VENTURE FORWARD X BABSON PROJECT:

Income/Revenue Potential: How Microbusiness are Shaped?

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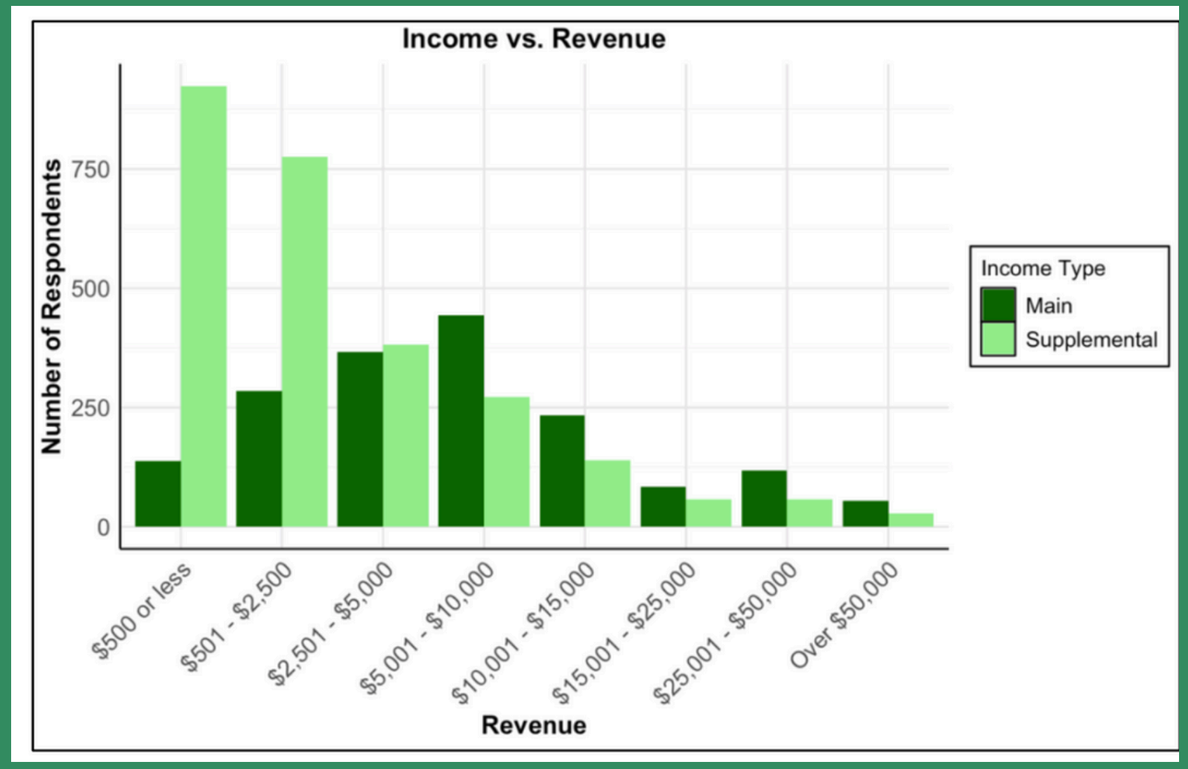
WHAT DID WE DO?

1. Thoroughly looked into the surveys
2. Filtered out important questions in accordance to our objective
3. Chose surveys which had common questions related to our objective
4. Data cleaning (further explained on slide 3)
5. Conducted exploratory data analysis
6. Generate strategic recommendations for the report
7. Discussed our next steps (further explained on slide 11)

DATA CLEANING

1. We used surveys from **August 2022 to February 2024**
2. Selected Relevant Columns – Focused on key variables related to income and revenue.
3. Standardized Column Names – Ensured consistency across all surveys for seamless analysis.
4. Added Survey Identifiers – Tracked responses by survey year for comparative insights.
5. Converted Data Types – Transformed variables into numeric or factor formats for accuracy.
6. Filtered Ambiguous Responses – Reducing observations from 14,078 to 4,354.

