

Research Article

Accelerated the Mechanics of Science and Insight through Mind Genomics and AI: Policy for the Citrus Industry

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Abstract

The paper introduces a process to accelerate the mechanics of science and insight. The process comprises two parts, both involving artificial intelligence embedded in Idea Coach, part of the Mind Genomics platform. The first part of the process identifies a topic (policy for the citrus industry), and then uses Mind Genomics to understand the three emergent mind-sets of real people who evaluate the topic, along with the strongest performing ideas for each mind-set. Once the three mind-sets are determined, the second part of the process introduces the three mind-sets and the strongest performing elements to AI in a separate 'experiment', instructing Idea Coach to answer a series of questions from the point of view of each of the three mind-sets. The acceleration can be done in a short period of time, at low cost, with the ability to generate new insight about current data. The paper closes by referencing the issues of critical thinking and the actual meaning of 'new knowledge' emerging from a world of accelerated mechanics of science and insight.

Introduction

Traditionally, policy has been made by experts, often consultants to the government, these consultants being experts in the specific topic, in the art and science of communication, or both. The daily press is filled with stories about these experts, for example the so-called 'Beltway Bandits' surrounding Washington D.C [1]. It is the job of these experts to help the government decide general policy and specific implementation. The knowledge of these experts helps to identify issues of importance to the government groups to whom they consult. The ability of these expert to communicates helps to assure that the policy issues on which they work will be presented to the public in the most felicitous and convincing manner. At the same time that these experts are using the expertise of a lifetime to guide policy maker, there is the parallel world of the Internet, source of much information, and the emerging world of AI, artificial intelligence, with the promise of supplanting or perhaps more gently, the promise of augmenting, the capabilities and contributions of these expert. Both the internet and AI have been roundly attacked for the threat that they pose [2]. It should not come as a surprise that the world of the Internet has been accused of being replete with false information, which it no doubt is [3]. AI receives equally brutal attacks, such as producing false information [4] an accusation at once correct and capable of making the user believe that AI is simply not worth considering because of the occasional error [5]. The importance of public policy is already accepted, virtually universally. The issue is not the general intent of a

particular topic, but the specifics. What should the policy emphasize? Who should be the target beneficiaries of the policy? What should be done, operationally, to achieve the policy? How can the policy be implemented? And finally, in this short list, what are the KPI's, the key performance indicators by which a numbers-hungry administration can discover whether the policy is being adopted, and whether that adoption is leading to desire goals.

Theory and Pragmatics: The origin of this Paper

This paper was stimulated by the invitation of HRM to attend a conference on the Citrus Industry in Florida, in 2023. The objective of the conference was to bring together various government, business and academic interests to discuss opportunities in the citrus industry, specifically for the state of Florida in the United States, but more generally as well. Industry-center conferences of this type welcome innovations from science, often with an eye on rapid application. The specific invitation was to share with the business, academic and government audiences new approaches which promised better business performance. The focus of the conference was oriented towards business and towards government. As a consequence, the presentation to the conference was tailored to show how Mind Genomics as a science could produce interesting data about the response to statements about policy involving the business of citrus. As is seen below, the material focused on different aspects of the citrus industry, from the point of view of government and business, rather than from the point of view of the individual citrus product [6-9].

The Basic Research Tool: Mind Genomics

At the time of invitation the scope of the presentation was to share with the audience HOW to do a Mind Genomics study, from start to finish. The focus was on practical steps, rather than theory, and statistics. As such the presentation was to be geared to pragmatics, about HOW to do the research, WHAT to expect, and how to USE the results. The actual work ended up being two projects, the first project to get some representative data using a combination of research methods and AI, AI to generate the ideas and then research to explore the ideas with people. The second part, done recently, almost five months after the conference, expanded the use of AI to further analyze the empirical results, opening up new horizons for application.

Project #1: Understanding the Mind of the Ordinary Person Faced with Messages about Citrus Policy

The objective of standard Mind Genomics studies is to understand how people make decisions about the issues of daily life. If one were to summarize the goals of this first project, the following sentence would do the best job, and ended up being the sentence which guided the efforts. The sentence reads: *Help me understand how to bring together consumers, the food trade, and the farmer who raises citrus products, so we can grow the citrus industry for the next decade. Make the questions short and simple, with ideas such as 'how' do we do things.* The foregoing is a 'broad stroke' effort to under what to do in the world of the everyday. The problem is general, there are no hypotheses to test, and the results are to be in the form of suggestions. There is no effort to claim that the results tell us how people really feel about citrus, or what they want to do when they come into contact with the world of citrus as business, as commerce, as a regulated piece of government, viz., the agriculture industry. In simple terms, the sentence in bold is a standard request that is made in industry all the time, but rarely treated as a topic to be explored in a disciplined manner. Mind Genomics works by creating a set of elements, messages about a topic, and mixing/matching these elements to create small vignettes, combinations comprising a minimum of two messages and a maximum of four messages. The messages are created according to an underlying structure called an experimental design. The respondent, usually sitting at a remote computer, logs into the study, reads a very short introduction to the study, and then evaluates a set of 24 vignettes, one vignette at a time. The entire process takes less than 3-4 minutes and proceeds quickly when the respondents are members of an on-line panel and are compensated for their participation by the panel company. The Mind Genomics process allows the user to understand what is important to people, and at the same time prevents the person from 'gaming' the study to give the correct answer. In most studies, the typical participant is uninterested in the topic. The assiduous researcher may instruct the participant to pay attention, and to give honest answers, but the reality is that people tend to be interested in what they are doing, not in what the researcher wants to investigate. As a consequence, their answers are filled with a variety of biases, ranging from different levels of interest and involvement to distractions by other thoughts. The Mind Genomics process works within these constraints by assuming that the respondent is simply a passive observer, similar to a person driving through their neighborhood, almost in an automatic fashion.

The person takes in the information about the road, traffic, and so forth, but does not pay much attention. At the end, the driver gets to where they are going, but can barely remember what they did when asked to recall the steps. This seems to be the typical course of events. The systematic combinations mirror these different 'choice points.' The assumption is that the respondent simply looks at the combination, and 'guesses', or at least judges with little real interest. Yet, the systematic variation of the elements in the vignettes ends up quickly revealing what elements are important, despite the often heard complain that 'I was unable to see the pattern, so I just guess.'

The reasons for the success of Mind Genomics are in the design and the execution [10-12].

1. The elements are created with the mind-set of a bookkeeper. The standard Mind Genomics study comprises four questions (or categories), each question generating four answers (also called element). The questions and answers can be developed by professionals, by amateurs, or by AI. This paper will show how AI can generate very powerful, insight questions and answers, given a little human guidance by the user.
2. The user is required to fill in a templated form, asking for the questions (see Figure 1, Panel A). When the user needs help the AI function (Idea Coach) can recommend questions once Idea Coach is given a sense of the nature of the topic. Figure 1, Panel B shows the request to Idea Coach in the form of a paragraph, colloquially called a 'squib.' The squib gives the AI a background, and what is desired. The squib need not follow a specific format, as long as it is clear. The Idea Coach returns with sets of suggested questions. The first part of the suggest questions appears in Figure 1, Panel C, showing six of the 15 questions returned by the AI-powered Idea Coach. The user need only scroll through to see the other suggestions. The user can select a question, edit it, and then move on. The user can run many iterations to create different sets of questions and can either edit the squib or edit the question, or both. At the end of the process, the user will have created the four questions, as shown in Figure 1, Panel D. Table 1 shows a set of questions produced by the Idea Coach, in response to the squib.
3. The user follows the same approach in order to create the answers. This time, however, the squib does not need to be typed in by the user. Rather, the question selected by the user, and after editing, becomes the squib for Idea Coach to use. For this project, Figure 1, Panel D shows the four squibs, one for each question. Idea Coach once again returns with 15 answers (elements) for each squib. Once again the Idea Coach can be used, so that the Idea Coach becomes a tool to help critical thinking, providing sequential sets of 15 answers (elements). From one iteration to another the 15 answers provided by Idea Coach differ for the most part, but with a few repeats. Over 10 or so iterations it's likely that most of the answers will have been presented.
4. Once the user has selected the questions, and then selected four answers for each question, the process continues with the creation of a self-profiling questionnaire. That questionnaire allows the user to find out how the respondent thinks about

