

The Effect of an AI Healthcare Service's Friendly Persona on Users' Perceptions



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67-368

Final Presentation

Why Healthcare AI?

- AI is becoming part of everyday decision-making.
- Healthcare is high-stakes.
- As PMs and UX researchers, we wanted to understand how users actually experience AI in a medical setting, and how persona design shapes trust and perceived accuracy.

Research Question:

Which AI persona increases users' trust, perception of accuracy, and willingness to adopt the technology?



Friendly persona (smiling photo + warm tone)



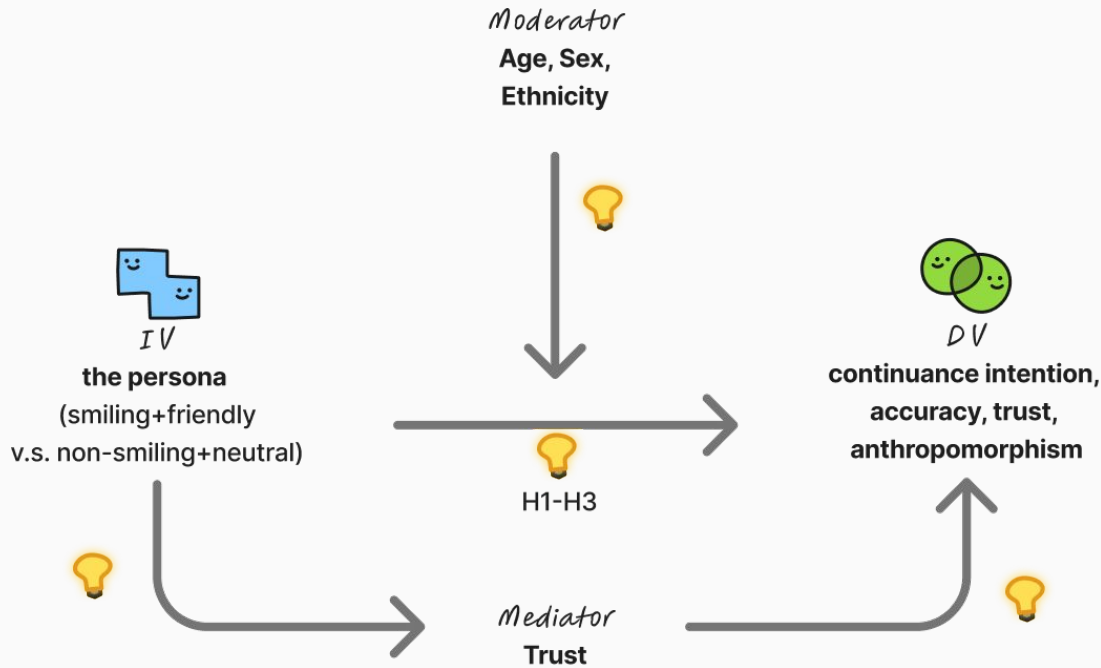
Neutral persona (neutral photo + clinical tone)

What we expected:

- H1: A neutral AI persona will be seen as more medically accurate.
- H2: A friendly AI persona will be trusted more.
- H3: A friendly AI persona will lead to greater willingness to reuse.