GRAPH 1: BAR CHART - INCOME TYPE VS. REVENUE



SURVEY QUESTION(S): Q9 & Q11A/AA

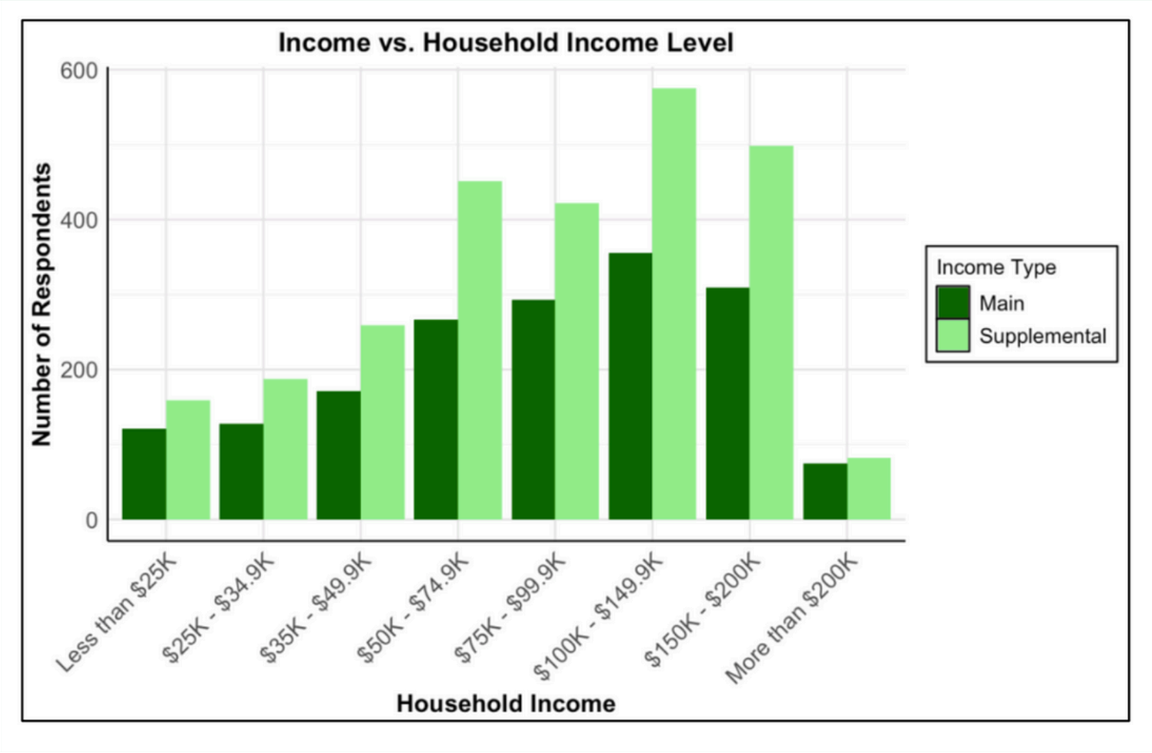
INSIGHTS:

- **Main Income Concentration:** The majority of respondents relying on their main income source fall within the lower revenue brackets ($501 to $5,000), indicating a concentration of primary income in this range.

- **Supplemental Income Importance at Lower End:** Supplemental income appears to be more common among individuals earning less than $5,000 per month, suggesting a need to supplement lower main incomes.

- **High Income Reliance on Main Source:** As average monthly revenue increases (especially over $50,000), the number of respondents relying on their main income source becomes more prominent compared to supplemental income, implying that higher earners are less likely to need additional income sources.

GRAPH 2: BAR CHART - INCOME TYPE VS. HOUSEHOLD INCOME LEVEL



SURVEY QUESTION(S): Q9 & Q10 (DEMOGRAPHICS)

INSIGHTS:

- **Higher Household Income Groups Have More Supplemental Income Earners:** The dark green bars (supplemental income) increase significantly in the $75K-$200K range, indicating that higher-income households are more likely to engage in side businesses.

