then we will dive much deep into this and other numbers later*
15	**Competition/ alternatives**	*What will be you competition from the end users' perspective? Of course there is the "do nothing option" but who else would be competitors if they analyzed their options?*
16	**Other components needed for a full solution**	*Since most customers will only buy a full solution and not components, what are the other elements needed to construct a full solution to achieve the benefits above? These are the complementary assets that you do not currently have but would need to build or acquire to give the end user a total solution.*
17	**Important partners**	*Who are the partners or distributors you will have to work with to fit into the work flow (e.g., data must come out vendor A's system and then be picked up at the end by vendor B's system) or business processes (e.g., the end users gets all his product via distribution channel C)*
18	**Other relevant personal considerations**	*In many market segmentation analysis, there are additional important factors that should be considered. This could be things like where the market segment is geographically centered, values match to founding team, existing knowledge and contacts in market, etc.*

Market Segmentation Wire Frame Matrix:

Market Segment Name	Academic & Research Institutions	Pharma & Biotech Companies	Government & Public Research Agencies	Private R&D Organizations	Education & Students (K–12, undergrad, online)
End User	Researchers (professors, postdocs, grad students)	R&D scientists, drug discovery teams, bioinformaticians	Gov't scientists, policy analysts, national lab researchers	Corporate R&D teams, innovation labs, startup engineers	Students, teachers, TAs, e-learning participants
Task	Literature review, hypothesis gen., experimentation, paper writing	Identify drug targets, run in-silico tests, automated experimentation, analyze data	Large-scale public R&D (climate, space, health), data analysis	Rapid prototyping, product development, proof-of-concept experiments, iterative innovation cycles	Coursework, lab assignments, project-based learning, tutoring
Benefit	Faster publication, novel discovery pathways, deeper insights, reduced manual effort	Shorter drug dev cycles, lower costs, improved success rates, adaptive learning from failure	Better policy decisions, advanced research outputs, societal impact	Accelerated product innovation, resource optimization, faster time-to-market	Real-time learning support, improved educational outcomes, 24/7 access
Urgency of Need	Moderate–High (publish-or-perish, competitive grants, breakthrough results)	Very High (billions at stake, patent cliffs, fierce competition)	High (urgent societal issues, public accountability, competitive global research landscape)	Medium–High (market-driven innovation, ROI focus)	Medium (desire for modern tools, but often budget/administration limits)
Example End Users	Top universities & labs (MIT, Max Planck, Harvard, Stanford)	Major pharma (Pfizer, Merck), biotech startups (Moderna, computational drug discovery startups)	NIH, NASA, national labs (Lawrence Berkeley, Argonne)	Tech giants (Google X, IBM Research), deep-tech startups, individual researchers	Public schools, universities, e-learning platforms (Coursera, Khan Academy)
Lead Customers	Prestigious consortia, leaders in AI-augmented research,	Industry leaders (Novartis, Genentech)	Influential agencies, agency with adaptive procurement models (DARPA, CDC)	High-profile corporate labs (IBM Research, R&D hubs), industrial automation leaders	Innovative school districts, STEM-focused academies, major online ed providers
Willingness to Change	Moderate; open if it boosts publications/funding	Generally open, need proven ROI & compliance	Some caution; require security & compliance, large-scale needs	Agile; open to cutting-edge for competitive advantage	Varies; can be high if it enhances learning outcomes (must align w/ curricula)
Frequency of Buying	Grant/funding cycles (annual/biannual)	Annual or multi-year enterprise R&D budgets, innovation investment cycles	Formal RFPs, multi-year gov't procurements	Often per R&D cycle or quarterly budgets, rapid procurement for competitive advantage	School/district adoption cycles (annual or semester-based), site licenses
Concentration of Buyers	Highly fragmented (global institutions)	Oligopoly of big pharma + many mid-sized biotech	Fewer major agencies, each with big budgets	Many players; big corps + thousands of smaller startups	Many institutions, large consumer base (students, parents, educators)
Other relevant market segment considerations	High turnover (grad students), open science culture	Heavy regulation (FDA), strong IP concerns, long dev cycles	Political oversight, strict data sovereignty, shifting priorities	Emphasis on IP/patents, short product lifecycles, agile pivots	Privacy laws (FERPA, COPPA), cost constraints, curriculum alignment
Size of Market (# of end users)	10K's–100K's researchers globally	Hundreds–thousands of R&D-intensive companies	Tens–hundreds of agencies globally	1K's–10K's orgs with R&D teams	100K's–millions of students & teachers worldwide
Est. value of end user ($1, $10, $100, $1K, etc.)	$1K–$5K per seat/year	$10K–$100K+ (enterprise scale)	$100K–$1M+ (large gov't contracts)	$5K–$50K per seat/usage-based	$10–$100 per student license or subscription

Competition/ alternatives	Google AI Co-Scientist, Sakana AI, in-house/manual approaches	Specialized AI drug platforms (BenevolentAI), manual R&D	In-house gov't solutions, private contractors (Palantir), HPC	General AI platforms (Vertex AI), custom in-house tools	Existing EdTech (Khan Academy, Chegg), "do nothing" (traditional teaching)
Other components needed for a full solution	HPC/cloud, domain datasets, reference management, field specific knowledge bases, specific sandboxes	Secure data lakes, compliance modules (GxP/HIPAA), HPC	Gov't data systems, high security compliance, HPC	Integration w/ devops & data pipelines, domain-specific modules	Curriculum integration, child-safe environment, teacher dashboards
Important partners	University IT, HPC providers, academic consortia (arXiv)	Cloud/HPC vendors, regulatory consultants, domain data sources	Systems integrators, HPC vendors, specialized gov't contractors	Cloud providers, manufacturing partners, devops vendors	School districts, EdTech platforms, teacher associations, parent groups
Other relevant personal considerations	Funding constraints, preference for open-source, academic prestige, academic norms around AI research assistant	Need pilot validation, strong IP protection, ROI demonstration, model explainability	Political factors, domestic sourcing, public transparency	IP ownership, flexible licensing, agile partnerships	Alignment w/ educational standards, parental consent, budget approval