Research Model



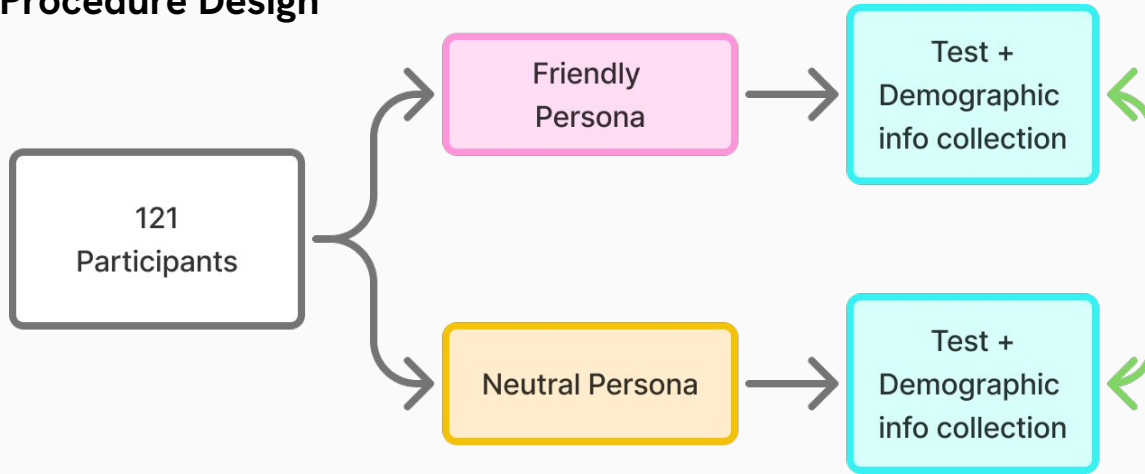
IV
AI Persona

DVs
Perceived Accuracy
Trust
Continuance Intention
Anthropomorphism

Other Variables
Moderator: Demographics
Mediator: Trust

Research Methods

Procedure Design



- 121 participants completed a simulated telehealth consultation
- Random assignment to Friendly vs. Neutral persona
- All medical content held constant
- Participants rated accuracy, trust, reuse intention, and anthropomorphism
- Ran t-tests, mediation, and moderation analyses

1. Neutral AI persona perceived as more accurate.

Participants rated the professional, non-smiling AI as more medically accurate than the smiling AI, suggesting that seriousness signals stronger clinical expertise.

2. Trust was slightly higher for neutral AI persona than the friendly persona

Smiling reduced trust, and lower trust led to lower willingness to reuse the system, meaning trust is the key mechanism linking design style to long-term adoption.

3. Continuance intention (adoption) was higher for neutral AI persona.

Participants reported greater intention to use the telehealth system again when the AI appeared neutral and professional, showing that credibility drives return behavior.

Statistical Summary

DV	t-value	df	p-value	mean_non_smile	mean_smile	ci_lower	ci_upper
accuracy_avg	2.0841	111.0	0.03945	6.371429	6.056140	0.01551253	0.61506391
trust_avg	1.8325	109.33	0.06959	5.989796	5.614035	-0.03062649	0.78214815
continuance_avg	2.4532	110.99	0.01571	5.289286	4.792982	0.09542307	0.89718344
anthropomorphism_avg	1.3128	110.88	0.192	5.135714	4.750877	-0.1960721	0.9657462

T-test Results for DVs by AI Persona

Finding 1

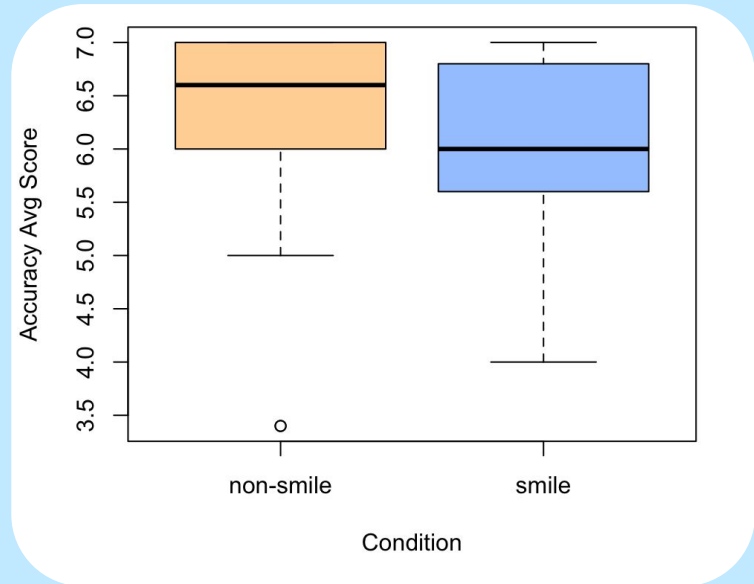
Neutral AI persona perceived as more accurate.