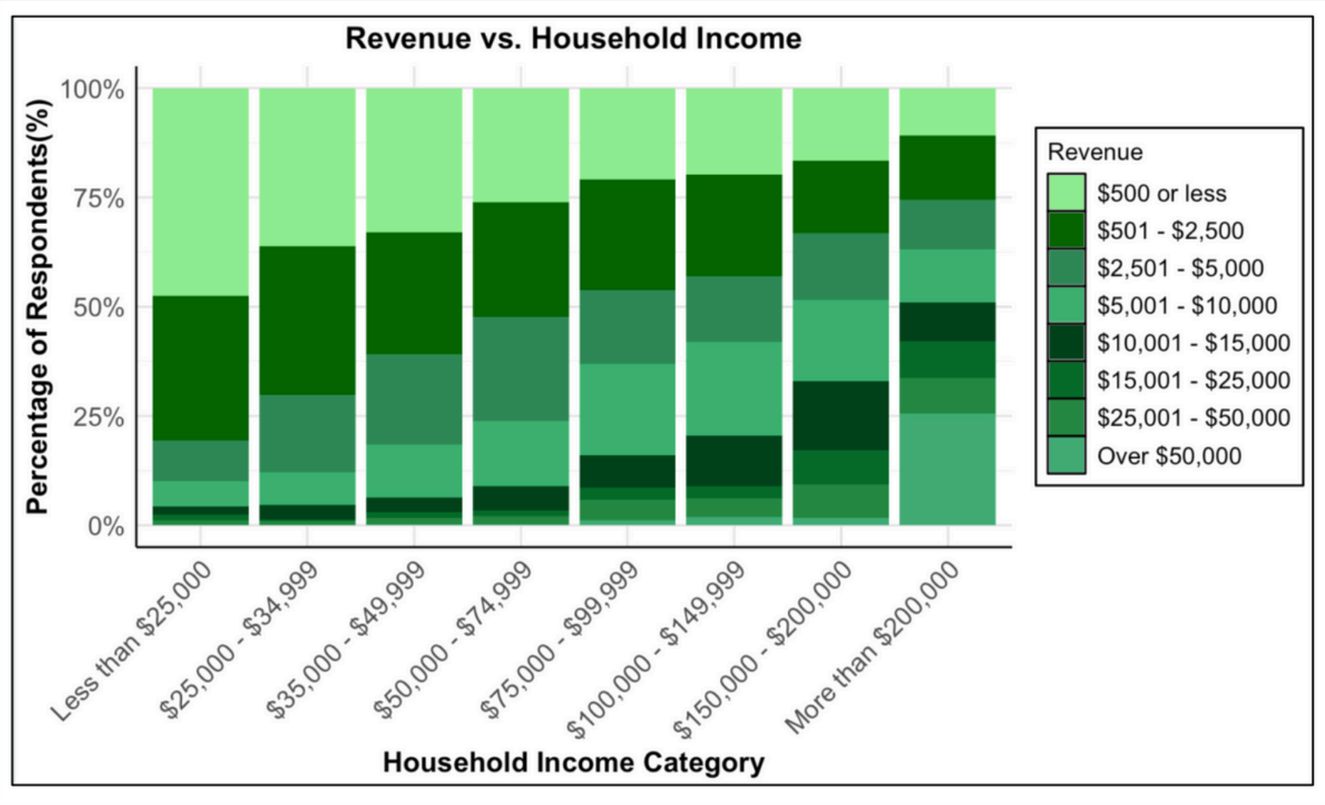
- **Middle-to-Upper Income Groups ($100K-$200K) Have the Highest Business Participation:** The largest number of respondents for both income types are in the $100K-$200K range, suggesting that households in this bracket are most engaged in business activities.

- **Lower Household Income Groups Have Fewer Business Owners Overall:** The bars are shortest in the <$50K range, meaning that lower-income households are less involved in both main and supplemental business ownership.

GRAPH 3: STACKED BAR CHART - REVENUE VS. HOUSEHOLD INCOME LEVEL

EXPLANATION

The graph presents the distribution of business revenue across different household income categories. Each bar represents a household income category, while the different shades of green indicate various revenue levels. The y-axis is shown in percentages, making it easier to compare how revenue distribution changes across different income groups.