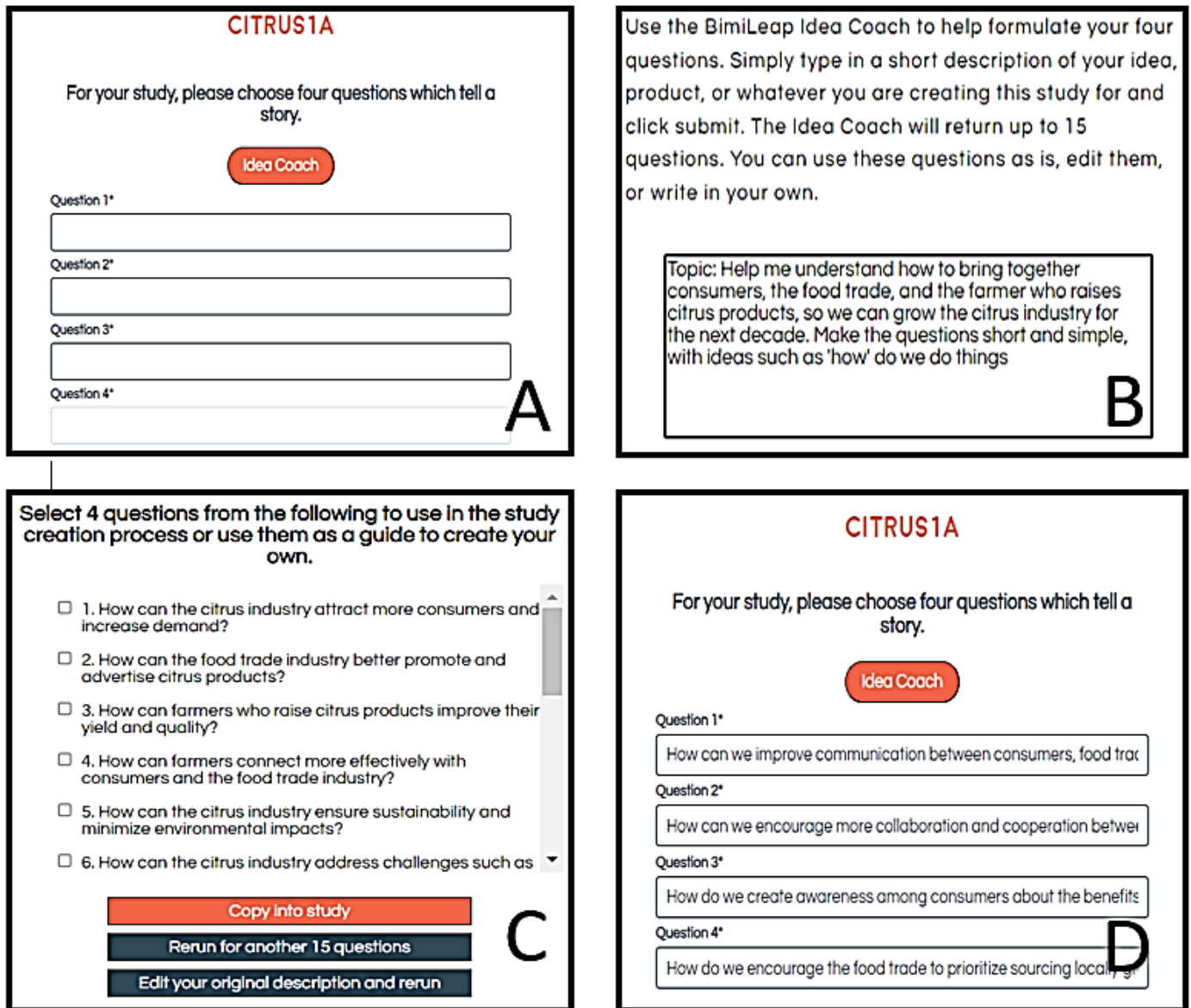


Figure 1: Set up for the Mind Genomics study. Panel A shows the instructions to provide four questions. Panel B shows the input to Idea Coach. Panel C shows the first part of the output from Idea Coach, comprising six of the 15 questions generated. Panel D shows the four questions selected, edited, and inserted into the template.

Table 1: Questions provided to the user by AI embedded in Idea Coach.

<p>Topic: Help me understand how to bring together consumers, the food trade, and the farmer who raises citrus products, so we can grow the citrus industry for the next decade. Make the questions short and simple, with ideas such as 'how' do we do things</p> <p>How can we improve communication between consumers, food trade, and citrus farmers?</p> <p>How do we create awareness among consumers about the benefits of consuming citrus products?</p> <p>How can we encourage more collaboration and cooperation between farmers and the food trade?</p> <p>How do we ensure that citrus farmers have access to necessary resources and support?</p> <p>How can we promote sustainable farming practices within the citrus industry?</p> <p>How do we educate consumers about seasonal availability and proper storage of citrus products?</p> <p>How can we establish a direct farmer-to-consumer sales platform for citrus products?</p> <p>How do we encourage the food trade to prioritize sourcing locally grown citrus products?</p> <p>How can we incentivize farmers to expand their citrus production for increased supply?</p> <p>How do we foster innovation and new product development in the citrus industry?</p> <p>How can we enhance the quality and taste of citrus products for consumer preferences?</p> <p>How do we establish a feedback mechanism between consumers, the food trade, and farmers to improve the industry?</p> <p>How can we ensure farmers receive fair compensation for their citrus products?</p> <p>How do we address potential challenges, such as pests and diseases, which may affect citrus production?</p> <p>How can we collaborate with government agencies and organizations to support and promote the citrus industry?</p>
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different topics directly or tangentially involved with the project. The self-profiling questionnaire has a built-in pair questions to record the respondent's age (directly provided), and self-described gender. For all questions except that of age, the respondent is instructed to select the correct answer to the question, the question presented on the screen, the answers presented in a 'pull-down' menu which appears when the corresponding question is selected for answering.

- The next step in the process requires the user to create a rating scale (Figure 2, Panel A). The rating scale chosen has five points as show below. Note that the scale comprises two parts. The first part is evaluative viz., how does the respondent feel (hits a nerve vs hot air). The second part is descriptive (sounds real or does not sound real). This two-sided scale enables the user to measure both the emotions (key dependent variable for analysis), as well as cognitions. For this study, the focus will be on the percent of ratings that are either 5 or 4 (hitting a nerve). Note that all five scale points are labelled. Common practice in Mind Genomics studies has been to label all the scales for the simple reason that most users of Mind Genomics results really are not focused on the actual numbers, but on the meaning of the numbers.

Here's a blurb you just read this morning on the web when you were reading stuff.. What do you think

1=It's just hot air ... and does not sound real

2=It's just hot air ... but sounds real

3=I really have no feeling

4=It's hitting a nerve... but does not sound real

5=It's hitting a nerve .. and sounds real

- The user next create a short introduction to the study, to orient the respondent (Figure 2, Panel B). Good practice dictates that wherever possible the user should provide as little information about the topic as possible. The reason is simple. It will be from the test stimuli, the elements in the 4x4 collection, or more specifically the combinations of those elements into vignette, that the respondent will make the evaluation and assign the judgment. The purpose of the orientation is to make the respondent comfortable and give general direction. The exceptions to this dictum come from situations, such the law, where knowledge of other factors outside of the material being presented can be relevant. Outside information is not relevant here.

RATING SCALE

Please type the question that you would like your respondents to answer. **A**

Here's a blurb you just read this morning. What do you think

The lowest value is 1, choose the highest scale value: 5

You must fill in #1 and #5. You have an option of defining the numbers in between but it's not required.

What does 1 mean on the scale?	It's just hot air ... and does not
What does 2 mean on the scale?	It's just hot air ... but sounds re
What does 3 mean on the scale?	I really have no feeling
What does 4 mean on the scale?	It's hitting a nerve... but does r
What does 5 mean on the scale?	It's hitting a nerve .. and sound

RESPONDENT ORIENTATION

Use this space to tell your study respondents what the study is about. We recommend 2-3 complete sentences. Be general, not too specific. **B**

Normal B I

Here is a statement that the Citrus Commission wants to test. Read the statement (all sections) and give your honest opinion

Now that you have published your study, you need respondents! You can choose to find respondents yourself, or you could use our sourcing services or a custom service to provide respondents for your study.

Remember, studies made through the BimiLeap platform are FREE. You pay only the per respondent processing fee. If you want your study privatized, there is an additional fee for that. Other costs may be incurred when you require the translation and programming of the standard respondent instruction pages into a new language, as well as handling fees for non-credit billing, or specialized recruiting of respondents. **C**

- I want BimiLeap to provide respondents (general population)
- I want a custom sample of respondents from BimiLeap
- I want to use a third-party service or explore more custom sampling options
- I will source myself

Figure 2: Final steps in the set-up of the study. Panel A shows the rating scale; the user types in the rating question select the number of scale points, and describe each scale point. Panel B shows the short orientation at the start of the study. Panel C shows the request to source respondents.