H1: Supported

t = 2.08 Moderate difference

P = .039 The probability that this difference happened by random chance is **less than 4%**, so it's likely a real effect.

SD: **Neutral** accuracy ratings are **less variable**, meaning participants more consistently agreed that the neutral AI was accurate. **Friendly** condition has **higher variability**, meaning people had more mixed reactions about whether a friendly AI seems accurate.



Accuracy Perception by Persona

Finding 2

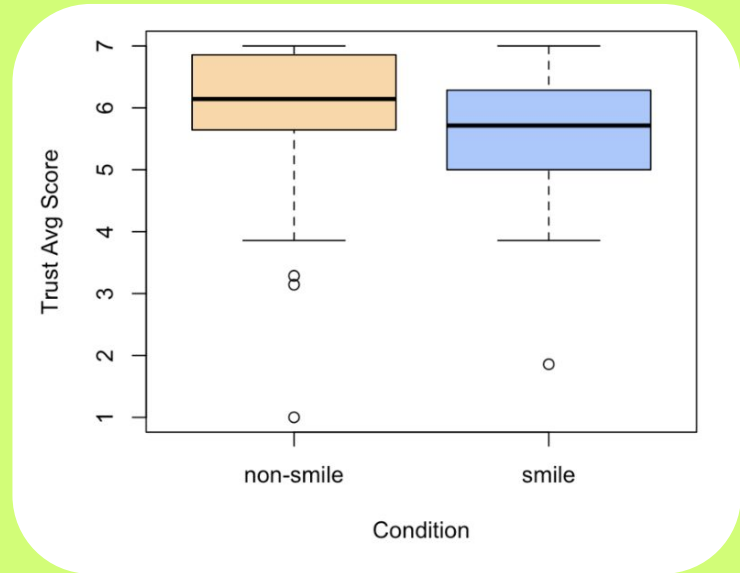
Trust was slightly higher for neutral AI persona than the friendly persona

H2: Not Supported

t = 1.83 Smaller difference

P = .069 The probability this effect occurred by chance is about **7%**, meaning the effect is **trending but not conventionally significant.**

SD: Trust scores have **moderate variability** across both conditions, indicating participants differ in how much they trust AI systems.



Trust Perception by Persona

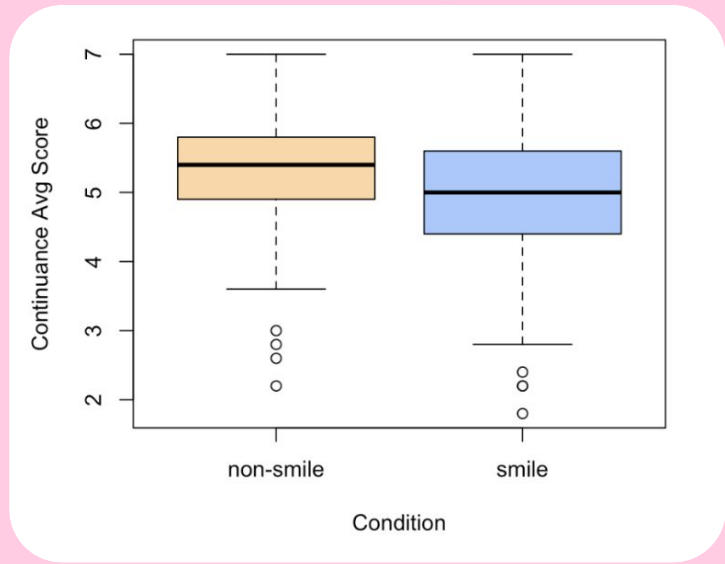
Continuance intention was higher for neutral AI persona.

H3: Not Supported

t = 2.45 Moderate Strong Difference

P = .0157 The probability that this difference happened by random chance is **less than 2%**, indicating a **clear, statistically reliable effect**.