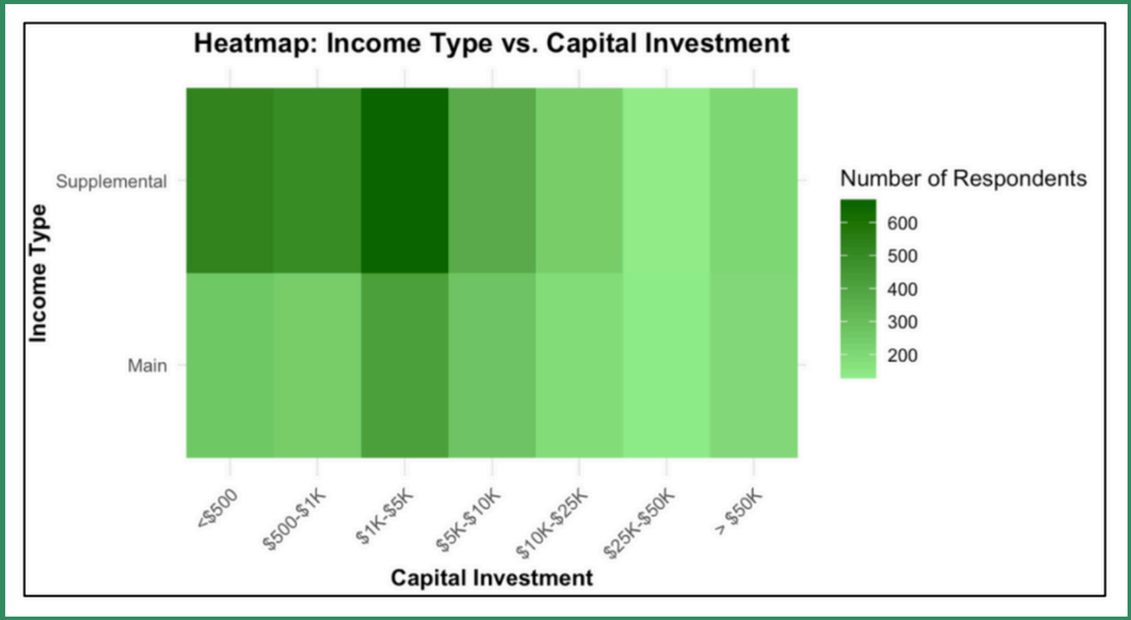
SURVEY QUESTION(S): Q10 (DEMOGRAPHICS) & Q11A/AA

GRAPH 3: STACKED BAR CHART - REVENUE VS. HOUSEHOLD INCOME LEVEL

INSIGHTS:

- **Revenue for Lower-Income Households:** Households earning less than $25,000 primarily report business revenues of $500 or less.
- **Higher Earnings for Households Above $100,000:** Households earning more than $100,000 have a greater proportion of businesses generating more than $10,000 in revenue.
- **Relationship Between Household Income and Revenue:** There is a direct relationship between household income and business revenue, particularly for those in lower income brackets.

GRAPH 4: HEATMAP - INCOME TYPE VS. CAPITAL INVESTMENT



SURVEY QUESTION(S): Q9 & Q25

INSIGHTS:

- **Higher Concentration in Lower Capital Investment Ranges:** The darkest green areas that represent the highest respondent counts are within the range of less than $500 to $10K, particularly for those with supplemental income. The capital investment range that experienced the highest concentration of respondents for both income types is $1K to $5K.