7. The last step of the setup consists of ‘sourcing’ the respondents (Figure 2, Panel C). Respondents can be sourced from standing panels of pre-screened individuals, or from people one invites, etc. Good practice dictates working with a so-called online panel provider, which for a fee can customize the number and type of respondent desired. With these online panel providers the study can be done in a matter of hours.
8. Once the study has been set-up, including the selection of the categories and elements (viz, questions and answers), the Mind Genomics platform creates combinations of these elements ‘on fly’, viz., in real time, doing so for each respondent who participates in the study. It is at the creation of the vignettes where Mind Genomics differentiates itself from other approaches. The conventional approach to evaluating a topic uses questionnaires, with the respondent present with stand alone ideas in majestic isolation, one idea at a time. The idea or topic might be a sentence, but the sentence has the aspects of a general idea, such as ‘How important is government funding for a citrus project.’ The goal is to isolate different, relevant ideas, focus the mind of the respondent on each idea, one at a time, obtain what seems to be an unbiased evaluation of the idea, and then afterwards to the relevant analyses to obtain a measure of central tendency, viz., an average, a median, and so forth. The thinking is straightforward, the execution easy, and the user presumes to have a sense of the way the mind of the respondent works, having given the respondent a variety of ‘sterile ideas’, and obtained ratings for each of the separate ideas.

Figure 3 shows a sample vignette as the respondent would see it. The vignette comprises a question at the topic, a collection of four simple statements, without any connectives, and then the scale buttons on the bottom. The respondent is presented with 24 of these vignettes. Each vignette comprises a minimum of two and a maximum of four elements, in the spare structure shown in Figure 3. There is no effort made to make the combination into a coherent whole. Although the combinations do not seem coherent, and indeed they are not, after a moment’s shock the typical respondent has no problem reading through the vignette, as disconnected as the elements are, and assigning a rating to the combination. Although many respondents feel that they are ‘guessing,’ the subsequent analysis will reveal that they are not.

The vignettes are constructed by an underlying plan known as an experimental design. The experimental design for these Mind Genomics studies calls for precisely 24 combinations of elements, our ‘vignettes’. There are certain properties which make the experimental design a useful tool to understand how people think.

- a. Each respondent sees a set of 24 vignettes. That set of vignette suffices to do a full analysis on the ratings of one respondent alone, or on the ratings of hundreds of respondents. The design is explicated in Gofman & Moskowitz .
- b. The design calls for each element to appear five times in 24 vignettes and be absent 19 times from the 24 vignettes.
- c. Each question or category contributes at most one element to

a vignette, often no elements, but never two or more elements. In this way the underlying experimental design ensures that no vignette every present mutually contradictory information, which could easily happen if elements from the same category appeared together, presenting different specifics of the same type of information.

- d. Each respondent evaluates a different set of vignettes, all sets structurally equivalent to each other, but with different combinations [13]. The rationale underlying this so-called ‘permutation’ approach is that the researcher learns from many imperfectly measured vignettes than from the same set of vignettes evaluated by different respondents in order to reduce error of measurement. In other words, Mind Genomics moves away from reducing error by averaging out variability to reducing error by testing a much wider range of combinations. Each combination tested is subject to error, but the ability to test a wide number of different combinations allows the user to uncover the larger pattern. The pattern often emerges clearly, even when the measurements of the individual points on the pattern are subject to a lot of noise.

The respondent who evaluates the vignettes is instructed to ‘guess.’ In no way is the respondent encouraged to sit and obsess over the different vignettes. Once the respondent is shown the vignette and rates it, the vignette disappears, and a new vignette appears on the screen. The Mind Genomics platform constructs the vignettes at the local site where the respondent is sitting, rather than sending the vignettes through the email.

When the respondent finishes evaluating the vignettes, the composition of the vignette (viz., the elements present and absent) is sent to the database, along with the rating (1-5, as show above) as well as the response time, defined as the number of seconds (to the nearest 100th) elapsing between the appearance of the vignette on the respondent’s screen and the respondent’s assignment of a rating.

The last pieces of information to be added comprise the information about the respondent generated by the self–profiling questions, done at the start of the study, and a defined binary transformation of the five-point rating to a new variable, called convenient R54x.. Ratings 5 and 4 (hitting nerve) were transformed to the value 100; . Ratings 3,2,1 (not hitting a nerve) were transformed to the value 0. To the transformed values 0 or 100, respectively, was added a vanishingly small random number (<10⁻⁵). The rationale for the random number is that later the ratings would be analyzed by OLS (ordinary least-squares) regression and then by k-means clustering, with the focus on the coefficients to emerge from OLS regression as inputs to the clustering. To this end it was necessary to ensure that all respondent data would generate meaningful coefficients from OLS regression, a requirement only satisfied when the newly created binary variables were all different from each other. Adding the vanishingly small random number to each newly created binary variable ensured that variation.

9. The analysis of the ratings follows two steps once the ratings have been transformed to R54x. The first step uses

OLS (ordinary least-squares) regression, at the level of the individual respondent. OLS regression fits a simple linear equation to the data, relating the presence/absence of the 16 elements to the variable R54x. The second step uses k-means clustering (Likas et. al., 2003) to divide the respondents into groups, based upon the pattern of the coefficients for the equation.

The equation is expressed as: $R54x = k_1A1 + k_2A2 \dots k_{16}D4$. The OLS regression program has no problem creating an equation for each respondent, based upon the prophylactic step of having added a vanishingly small random number to each transformed rating. That prophylactic step ensures that the OLS regression will never encounter the situation of 'no variation in the dependent variable', R54x.

Once the clustering has finished, the cluster program assigns each respondent first into one of two non-overlapping clusters, and second into one of three non-overlapping clusters. In the nomenclature of Mind Genomics these clusters are called 'mind-sets' to recognize the fact that they represent different points of view.

Table 2 presents the coefficients for the Total Panel, then for the two-mind-set solution, and then for the three-mind-set solution. Only positive coefficients are shown. The coefficient shows the proportion of time a vignette with the specific element generate a value of 100 for variable R54x. There emerges a large range in the numerical values of 16 coefficients, not so much for the Total Panel as for the mind-sets. This pattern of large difference across mind-sets in the range of the coefficients for R54x makes sense when we consider what the

clustering is doing. Clustering is separating out groups of people who look at the topic in the same way, and do not cancel each other. When we remove the mutual cancellation through clustering the result is that all of the patterns of coefficients in a cluster are similar. The subgroup no longer has averages of numbers from very high to very low for a single element, an average which suppressed the real pattern. No longer do we have the case that the Total Panel ends up putting together streams flowing in different directions. Instead, the strengths of different mind-sets becomes far more clear, more compelling, and more insights driven.

We focus here on the easiest take, namely, to interpret the mind-set. It is hard to name mind-sets 1 of 2 and 2 of 2. In contrast, it becomes far easier to describe the different mind-sets. We look only at the very strong coefficients; those score 21 or higher.

1. Mind-Set 1 of 3-Focus on interacting with users, include local rowers, consumers, businesses which grow locally, and restaurateurs.
2. Mind-Set 2 of 3-Focus on publicizing benefits to consumers.
3. Mind-Set 3 of 3-Focus on communication.

Table 2 shows a strong consistency within the segments, a consistency which seems more art than science. The different groups emerge clearly, even though it would be seemingly impossible to find patterns among the 24 vignettes, especially recognizing that each respondent ended up evaluating a unique set of vignettes. The clarity of the mind-set emerges again and again in Mind Genomics studies,

Table 2: Coefficients for the Total Panel, and then for the two-mind-set solution, and then for the three-mind-set solution, respectively.

