Alignment Experiment 8 - Plan

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Summary

- Experiment 8 (previously called Experiment 4 in the context of the article, but it is the 8th alignment experiment of the thesis) investigates the effects of alignment, reliability type, NPV amount, and reliability amount on allocations.

- IVs

  - Alignment: low and high

    * Between-subjects

  - Reliability type: implicit and explicit

    * Between-subjects

  - Reliability amount: low and high

    * Within-subjects

  - NPV amount: vector of five approximately equally spaced integers between 400-900

    * Within-display

    * Slightly different between each display

- DVs

  - Allocation (0-100)

  - Ranking (1-5)

Hypotheses

Omnibus

- Alignment × reliability amount × reliability type × NPV amount interaction

- See Figure 1.

Specifically

- *Explicit reliability, high alignment*: NPV amount × reliability amount interaction.

- **Participants will rely on NPV when told it is reliable, but will rely on intrinsic features when told NPV is unreliable.**
- *Explicit reliability, low alignment*: main effect of NPV amount.
  - **Participants will rely on NPV regardless of stated reliability.**
- *Implicit reliability*: no effects.
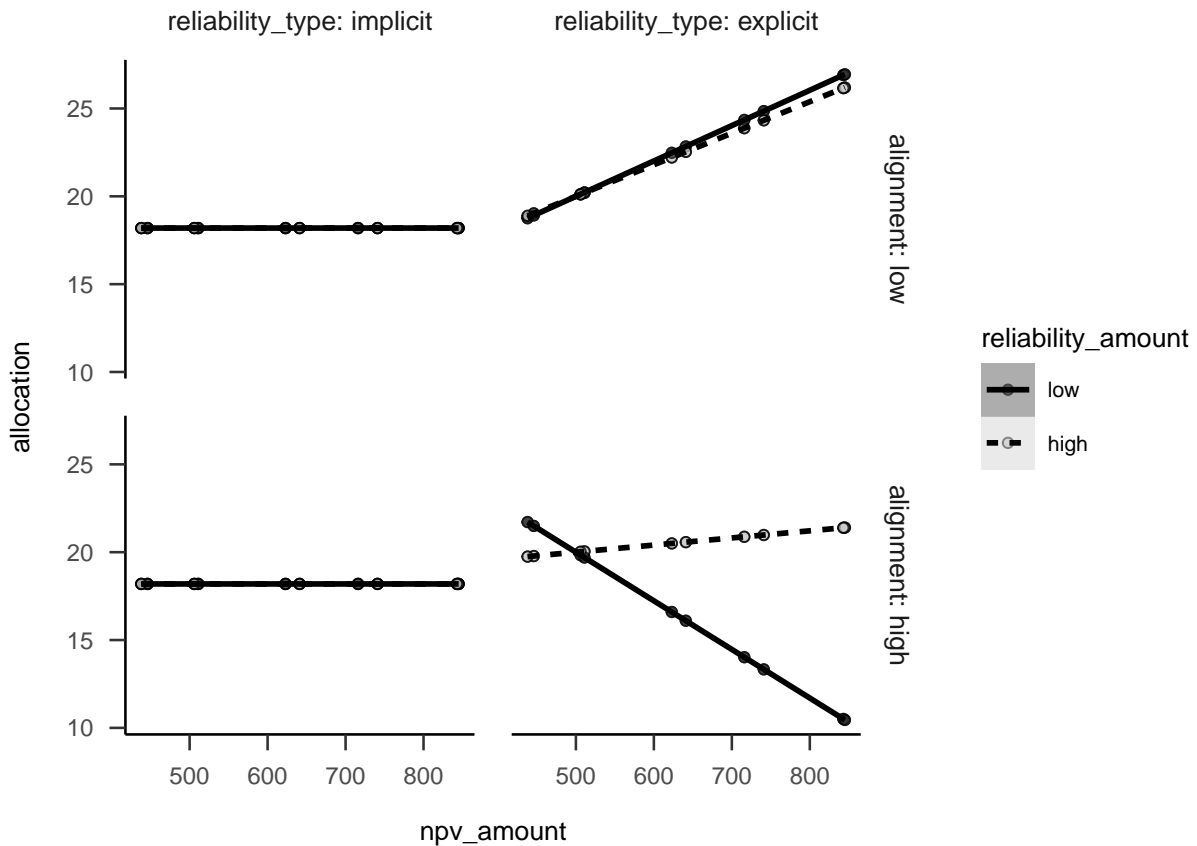 - **Participants will allocate equally across projects.**

Figure 1

Alignment Experiment 8 predicted data

Power analysis

- I conducted a power analysis through simulation of the effects listed above (and the simple effects implied by them)
  - I simulated data with the same regression coefficients as Experiment 2 for the explicit condition, no effects for the implicit condition (as shown in Figure 1), and

the intercept and residual variance of Experiment 2.