SD: **Neutral** continuance scores show **lower variability**, meaning participants were more consistent in saying they would reuse the neutral AI. The **friendly** condition has **higher variability**, showing participants were more divided on if they would use it.

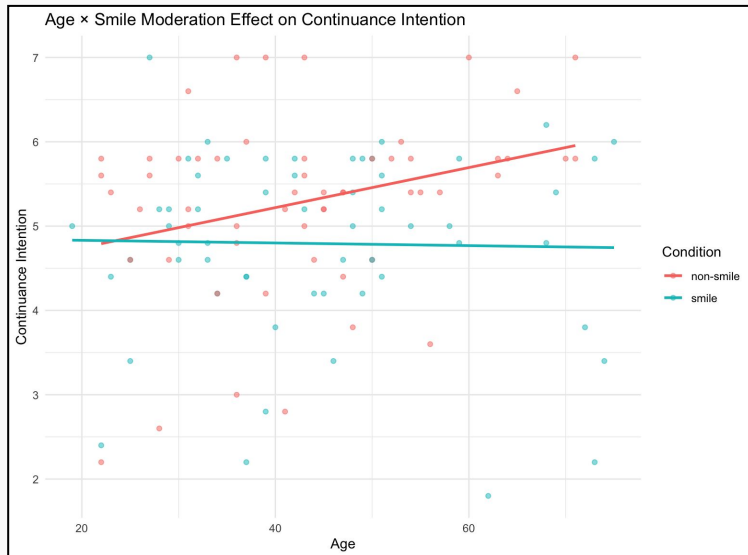


Continuance Intention by Persona

1 Moderation

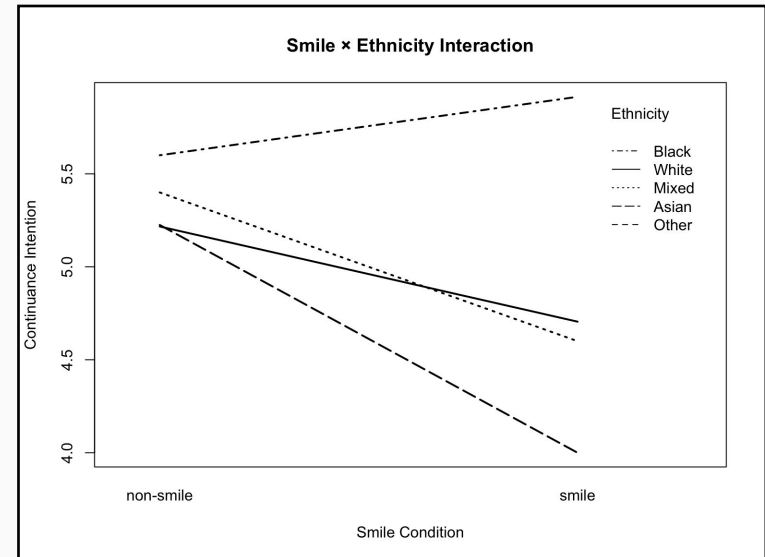
Age

Older participants consistently rated the non-smile AI more positively



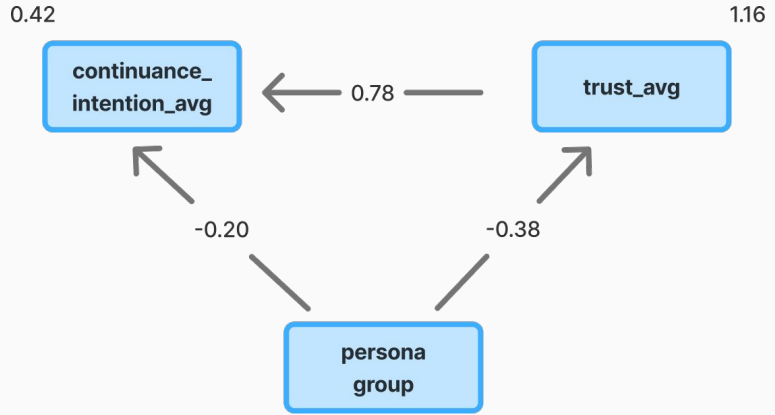
Ethnicity

Black participants gave higher trust, anthropomorphism, and continuance ratings.