Group (Binary Ratings)		Total	MS 1 of 2	MS 2 of 2	MS 1 of 3	MS 2 of 3	MS 3 of 3
Base Size		74	32	42	19	32	23
Question A: How can we improve communication between consumers, food trade, and citrus farmers? Give short answers starting with the word 'Communication'							
A1	Better Communication: farmer-consumer forums or conferences to discuss concerns and suggestions.	5	12	0			25
A2	Better Communication: use of social media platforms to share updates and information.	9	19	3	8		27
A3	Better Communication: consumer education programs highlighting the efforts of citrus farmers and promoting understanding of their challenges.	10	14	8	11		27
A4	Better Communication: regular surveys and feedback from consumers on citrus products.	7	17	1	16		18
Question B: How can we encourage more collaboration and cooperation between farmer trade and customer: Give short answers starting with the word 'Collaboration'							
B1	Better Collaboration: Coordinating supply chain activities.	15	18	12	15	10	19
B2	Better Collaboration: Research and development projects.	12	7	16		13	19
B3	Better Collaboration: Implementing transparency in pricing and information sharing.	13	9	16	10	11	14
B4	Better Collaboration: Offering training and educational programs for both farmers and customers.	17	12	21	9	17	21
Question C: How do we create awareness among consumers about the benefits of consuming citrus products? Give short answers starting with the words 'Consumer Benefits'							
C1	Publicize Consumer Benefits: Promotes a strong immune system.	19	7	27	10	30	11
C2	Publicize Consumer Benefits: Reduces the risk of certain diseases.	14		26		27	8
C3	Publicize Consumer Benefits: Supports healthy digestion.	14		23	3	24	8
C4	Publicize Consumer Benefits: Helps in maintaining healthy skin.	14		27		35	
Question D: How do we encourage the food trade to prioritize sourcing locally grown citrus products? Give short answers starting with the words 'Local sourcing'							
D1	Collaborate with local growers to improve their production and supply capabilities.	21	30	14	47	18	5
D2	Educate consumers about the benefits and importance of supporting local growers.	18	31	8	44	10	7
D3	Offer incentives or subsidies to businesses that source locally grown citrus products.	16	24	10	47	11	
D4	Engage restaurants and food service providers to include locally grown citrus in their menus.	19	23	15	34	17	11

despite the continue complaint by study respondents that they could not ‘discover the pattern’ and ended up ‘guessing.’ Despite that complaint, the patterns emerging make overwhelming sense, disposing of the need of some of the art of storytelling, the ability to craft an interesting story from otherwise boring and seemingly pattern-less data. A compelling story emerges just from looking at what elements are shaded, for each mind-set. Finally, the reason for the clarity ends up being the hard-to-escape reality that the elements all are meaningful in and of themselves. Like the reality of the everyday, each individual element, like each individual impression of an experience, ‘makes sense’.

The Summarizer: Finding Deeper Meanings in the Mind-set Results

Once the study has finished, the Mind Genomics platform does a thorough ‘work-up’ of the data, creating models, creating tables of coefficients, etc. As part of this the Mind Genomics platform applies a set of pre-specified queries to the set of strong performing elements, operationally defined as those elements with coefficients of 21 or higher. The seemingly artificial lower limit of 21 comes from analysis of the statistical properties of the coefficients, specifically at what value of coefficient can users feel that the pattern of coefficients is statistically robust, and thus feel the pattern to emerge has an improved sense of reality. The Summarizer is programmed to write

these short synopses and suggestions, doing so only with the tables generated by the Mind Genomics platform, as shown above in Table 2. Thus, for subgroups which generate no coefficients of 21 or higher, the Summarizer skips those subgroups. Finally, the summarizer is set up to work for every subgroups defined in the study, whether age, gender, or subgroup defined by the self-profiling classification question in which respondent profile themselves on topics relevant to the study.

Table 3 shows the AI summarization of the results for each of the three mind-sets. The eight summarizer topics are:

1. Strong performing elements
2. Create a label for this segment
3. Describe this segment
4. Describe the attractiveness of this segment as a target audience:
5. Explain why this segment might not be attractive as a target audience:
6. List what is missing or should be known about this segment, in question form:
7. List and briefly describe attractive new or innovative products, services, experiences, or policies for this segment:
8. Which messages will interest this segment?

Table 3: The output of the AI-based Summarizer applied to the strong performing elements from each of the mind-sets in the three-mind-set solution.

<p>Mindset 1 of 3</p> <p>Strong performing elements</p> <p>The following is a description of attributes from the total sample of a research study. Interested in: Collaborate with local growers to improve their production and supply capabilities.; Educate consumers about the benefits and importance of supporting local growers.; Offer incentives or subsidies to businesses that source locally grown citrus products.; Engage restaurants and food service providers to include locally grown citrus in their menus.</p> <p>Create a label for this segment:</p> <p>"Local Citrus Advocates"</p> <p>Describe this segment:</p> <p>This segment comprises individuals or businesses that are actively involved in promoting and supporting local growers, specifically those in the citrus industry. They are willing to collaborate with growers to improve their production and supply capabilities, indicating their interest in fostering a stronger local agricultural sector.</p> <p>Furthermore, this segment values educating consumers about the benefits and importance of supporting local growers. They recognize the positive impact of consuming locally sourced citrus products and aim to raise awareness among consumers about these advantages.</p> <p>In addition, this segment advocates for offering incentives or subsidies to businesses that source locally grown citrus products. They recognize the economic benefits of supporting local growers and believe that providing incentives can encourage more businesses to choose locally sourced citrus products.</p> <p>Moreover, this segment actively engages with restaurants and food service providers to include locally grown citrus in their menus. They seek to create partnerships that promote and prioritize the use of locally sourced citrus in the food industry, indicating a desire for increased demand and consumption of local citrus products.</p> <p>Overall, this segment can be described as advocating for the growth and sustainability of the local citrus industry through collaboration, education, incentives, and engagement with various stakeholders. They are committed to supporting local growers and increasing the visibility and consumption of locally grown citrus products.</p> <p>Describe the attractiveness of this segment as a target audience:</p> <p>The target audience described here is highly attractive for several reasons. Firstly, they are willing to collaborate with local growers to improve their production and supply capabilities. This suggests a dedication to supporting and promoting local agriculture, which can have numerous economic and environmental benefits for the community.</p> <p>Secondly, they are interested in educating consumers about the benefits and importance of supporting local growers. This indicates a commitment to raising awareness and building a consumer base that actively seeks out locally grown products. Their focus on education suggests they are not only interested in immediate sales but also in creating a long-term change in consumer behavior.</p> <p>Additionally, offering incentives or subsidies to businesses that source locally grown citrus products shows a proactive approach towards encouraging businesses to support local growers. This can create a positive environment for local growers, increase demand for their products, and contribute to the sustainability of the local agricultural sector.</p> <p>Finally, engaging restaurants and food service providers to include locally grown citrus in their menus highlights a commitment to expanding the reach of local growers' products. This can greatly increase the visibility and accessibility of locally grown citrus to a wider audience, potentially leading to increased demand and sales for growers.</p> <p>Overall, this target audience is attractive due to its dedication to supporting local growers, willingness to educate consumers, promotion of local sourcing, and efforts to include locally grown citrus in various business sectors. Their actions and priorities align with sustainability, community support, and economic growth, making them an ideal group to target for promoting and expanding local agricultural production.</p>

Explain why this segment might not be attractive as a target audience:

This segment might not be attractive as a target audience due to several reasons:

1. Lack of interest or motivation: The segment may not be interested in collaborating with local growers or educating consumers about the benefits of supporting them. They may not perceive any personal benefit or may not consider it important enough to invest their resources.
2. Limited impact: The segment may not have a significant influence or purchasing power in the market. Targeting this segment may not result in substantial changes in the market dynamics or the overall demand for locally grown citrus.
3. Cost-effectiveness: Marketing and engaging this segment could require significant resources in terms of time, money, and effort. The return on investment might not be substantial enough to justify the expenses involved.
4. Competing interests: This segment may have existing relationships with other suppliers or food sources, making them less likely to switch to locally grown citrus products. They may already have established supply chains, preferences, or contracts that make it challenging to shift their sourcing practices.
5. Lack of scalability: The size or potential growth of this segment may be limited. Their numbers may not be sufficient for businesses to achieve economies of scale or generate substantial revenue. As a target audience, they might not have the potential to drive significant business growth or create long-term partnerships.

Overall, while it is important to support local growers and educate consumers, this particular segment may not be attractive due to their lack of interest, limited impact, high costs, competing interests, and lack of scalability. It would be more effective for businesses to target audiences that are more willing and capable of supporting and promoting local growers.

List what is missing or should be known about this segment, in question form:

1. What is the size of the total sample in the research study?
2. Are there any specific criteria for selecting local growers to collaborate with?
3. What is the extent of the local growers' current production and supply capabilities?
4. How knowledgeable are the consumers about the benefits and importance of supporting local growers?
5. What type of incentives or subsidies would be offered to businesses that source locally grown citrus products?
6. How willing are restaurants and food service providers to include locally grown citrus in their menus?
7. How frequently do restaurants and food service providers change their menus, and would they be open to regularly featuring locally grown citrus?
8. Are there any potential barriers or challenges faced by local growers that could hinder their production and supply capabilities?
9. How would the effectiveness of the collaboration with local growers be measured and evaluated?
10. Are there any specific geographical locations or regions of focus for the research study?