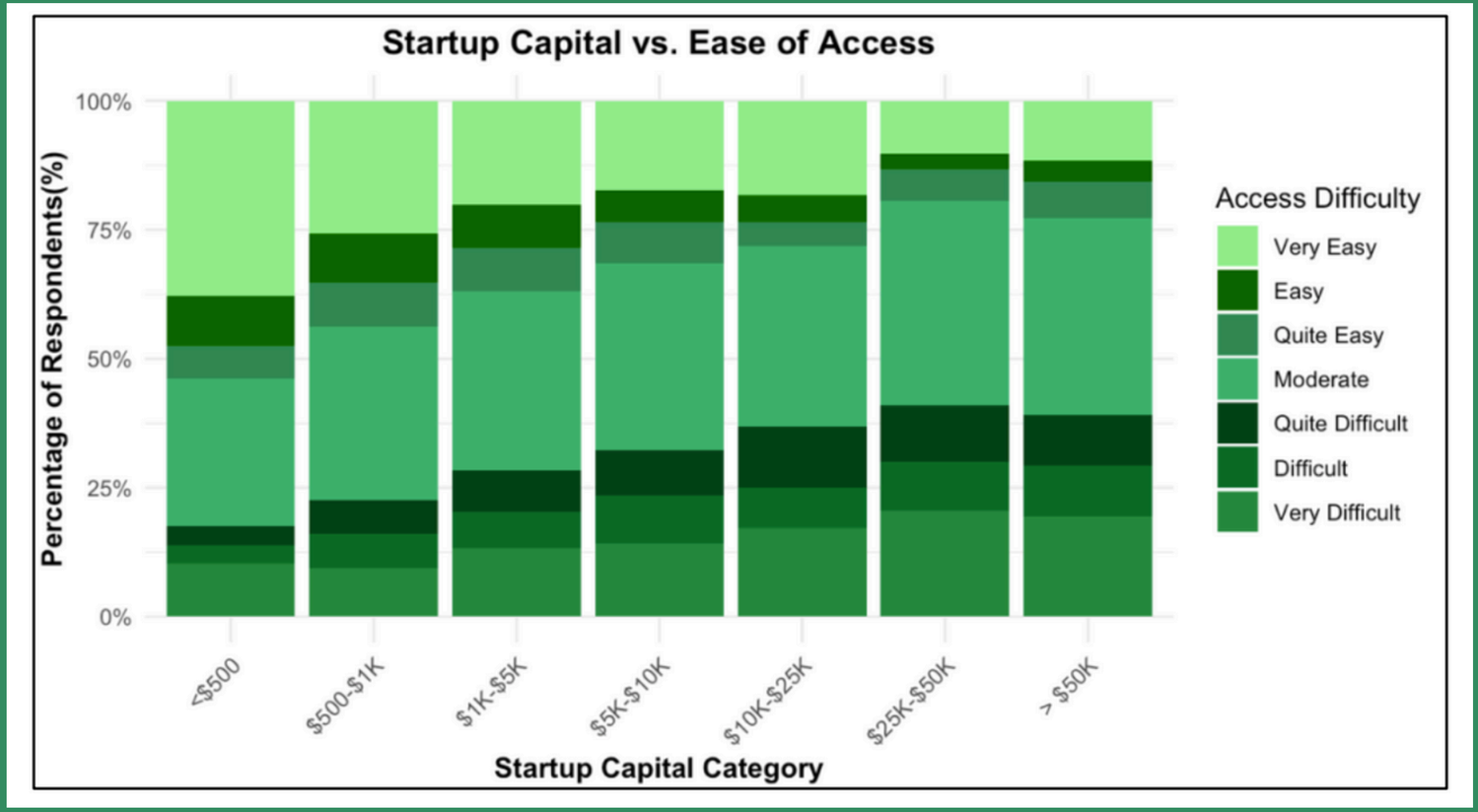
- **Supplemental Income Earners Experience a Broader Investment:** Respondents with supplemental income (likely a side business) are more evenly spread across the capital investment ranges compared to those with a main source of income. This could suggest that side business owners feel more comfortable taking investment risks, potentially due to having an alternative income source.

- **High-Capital Investment (> $50K) Is Uncommon for Both Groups:** Few respondents invest large amounts, likely due to funding constraints, risk aversion, or industry-specific barriers, making high-capital investment businesses rare.

GRAPH 5: STACKED BAR CHART - STARTUP CAPITAL VS. EASE OF ACCESS

EXPLANATION

This graph illustrates the relationship between startup capital categories and the difficulty of capital access. It highlights how businesses that required lower amounts of startup capital generally reported easier access to funding, while those needing higher amounts faced greater difficulties in securing financial resources.



SURVEY QUESTION(S): Q25 & Q25A

GRAPH 5: STACKED BAR CHART - STARTUP CAPITAL VS. EASE OF ACCESS

INSIGHTS:

- **Easy Access for Low-Capital Businesses:** Businesses requiring less than $5,000 in startup capital generally report easier access to funding.

- **Rising Challenges with Higher Capital Requirements:** As startup capital exceeds $10,000, access to funding becomes more difficult for businesses.

- **Micro Businesses Struggle with $25,000+ Capital Needs:** Micro businesses needing $25,000 or more in capital find it hardest to secure funding.

- **Capital-Intensive Businesses Face Stricter Lending Requirements:** Higher capital-intensive businesses encounter stricter lending criteria, limiting funding access.

WHAT WILL WE DO NEXT?

1. Refine our data cleaning approach to increase data points
2. Employ predictive analytics techniques such as cluster analysis
3. Start working towards finalising key insights

THANK YOU!

We're ready to answer your questions!