2 Mediation

Trust partially mediated the relationship between persona and users' willingness to adopt the technology.



GLM Analysis

Model 1: friendly persona → continuance intention (total effect)

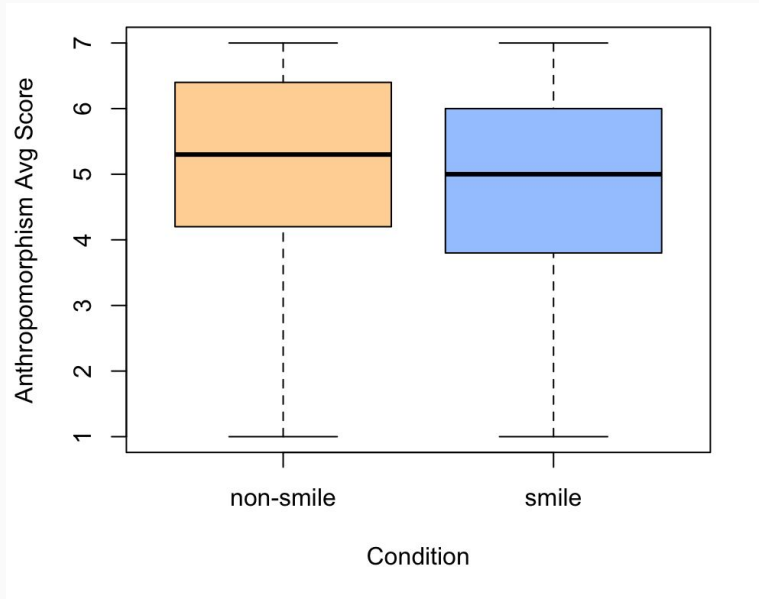
Model 2: friendly persona → trust (a-path)

Model 3: friendly persona + trust → continuance intention (b-path & direct effect)

Model 1: friendly persona → continuance intention (total effect)	Model 2: friendly persona → trust (a-path)	Model 3: friendly persona + trust → continuance intention (b-path & direct effect)
<pre> > model_cont_total <- lm(continuance_avg ~ smile_group, data = data) > summary(model_cont_total) Call: lm(formula = continuance_avg ~ smile_group, data = data) Residuals: Min 1Q Median 3Q Max -3.0893 -0.3930 0.1107 0.6070 2.2070 Coefficients: Estimate Std. Error t value Pr(> t) (Intercept) 5.2893 0.1437 36.803 <2e-16 *** smile_groupsmile -0.4963 0.2024 -2.453 0.0157 * --- Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 Residual standard error: 1.075 on 111 degrees of freedom Multiple R-squared: 0.05141, Adjusted R-squared: 0.04286 F-statistic: 6.015 on 1 and 111 DF, p-value: 0.01574 </pre>	<pre> > model_trust_med <- lm(trust_avg ~ smile_group, data = data) > summary(model_trust_med) Call: lm(formula = trust_avg ~ smile_group, data = data) Residuals: Min 1Q Median 3Q Max -4.9898 -0.6140 0.1531 0.8673 1.3860 Coefficients: Estimate Std. Error t value Pr(> t) (Intercept) 5.9898 0.1455 41.168 <2e-16 *** smile_groupsmile -0.3758 0.2049 -1.834 0.0693 . --- Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 Residual standard error: 1.089 on 111 degrees of freedom Multiple R-squared: 0.02942, Adjusted R-squared: 0.02068 F-statistic: 3.365 on 1 and 111 DF, p-value: 0.06929 </pre>	<pre> > model_cont_med <- lm(continuance_avg ~ smile_group + trust_avg, data = data) > summary(model_cont_med) Call: lm(formula = continuance_avg ~ smile_group + trust_avg, data = data) Residuals: Min 1Q Median 3Q Max -2.17768 -0.37475 -0.02453 0.39102 1.78087 Coefficients: Estimate Std. Error t value Pr(> t) (Intercept) 6.60538 0.35578 18.568 <2e-16 *** smile_groupsmile -0.20247 0.12606 -1.606 0.1111 trust_avg 0.78198 0.05754 13.589 <2e-16 *** --- Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1 Residual standard error: 0.6601 on 110 degrees of freedom Multiple R-squared: 0.6459, Adjusted R-squared: 0.6395 F-statistic: 100.3 on 2 and 110 DF, p-value: < 2.2e-16 </pre>