List and briefly describe attractive new or innovative products, services, experiences, or policies for this segment:

1. Collaborative Farming Program: Develop a program that enables local growers to join forces and share their knowledge, resources, and best practices to improve their production capabilities. This initiative would facilitate collaboration among growers, leading to increased efficiency and higher-quality citrus products.
2. Educational Campaign: Create a comprehensive campaign to educate consumers on the benefits of supporting local growers. This could include highlighting the economic, environmental, and health advantages of consuming locally grown citrus. By educating consumers, there is a potential to promote increased demand for locally sourced products.
3. Local Sourcing Subsidies: Establish subsidies or incentives for businesses that actively source locally grown citrus products. This initiative would encourage businesses to prioritize buying from local growers, helping to strengthen the market for these products and supporting local growers financially.
4. Culinary Partnerships: Foster collaborations with restaurants and food service providers to include locally grown citrus in their menus. This could involve creating exclusive recipes, promotions, or events that showcase the unique flavors and qualities of locally sourced citrus. By partnering with these establishments, local growers can gain wider exposure and tap into new markets.

Overall, these new initiatives aim to enhance the production, awareness, market demand, and accessibility of locally grown citrus products, thereby benefitting both growers and consumers in the area.

Which messages will interest this segment?

Based on the provided attributes, the following messages are likely to interest this segment:

1. Collaborate with local growers to improve their production and supply capabilities.
-Message: "Join us in partnering with local growers to enhance their production and supply capabilities for better-quality citrus products."
2. Educate consumers about the benefits and importance of supporting local growers.
-Message: "Discover the numerous benefits of supporting local growers and gain insights into why it's important to back them for sustainable, high-quality citrus."
3. Offer incentives or subsidies to businesses that source locally grown citrus products.
-Message: "Unlock exclusive incentives and subsidies for businesses that prioritize sourcing locally grown citrus—a win-win for your products and the local community."
4. Engage restaurants and food service providers to include locally grown citrus in their menus.
-Message: "Attention restaurants and food service providers! Delight your customers with fresh, flavorful dishes by including locally grown citrus in your menus—support local growers while boosting your culinary offerings."

Ultimately, these messages aim to capture the interest of the segment by highlighting the benefits of collaboration, consumer education, incentives for businesses, and the potential for enhanced culinary experiences through the inclusion of locally grown citrus.

Mindset 2 of 3

Strong performing elements:

The following is a description of attributes from the total sample of a research study. Interested in:

Publicize Consumer Benefits: Promotes a strong immune system.; Publicize Consumer Benefits: Reduces the risk of certain diseases.; Publicize Consumer Benefits: Supports healthy digestion.; Publicize Consumer Benefits: Helps in maintaining healthy skin.

Create a label for this segment:

"Immune-Boosting, Disease-Fighting, Digestive Support, and Skin-Enhancing Formula"

Describe this segment:

This segment of the research study focuses on promoting the consumer benefits of a product. Specifically, the attributes mentioned highlight the following benefits for consumers:

1. Promotes a strong immune system: This suggests that the product contains ingredients or properties that can strengthen the body's defense against illnesses and infections, ultimately improving overall health.

2. Reduces the risk of certain diseases: This indicates that the product may have properties that can lower the chances of developing specific diseases, potentially offering long-term health benefits to consumers.
3. Supports healthy digestion: This implies that the product may have components that aid the digestive system in breaking down food, absorbing nutrients efficiently, and maintaining optimal gut health.
4. Helps in maintaining healthy skin: This suggests that the product may have ingredients or properties that can enhance skin health, potentially leading to clearer, smoother, and more radiant skin.

Overall, this segment of the study emphasizes the consumer benefits associated with the product, focusing on aspects related to immunity, disease prevention, digestion, and skin health.

Describe the attractiveness of this segment as a target audience:

This segment can be considered highly attractive as a target audience. The attributes mentioned in the description indicate that the product being studied offers a range of valuable health benefits to consumers. Promoting a strong immune system, reducing the risk of certain diseases, supporting healthy digestion, and helping maintain healthy skin are all highly desirable outcomes for a significant portion of the population.

By publicizing these consumer benefits, the target audience is likely to perceive the product as meeting their health needs and possibly improving their overall well-being. This can result in a strong appeal for individuals who are health-conscious, proactive in their preventive health measures, and interested in maintaining a healthy lifestyle.

Additionally, the broad range of benefits mentioned may appeal to a wide demographic, as these benefits are relevant across various age groups and backgrounds. This makes the target audience more diverse and potentially larger, increasing the market potential for the product.

Overall, the attractiveness of this segment as a target audience lies in the broad appeal of the consumer benefits offered by the product, which are highly sought after in today's wellness-focused society.

Explain why this segment might not be attractive as a target audience:

This segment might not be attractive as a target audience because the stated attributes are general and can be applicable to a wide range of consumer products. The benefits mentioned, such as promoting a strong immune system, reducing the risk of certain diseases, supporting healthy digestion, and maintaining healthy skin, are commonly associated with various products in the market.

To effectively target a specific audience, it is necessary to have more specific and unique attributes that set the product apart from competitors. Without distinguishing features or benefits, it would be challenging to create a compelling marketing message that resonates with this segment and captures their attention. Moreover, a lack of specificity in the benefits may make it difficult to communicate the unique value proposition of the product to potential customers.

List what is missing or should be known about this segment, in question form:

1. What is the size of the total sample in this research study?
2. What was the demographic composition of the total sample?
3. What were the inclusion and exclusion criteria used to select participants for the total sample?
4. How was the data collected from the total sample (e.g., survey, interviews, observations)?
5. What is the level of confidence or margin of error associated with the data gathered from the total sample?
6. Were there any specific health conditions or factors that participants in the total sample were screened for?
7. Were there any variations in consumer benefits based on different product formulations or brands?
8. Were there any potential side effects or risks associated with the consumption of the product?
9. Were there any specific age groups within the total sample that exhibited stronger or weaker response to the consumer benefits?
10. How long do individuals need to consume the product to experience the stated consumer benefits?

List and briefly describe attractive new or innovative products, services, experiences, or policies for this segment:

1. Immunity-Boosting Supplements: A new product that combines various essential vitamins and minerals known for strengthening the immune system. This innovative supplement can be marketed as a convenient and effective way to maintain overall health and reduce the risk of illnesses.
2. Disease Prevention Programs: A service that offers personalized disease prevention plans based on individual risk factors. This program can utilize advanced screening techniques and cutting-edge technology to identify potential health issues early on, while also providing personalized recommendations for managing and reducing disease risks.
3. Digestive Health Drinks: An innovative line of beverages formulated with natural ingredients known to support digestive health. These drinks can be positioned as a tasty and convenient way to promote healthy digestion, improve nutrient absorption, and alleviate common digestive issues such as bloating and heartburn.
4. Skincare Products with Probiotics: An attractive new line of skincare products enriched with probiotics known for their beneficial effects on the skin. These products can be marketed as a holistic approach to skincare, focusing not only on external care but also on maintaining a healthy internal environment for radiant and flawless skin.

Overall, these new products and services cater to the concerns and desires of the target segment by providing tangible benefits such as improved immunity, reduced disease risks, enhanced digestion, and healthier skin. By highlighting the innovative aspects and value-added benefits, these offerings can capture the attention and loyalty of health-conscious consumers.

Which messages will interest this segment?

The segment of consumers who will be interested in the following messages are those who are looking to improve their overall health and well-being. They are interested in the specific benefits that a product can provide, such as promoting a strong immune system, reducing the risk of certain diseases, supporting healthy digestion, and maintaining healthy skin. They are likely health-conscious individuals who prioritize preventive measures and want to take care of their body from the inside out.

Mindset 3 of 3

Strong performing elements:

The following is a description of attributes from the total sample of a research study. Interested in:

Better Communication: farmer-consumer forums or conferences to discuss concerns and suggestions.; Better Communication: use of social media platforms to share updates and information.; Better Communication: consumer education programs highlighting the efforts of citrus farmers and promoting understanding of their challenges.; Better Collaboration: Offering training and educational programs for both farmers and customers.

Create a label for this segment:

Engaged Farmers and Consumers

Describe this segment:

This segment of the research study is focused on finding better ways to improve communication and collaboration between farmers and consumers in the context of citrus farming. The researchers have identified several attributes that they believe can contribute to achieving these goals.

Firstly, they suggest using farmer-consumer forums or conferences as a platform for discussions about concerns and suggestions. This would allow both farmers and consumers to come together and have an open dialogue, fostering improved understanding and communication.

Secondly, the researchers propose utilizing social media platforms to share updates and information. By actively engaging with consumers through platforms such as Facebook, Twitter, or Instagram, citrus farmers can keep their audience informed about their ongoing efforts and any challenges they may be facing.

Thirdly, consumer education programs are highlighted as an attribute to enhance communication. These programs would aim to educate consumers about the efforts made by citrus farmers and help them to understand the challenges faced by the industry. This would foster better appreciation and support for these farmers.

Lastly, offering training and educational programs for both farmers and customers is viewed as an attribute that can facilitate better collaboration. By providing opportunities for farmers to enhance their skills and knowledge and for consumers to learn about farming practices, this initiative would promote a collaborative environment and mutual understanding.