GLM Results for 3 Models

3 Anthropomorphism



Anthropomorphism by Persona

Anthropomorphism scores did not differ between conditions ($p = .192$)

The friendly AI persona did not make the AI appear more human-like or emotionally present.

STRATEGIC IMPLICATIONS



- Professionalism should guide AI healthcare design
- Trust is the primary lever for adoption
- One-size-fits-all AI isn't enough
- Overly human-like design is unnecessary and may backfire

RECOMMENDATIONS

Adopt professional default persona for telehealth AI

- Use a neutral avatar and medically focused tone
- Avoid excessive friendliness
- Expected impact: Higher trust, accuracy, and willingness to return

Personalize AI healthcare provider based on user age

- Younger users: more structured explanations
- Older adults: keep messaging concise and direct
- Enhances user comfort and closes demographic trust gaps

Strengthen trust cues to improve adoption

- Include symptom summaries and brief reasoning for suggestions
- Reduce filler language that weakens credibility
- Focus on supporting trust because it is the key driver of adoption

Professionalism

- Neutral persona signals competence more effectively than friendliness.
- Friendliness does not necessarily improve trust when medical concerns are involved.

Trust

- Trust is the primary driver of users' AI adoption.
- Trust mediates the relationship between persona style and reuse behavior.

Limitations & Future Research

- Need larger and more diverse samples to validate findings & test different contexts.
- Separate tone and facial expression (2x2 design) to identify which component matters most.

Demographic Insights

- Older adults show higher trust and accuracy perceptions.
- Ethnicity also shapes credibility judgments.

How do we explain these results?

1. Different set of expectations between humans and AI telehealth providers.
 2. Patients want authentic reaction so friendly persona seems out of touch based on context.
-

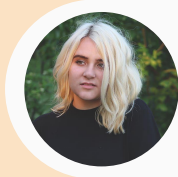
Thank you!

The Team



Full Name

Title



Full Name

Title



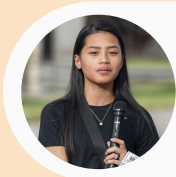
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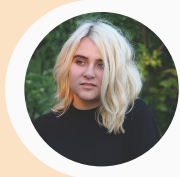
Title

The Team



Full Name

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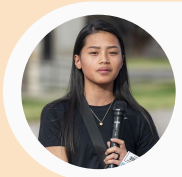
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Title

Theoretical Contribution

???

THE VISION



PERSONAS

1

Persona
Name

2

Persona
Name

3

Persona
Name

4

Persona
Name

5

Persona
Name

Needs and motivations

- What does your persona want or need to achieve?
- What are their goals?
- What motivates them to pursue these goals?

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Pain Points

Describe an obstacle your persona struggles with. Think about what interferes with their needs, goals.