Overall, this segment of the research study emphasizes the importance of better communication and collaboration between citrus farmers and consumers and proposes various attributes to achieve these goals.

Describe the attractiveness of this segment as a target audience:

This segment of the total sample is attractive as a target audience because they have a strong interest in better communication and collaboration between farmers and consumers. They are willing to participate in farmer-consumer forums or conferences and use social media platforms to stay updated and informed about the agricultural industry. They are also open to consumer education programs that highlight the efforts of citrus farmers and promote understanding of their challenges.

This segment values transparency and information sharing, which makes them receptive to training and educational programs that aim to improve collaboration between farmers and customers. They are likely to be engaged and proactive in building a mutually beneficial relationship with farmers.

Overall, this target audience is actively seeking ways to improve communication and collaboration in the agricultural sector, making them an attractive segment for initiatives focused on enhancing the relationship between farmers and consumers.

Explain why this segment might not be attractive as a target audience:

This segment might not be attractive as a target audience because they may already have effective communication channels in place and may not perceive a need for additional farmer-consumer forums or conferences. Additionally, they may already be utilizing social media platforms for sharing updates and information, so they may not see the value in this as a targeted attribute. Moreover, if the consumers in this segment are already well-educated about the efforts of citrus farmers and understanding of their challenges, consumer education programs highlighting these aspects may not be seen as necessary or appealing. Lastly, if both farmers and customers in this segment already have access to training and educational programs, they may not be motivated to engage with or participate in any additional offerings.

List what is missing or should be known about this segment, in question form:

1. Are there any specific concerns or topics that farmers and consumers want to discuss in the forums or conferences?
2. Which social media platforms are most commonly used by the target audience?
3. What specific updates and information do farmers or consumers want to share through social media platforms?
4. What are the current levels of awareness and understanding among consumers regarding the efforts and challenges faced by citrus farmers?
5. What specific types of training and educational programs are needed by farmers and customers to enhance collaboration?
6. Are there any existing farmer-consumer forums or conferences that have been successful in improving communication?
7. What are the preferred methods of receiving consumer education programs? (e.g., workshops, online courses, printed materials)
8. What are the key challenges farmers and customers face when it comes to collaborating effectively?
9. What is the desired frequency and duration of the training and educational programs for farmers and customers?
10. Are there any existing initiatives or programs that have addressed similar communication and collaboration goals in the citrus farming industry?

List and briefly describe attractive new or innovative products, services, experiences, or policies for this segment:

1. **Online Farmers' Market:** This innovative platform allows farmers to directly connect with consumers through an online marketplace. Consumers can browse and purchase fresh citrus fruits and other produce from local farmers, cutting out middlemen and supporting local agriculture. This not only promotes better communication between farmers and consumers but also provides a convenient and sustainable way to access fresh produce.
2. **Mobile Apps for Farm Updates:** Utilizing smartphone technology, farmers can develop user-friendly mobile applications that provide real-time updates on crop availability, farming practices, and important information regarding citrus farming. Consumers can stay informed about the latest news, pest management techniques, and upcoming harvesting seasons, fostering better communication and understanding between farmers and consumers.
3. **Agritourism Experiences:** Creating unique agritourism experiences for consumers, such as farm tours, citrus picking activities, and workshops, can promote better collaboration between farmers and customers. These experiences allow consumers to learn firsthand about the challenges faced by citrus farmers while enjoying an interactive and educational outing. This fosters a deeper appreciation for the efforts put into citrus farming and strengthens the bond between farmers and consumers.
4. **Sustainable Packaging Solutions:** Addressing consumer concerns about sustainability, citrus farmers can introduce innovative packaging solutions, such as biodegradable or compostable packaging materials. By adopting eco-friendly packaging options, farmers can highlight their commitment to environmental stewardship and convey a message of responsible farming practices to consumers, elevating the overall appeal of their products in this segment.
5. **Community Supported Agriculture (CSA) Programs:** Implementing CSA programs can enhance collaboration and communication between farmers and consumers. Through CSA, consumers can subscribe to receive regular deliveries of fresh citrus fruits, creating a direct relationship and sense of community between farmers and consumers. This approach allows consumers to support local agriculture while enjoying the convenience of receiving fresh, seasonal citrus fruits regularly.

Overall, these new or innovative products, services, experiences, or policies aim to improve communication, collaboration, and understanding between citrus farmers and consumers, ultimately benefiting both parties and strengthening the citrus farming industry as a whole.

Which messages will interest this segment?

This segment would likely be interested in the following messages:

-Farmer-consumer forums or conferences to discuss concerns and suggestions: This segment is interested in better communication, so they would find value in attending forums or conferences where they can have open and meaningful discussions with farmers. This platform would allow them to voice their concerns, provide suggestions, and potentially work towards better communication between farmers and consumers.

-Use of social media platforms to share updates and information: Since this segment is interested in better communication, they would likely be receptive to using social media platforms to stay updated and informed about the citrus farming industry. They may appreciate timely updates, news, and information shared on these platforms, allowing them to have a better understanding of the challenges faced by farmers.

-Consumer education programs highlighting the efforts of citrus farmers and promoting understanding of their challenges: This segment would likely be interested in consumer education programs that focus on highlighting the efforts made by citrus farmers. By participating in these programs, consumers can learn more about the challenges faced by farmers and gain a deeper understanding of the industry. This can lead to better collaboration and support between farmers and consumers.

Overall, this segment is interested in better communication and collaboration between farmers and consumers. They value platforms and programs that promote open discussions, information sharing, and understanding of the challenges faced by farmers.

Part 2: AI as a Tool to Create New Thinking, Create New Hypotheses

During the past six months of experience with AI embedded in Idea Coach, a new and unexpected discovery emerged, resulting from exploratory work by author Mulvey. The discovery was that the squib for Idea Coach could be dramatically expanded, moving it beyond the request for questions, and into a more detailed request. The immediate reaction was to explore how deeply the Idea Coach AI could expand the discovery previously made. Table 4 shows the expanded squib (bold), and what the Idea Coach returned with later on. The actual squib was easy to create, requiring only that the user copy the winning elements for each mind-set (viz., elements with coefficients of 21 or higher). Once these were identified and listed out, squib was further

amplified by a set of six questions. Idea Coach returned with the answers to the six questions for each of the three mind-sets, and then later did its standard analysis using the eight prompts. These appear in Table 4. It is important to note that Table 4 contains no new information, but simply reworks the old information. In reworking that old information, however, the AI creates an entirely new corpus of suggestions of insights. From this simple demonstration emerges the realization that the sequence of Idea Coach, questions, answers, results, all emerging in one hour or less for a set of 100 respondents or fewer, can be further used to springboard the investigations, and create new insights. These insights should be tested, but it seems likely that a great deal of knowledge can be obtained quickly, at very low cost, with no risk.

Table 4: AI 'super-analysis' of results from an earlier Mind Genomic study, revealing three mind-sets, and the strong performing elements for each mind-set.

<p>I work in the citrus industry for the Department of Agriculture in Washington, DC</p> <p>We are creating a publicity campaign for citrus research, based on these mind-sets, and the messages that each mind-set likes</p> <p>Mind Set #1 likes these specific messages: Educate consumers about the benefits and importance of supporting local growers. Collaborate with local growers to improve their production and supply capabilities. Offer incentives or subsidies to businesses that source locally grown citrus products.</p> <p>Mind-Set #2 likes these specific messages: Better Collaboration: Research and development projects. Better Collaboration: Coordinating supply chain activities. Better Collaboration: Implementing transparency in pricing and information sharing. Better Collaboration: Offering training and educational programs for both farmers and customers.</p> <p>Mind-Set #3 likes these specific messages: Publicize Consumer Benefits: Helps in maintaining healthy skin. Publicize Consumer Benefits: Reduces the risk of certain diseases. Publicize Consumer Benefits: Promotes a strong immune system. Publicize Consumer Benefits: Supports healthy digestion.</p> <p>Please help us do the following for EACH Mindset that was listed above, taking into account the messages that each mind-set liked. Follow the numbered requests below, in the exact order</p> <p>Do the requests completely for each mind-set in order, so you do all requests for Mind-Set 1, then all requests for Mind-Set 2, then all requests for Mind-Set 3</p> <ol style="list-style-type: none"> 1. Give a name to the mind-set 2. Summarize what the mind-set likes 3. Give two different slogans for the specific mind-set to make them vote for the what the Dept. of Agriculture will do 4. Tell us how the public will react 5. Tell us the positive statements that the public will make 6 Tell us the negative statement that the public will make <p>Topic Questions:</p> <p>Mind-Set #1: The Supportive Advocate</p> <p>This mind-set is like messages that emphasize educating consumers about the benefits of supporting local growers and collaborating with them to improve production and supply capabilities. They also respond positively to incentives or subsidies offered to businesses that source locally grown citrus products.</p> <p>Slogan 1: "Support Your Local Growers! Taste the Difference, Promote Sustainability." Slogan 2: "Join the Citrus Revolution! Empower Local Agriculture, Nurture Our Communities."</p> <p>The public will likely react positively to this mind-set as they value supporting local growers and are interested in learning more about the benefits and importance of locally sourced citrus products.</p> <p>Positive statements: "I love that the Department of Agriculture is working to support local growers and promote their products." "It's great to see initiatives that educate consumers about the benefits of buying locally grown citrus." Negative statement: "Why should we prioritize local growers when we can easily import citrus fruit from other regions?"</p> <p>Mind-Set #2: The Collaborative Innovator</p> <p>This mind-set appreciates messages that highlight better collaboration within the citrus industry, specifically through research and development projects, coordinating supply chain activities, implementing transparency in pricing and information sharing, and offering training and educational programs for farmers and customers.</p> <p>Slogan 1: "Unleash the Power of Collaboration! Advancing Citrus Together, Growing Opportunities." Slogan 2: "Ignite Innovation in Citrus! Join Forces, Enhance the Supply Chain."</p> <p>The public will likely respond positively to this mind-set, recognizing the importance of collaboration in advancing the citrus industry. They will appreciate the efforts made to improve research, supply chain practices, and provide educational programs for farmers and customers.</p>