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Team

Landscape

Opportunities

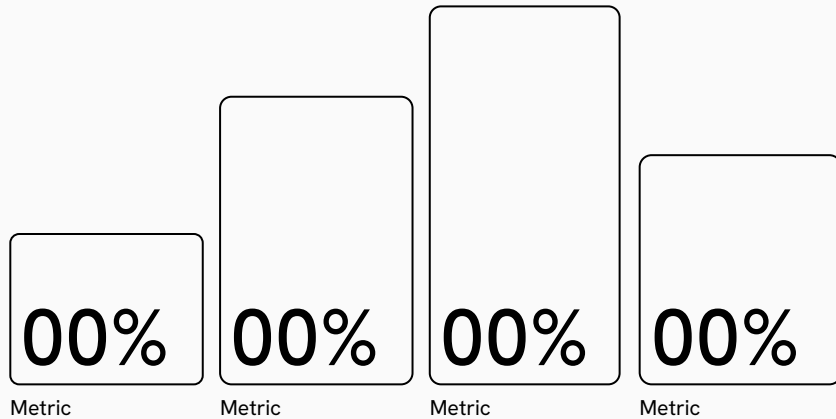
Timeline

Competitive landscape

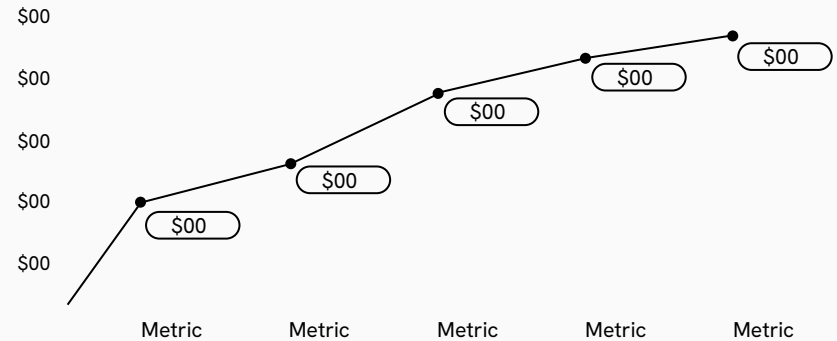
	Competitor 1	Competitor 2	Competitor 3	Competitor 4
Feature or product	x	✓	✓	x
Feature or product	✓	x	✓	x
Feature or product	✓	x	✓	x
Feature or product	x	x	x	x
Feature or product	x	✓	x	✓

Growth areas

Potential growth for current business



Projected audience for new product or service



BUSINESS ROADMAP

1

Step name

Describe a step needed to reach your strategic goals.

● Add a milestone

● Add a deliverable

● Add an objective.

2

Step name

Describe a step needed to reach your strategic goals.

● Add a milestone

● Add a deliverable

● Add an objective.

3

Step name

Describe a step needed to reach your strategic goals.

● Add a milestone

● Add a deliverable

● Add a deliverable

4

Step name

Describe a step needed to reach your strategic goals.

● Add a milestone

● Add a milestone

● Add a milestone

5

Step name

Describe a step needed to reach your strategic goals.

● Add a milestone

● Add a deliverable

● Add an objective.

BUSINESS ROADMAP

1

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Describe a step needed to reach your strategic goals.

- Add more info about this step. For example, deliverables, activities, marketing assets.

- You can also call out the teams or stakeholders involved.

- Mention any performance targets that should be reached during this step.

2

Step name

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3

Step name

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4

Step name

Describe a step needed to reach your strategic goals.

- Add more info about this step. For example, deliverables, activities, marketing assets.

- You can also call out the teams or stakeholders involved.