Positive statements: "I'm impressed with the Department of Agriculture's focus on collaboration and innovation to drive progress in the citrus industry." "It's great to see the industry coming together to improve transparency and share knowledge."

Negative statement: "Collaboration sounds nice, but will it really lead to significant improvements in the citrus industry?"

Mind-Set #3:

The Health-Conscious Consumer

This mind-set prefers messages that prioritize publicizing the consumer benefits of citrus, such as maintaining healthy skin, reducing the risk of certain diseases, promoting a strong immune system, and supporting healthy digestion.

Slogan 1: "Nourish Your Body Naturally! Citrus Fruits-Your Health's Best Friend."

Slogan 2: "Revitalize with Citrus! Energize, Glow, and Feel Your Best."

The public will likely react positively to this mind-set as they value their health and are interested in the benefits of consuming citrus fruits. They may become more inclined to prioritize citrus in their diet after being educated about the advantages.

Positive statements: "I'm thrilled that the Department of Agriculture is highlighting the health benefits of citrus fruits. It motivates me to incorporate them into my daily routine." "Knowing that citrus can support a strong immune system makes me feel good about consuming it regularly."

Negative statement: "Why focus so much on promoting the health benefits of citrus? Can't other fruits provide similar advantages?"

Questions:

How can we raise awareness about the benefits of supporting local citrus growers?

What collaboration efforts are being made between the Department of Agriculture and local growers to improve production and supply capabilities?

Do businesses receive incentives or subsidies for sourcing locally grown citrus products?

How will better collaboration through research and development projects benefit the citrus industry?

What steps are being taken to coordinate supply chain activities within the citrus industry?

How will implementing transparency in pricing and information sharing enhance the citrus industry?

What training and educational programs are being offered to farmers and customers to promote collaboration?

How does citrus consumption help in maintaining healthy skin?

What evidence supports the claim that citrus reduces the risk of certain diseases?

In what ways does citrus promote a strong immune system?

How does consuming citrus support healthy digestion?

Are there any consumer benefits of citrus that have not been mentioned in the campaign?

What initiatives are being undertaken to educate consumers about the importance of sourcing locally grown citrus?

What impact do incentives and subsidies have on businesses' decisions to source locally grown citrus?

How can the public actively participate in promoting collaboration within the citrus industry?

Key Ideas

1. Importance of supporting local citrus growers and educating consumers about the benefits.
2. Collaboration efforts between the Department of Agriculture and local growers to improve production and supply capabilities.
3. Incentives or subsidies offered to businesses for sourcing locally grown citrus products.
4. Benefits of better collaboration through research and development projects in the citrus industry.
5. Steps taken to coordinate supply chain activities within the citrus industry.
6. Implementation of transparency in pricing and information sharing to enhance the citrus industry.
7. Training and educational programs offered to farmers and customers to promote collaboration.
8. Health benefits of citrus consumption, such as maintaining healthy skin, reducing disease risk, promoting a strong immune system, and supporting healthy digestion.
9. Possible additional consumer benefits of citrus.
10. Initiatives to educate consumers about the importance of sourcing locally grown citrus.
11. Influence of incentives and subsidies on businesses' decisions to source locally grown citrus.
12. Public participation in promoting collaboration within the citrus industry.

Themes

1. Supporting local citrus growers and educating consumers:

- Importance of supporting local citrus growers
- Educating consumers about the benefits of locally grown citrus
- Training and educational programs for farmers and customers

2. Collaboration between Department of Agriculture and local growers:

- Collaboration efforts to improve production and supply capabilities
- Research and development projects in the citrus industry
- Coordination of supply chain activities within the citrus industry
- Transparency in pricing and information sharing

3. Incentives and subsidies for sourcing locally grown citrus:

- Incentives or subsidies offered to businesses for sourcing locally grown citrus
- Influence of incentives and subsidies on businesses' decisions to source locally grown citrus

4. Health benefits of citrus consumption:

- Maintaining healthy skin
- Reducing disease risk
- Promoting a strong immune system
- Supporting healthy digestion

5. Additional consumer benefits of citrus:

- Possible additional benefits of citrus consumption

6. Initiatives to promote education about sourcing locally grown citrus:

- Initiatives to educate consumers about the importance of sourcing locally grown citrus

7. Public participation in promoting collaboration within the citrus industry:
-Role of public participation in promoting collaboration within the citrus industry.

Perspectives

- Supporting local citrus growers and educating consumers:
-Plus: Increases support for local farmers and promotes sustainability. Educating consumers helps them make informed choices and appreciate the value of local produce.
-Minus: Potential resistance from consumers who are used to buying cheaper imported citrus. Farmers need to invest time and resources in educating consumers.
-Interesting: The possibility of creating a strong community bond between farmers and consumers through education and support.
- Collaboration between Department of Agriculture and local growers:
-Plus: Strengthens the citrus industry by leveraging resources and expertise from both parties. Encourages innovation and improvements in production and supply chain management.
-Minus: Challenges in coordinating efforts and aligning goals between different organizations. Competing interests and potential power imbalances.
-Interesting: The potential for joint research and development projects to drive advancements and boost industry competitiveness.
- Incentives and subsidies for sourcing locally grown citrus:
-Plus: Encourages businesses to support local farmers, stimulates local economies, and reduces reliance on imports. Can incentivize sustainability practices.
-Minus: Financial burden on governments to provide incentives and subsidies. Potential for abuse or misuse of subsidy programs.
-Interesting: The impact of incentives and subsidies on consumer perception and willingness to pay a premium for locally sourced citrus.
- Health benefits of citrus consumption:
-Plus: Citrus consumption is well-known for its numerous health benefits, which can improve overall well-being and quality of life.
-Minus: Potential allergic reactions for some individuals. Overconsumption may lead to digestive issues.
-Interesting: The development of new products or supplement lines to capitalize on the health benefits of citrus.
- Additional consumer benefits of citrus:
-Plus: Citrus fruits are versatile and can be used in a variety of dishes and recipes, enhancing the overall culinary experience.
-Minus: Short shelf life of some citrus varieties may limit availability and accessibility. Potential for price fluctuations.
-Interesting: Exploring the potential non-food uses of citrus, such as aromatherapy or natural cleaning products.
- Initiatives to promote education about sourcing locally grown citrus:
-Plus: Increases consumer awareness and support for local farming communities. Helps consumers make informed choices aligned with their values.
-Minus: Requires investment in marketing and education campaigns. Potential resistance or skepticism from consumers.
-Interesting: The use of technology and digital platforms to disseminate information and engage with consumers.
- Public participation in promoting collaboration within the citrus industry:
-Plus: Greater engagement and collaboration can lead to shared resources, knowledge exchange, and collective decision-making.
-Minus: Time and effort needed to engage the public and ensure diverse perspectives are heard. Potential conflicts of interest or disagreements.
-Interesting: The potential for grassroots movements and community-led initiatives to drive positive change within the citrus industry.

What is missing

- What are the current challenges faced by local citrus growers?
- What are the economic and environmental benefits of sourcing locally grown citrus products?
- How does the demand for imported citrus fruit compare to locally grown citrus?
- Are there any specific initiatives or programs aimed at improving the production and supply capabilities of local growers?
- How do other industries or sectors collaborate with the citrus industry to enhance their practices?
- Are there any regulations or policies in place to ensure transparency in pricing and information sharing within the citrus industry?
- What are the specific educational programs and training opportunities available for farmers and customers?
- Are there any specific scientific studies or research that support the health benefits associated with citrus consumption?
- How does the nutritional content of citrus compare to other fruits?
- In what ways can promoting local citrus growers contribute to the overall community development and sustainability?

Alternative Viewpoints

- Instead of asking how to raise awareness about supporting local citrus growers, some alternative viewpoints may question the effectiveness of supporting local growers and argue for the benefits of importing citrus from other regions.
- Alternative viewpoints may question the collaboration efforts between the Department of Agriculture and local growers, suggesting that they may not be sufficient or effective in improving production and supply capabilities.
- Some alternative viewpoints may argue against businesses receiving incentives or subsidies for sourcing locally grown citrus products, claiming that it creates unfair competition or inefficiencies in the market.
- Alternative viewpoints may argue that better collaboration through research and development projects may not necessarily benefit the citrus industry significantly, pointing out potential challenges or limitations.
- Some alternative viewpoints may question the need for coordinating supply chain activities within the citrus industry, arguing that the current system may already be sufficient or that coordination efforts may create unnecessary complexities.
- Alternative viewpoints may argue against implementing transparency in pricing and information sharing, claiming that it could negatively affect competition or lead to pricing instability.
- Some alternative viewpoints may question the effectiveness or relevance of training and educational programs offered to farmers and customers, suggesting that they may not have a significant impact or that they may not address the actual needs of the industry.
- Alternative viewpoints may question the link between citrus consumption and maintaining healthy skin, suggesting that other factors or products may have a more significant impact.
- Some alternative viewpoints may doubt the evidence supporting the claim that citrus reduces the risk of certain diseases, arguing that other factors or lifestyle choices may play a more crucial role.
- Alternative viewpoints may question the specific ways in which citrus promotes a strong immune system, suggesting that other factors or dietary choices may have greater effects.
- Some alternative viewpoints may argue against the claim that consuming citrus supports healthy digestion, suggesting that other foods or dietary practices may be more effective.
- Alternative viewpoints may highlight additional or different consumer benefits of citrus that have not been mentioned in the campaign, claiming that these benefits are equally important or even more significant.
- Some alternative viewpoints may argue against the initiatives to educate consumers about the importance of sourcing locally grown citrus, claiming that it may not be necessary or that it may not make a substantial difference in consumer choices.
- Alternative viewpoints may question the impact of incentives and subsidies on businesses' decisions to source locally grown citrus, suggesting that other factors such as cost-effectiveness or quality may have greater influence.
- Some alternative viewpoints may argue against the public actively participating in promoting collaboration within the citrus industry, suggesting that it may not be their responsibility or that they may not have sufficient knowledge or resources to contribute effectively.

Interested Audiences

Potential audiences that might be most interested in the topic questions include:

1. Consumers: Consumers who prioritize supporting local growers and are interested in the benefits of locally sourced citrus would be interested in questions related to raising awareness about supporting local growers and the incentives or subsidies available for businesses sourcing locally grown citrus. They may also be interested in questions about the health benefits of citrus and the evidence supporting these claims.
2. Local growers and farmers: Local growers and farmers would be interested in questions about collaboration efforts between the Department of Agriculture and local growers to improve production and supply capabilities. They may also be interested in questions about training and educational programs offered to promote collaboration and improve the industry.
3. Department of Agriculture representatives: Representatives from the Department of Agriculture would be interested in questions about the collaboration efforts being made between the department and local growers, research and development projects, coordination of supply chain activities, and the implementation of transparency in pricing and information sharing. They would also be interested in questions about initiatives to educate consumers about the importance of locally sourced citrus.
4. Health-conscious individuals: Individuals who prioritize their health and are interested in the benefits of citrus for maintaining healthy skin, reducing the risk of certain diseases, promoting a strong immune system, and supporting healthy digestion would be interested in questions related to these topics. They may also be interested in learning about any other consumer benefits of citrus that have not been mentioned in the campaign.
5. Businesses involved in the citrus industry: Businesses involved in the citrus industry would be interested in questions about incentives or subsidies for sourcing locally grown citrus and how these incentives impact their decisions. They may also be interested in questions about the benefits of collaboration and the steps being taken to improve the supply chain within the industry.

Opposing Audiences

Audiences that might oppose the topic include:

1. Large-scale citrus producers who rely on importing citrus fruit from other regions. They may not see the value in prioritizing local growers and instead focus on cost-effectiveness and efficiency.
2. Consumers who prioritize price over supporting local growers. They may see imported citrus fruit as more affordable and readily available, without considering the benefits of supporting local agriculture.
3. Individuals who do not prioritize their health and do not see the value in consuming citrus fruits. They may not be interested in the health benefits promoted by the campaign and may prefer other types of fruit.
4. Businesses in the citrus industry are resistant to change and collaboration. They may believe their current practices are sufficient and may be unwilling to invest time and resources into research, development, and supply chain coordination initiatives.

Innovations

1. Farmer's Market Citrus Subscription Box: A subscription service that delivers a variety of locally grown citrus directly to consumers' doorsteps. Each box could include information about the growers and educational materials on the benefits of supporting local citrus growers.
2. Citrus Farming Training Program: A comprehensive training program that educates farmers on best practices for growing citrus, such as pest control, irrigation techniques, and harvesting methods. This program could also provide resources and support for farmers transitioning to organic citrus farming.
3. Citrus Industry Research Center: Establishing a dedicated research center that focuses on advancements in citrus production, disease prevention, and sustainable farming practices. This center could collaborate with local growers to conduct experiments and trials to improve overall industry productivity.
4. Citrus Health Education Campaign: A public health campaign aimed at educating consumers about the health benefits of consuming citrus fruits. This could involve partnerships with healthcare professionals, nutritionists, and wellness influencers to promote the importance of incorporating citrus into a balanced diet.
5. Citrus-Based Skincare Line: Developing a line of skincare products that utilize the natural benefits of citrus, such as vitamin C and antioxidants. This could include face cleansers, serums, and creams that promote healthy, radiant skin.
6. Citrus Tourism Experiences: Collaborating with local growers to create unique citrus-themed tourism experiences, such as guided farm tours, fruit picking excursions, and citrus-inspired cooking classes. These experiences would not only support local growers but also educate tourists about the importance of sourcing locally grown citrus.
7. Online Citrus Marketplace: Creating an online platform that connects local citrus growers with businesses and consumers seeking fresh, locally sourced fruit. This marketplace could provide a transparent pricing system and detailed information about each grower, allowing businesses and consumers to make informed decisions when purchasing citrus.

Discussion and Conclusions

This paper began with a discussion of a small-scale project in the world of citrus, a project meant to be a demonstration to be given to a group at the citrus conference in September 2023. At that time, the Idea Coach had been introduced, and was used as a prompt for the study. It is important to note that the topic was not one based on a deep literature search of existing problems, but instead a topic crafted to be of interest to an industry-sector conference. The focus was not on science to understand deep problems, but rather research on how to satisfy industry-based needs. That focus explains why the study itself focuses on a variety of things that one should do. The focus was tactics, not knowledge. The former being said, the capability to accelerate and expand knowledge is still relevant, especially as that capability bears upon a variety of important issues. The first issue is the need to instill critical thinking into students [14,15]. The speed, simplicity, and sheer volume of targeted information may provide an

important contribution to the development of critical thinking. Rather than giving students simple answers to simple questions, the process presented here opens up the possibility that the Idea Coach format shown here can become a true 'teacher', working with students to formulate questions, and then giving the students the ability to go into depth, in any direction that they wish, simply by doing an experiment, and then investigating in greater depth any part of the results which interest them. The second issue of relevance is the potential to create more knowledge through AI. There are continuing debates about whether or not AI actually produces new knowledge [16,17]. Rather than dealing with that issue simply in philosophy-based arguments, one might well embark on a small, affordable series of experiments dealing with a defined topic, find the results from the topic in terms of mind-sets, and then explore in depth the mind-sets using variations of the strategy used in the second part of the study. That is, once the user has obtained detailed knowledge about mind-sets for the topic, there is no limitation except for imagination which constrains the user

from asking many different types of questions about what the mind-sets would say and do. After a dozen or so forays into the expansion of knowledge from a single small Mind Genomics project, it would then be of interest to assess the degree to which the entire newly developed corpus of AI-generated knowledge and insight is to be considered 'new knowledge', or simply a collection of AI-conjectures. That consideration awaits the researcher. The tools are already here, the effort is minor, and what awaits may become a treasure trove of new knowledge, perhaps.

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