5

Step name

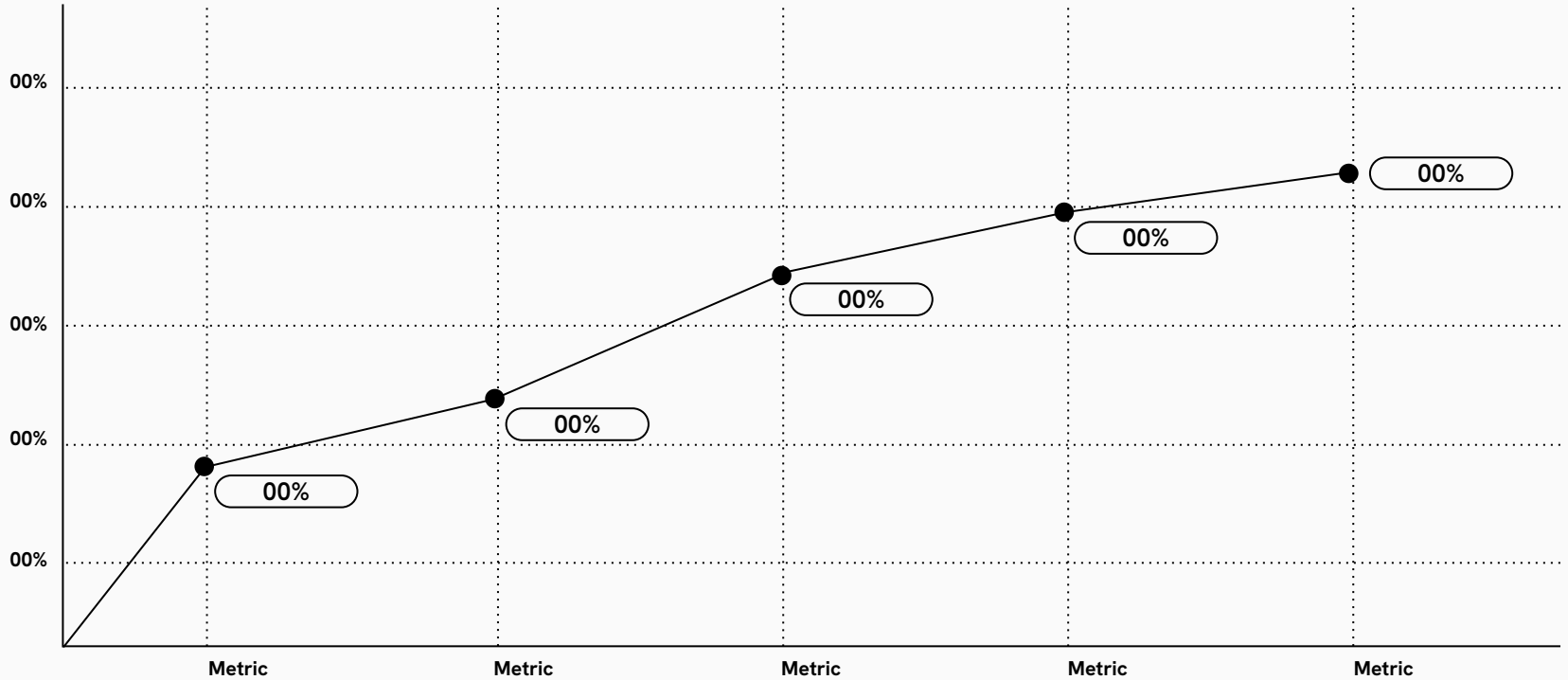
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Projected results



Projected results

00%

Metric

A brief note on the results.

00%

Metric

A brief note on the results.

00%

Metric

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00%

Metric

A brief note on the results.

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Metric

A brief note on the results.

00%

Metric

A brief note on the results.

00%

Metric

A brief note on the results.

00%

Metric

A brief note on the results.

Projected results

00%

Sales growth



A brief note on the results

\$0,000

Revenue



A brief note on the results

00%

Return on investment



A brief note on the results

Projected results

\$0,000

Metric

A brief note on the results.

\$0,000

Metric

A brief note on the results.

\$0,000

Metric

A brief note on the results.

00%

Metric

A brief note on the results.

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Metric

A brief note on the results.

00%

Metric

A brief note on the results.

Team

Landscape

Opportunities

Timeline

Project timeline

Quarter, Year

Milestone 1

Outline how you will achieve the strategic plan, step by step.

Quarter, Year

Milestone 2

Outline how you will achieve the strategic plan, step by step.

Quarter, Year

Milestone 3

Outline how you will achieve the strategic plan, step by step.

Quarter, Year

Milestone 4

Outline how you will achieve the strategic plan, step by step.

Quarter, Year

Milestone 5

Outline how you will achieve the strategic plan, step by step.

Team

Landscape

Opportunities

Timeline

Gantt Chart

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Task description



Task description



Task description



Task description



Task description