– The null effects are analysed using the two one-sided tests (TOST) procedure, or *equivalence* testing (Lakens et al., 2018), and setting the smallest effect size of interest to the smallest difference that leads to a significant equivalence between low and high implicit reliability for low alignment in Experiment 7.

- See Figure 2.
- The analysis suggests a total sample size of 448 (112 × 4).
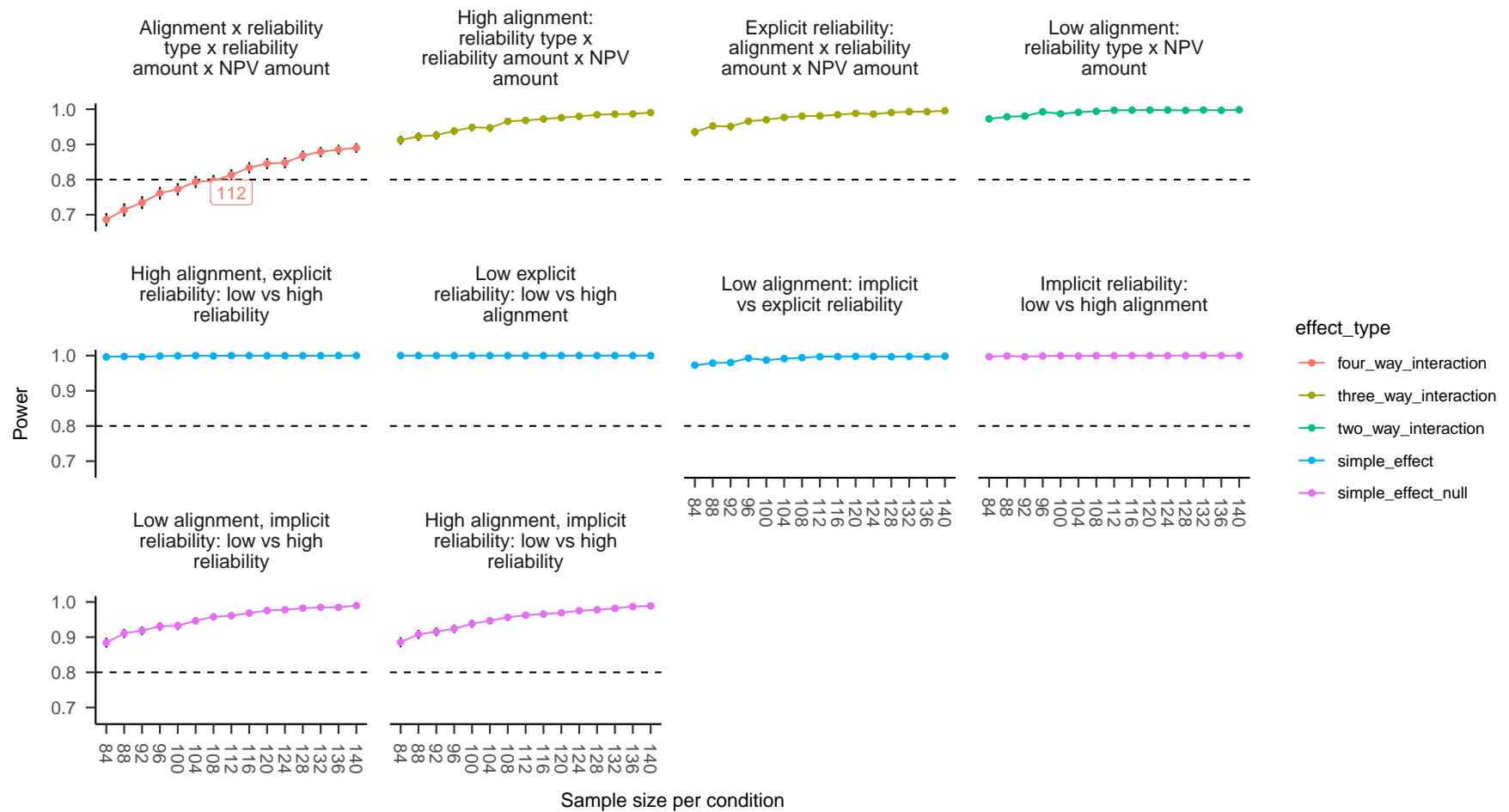 – This means a total cost of approximately $1,325.70 AUD (£730.24).

Figure 2

Alignment Experiment 8 power curve. Labels indicate lowest sample size above 80% power.

Materials

- Instructions
  - One version for each reliability type condition.
  - Includes a test of basic NPV understanding.
    * Also acts as a sort of attention check as, though it is required to answer, the response should only be one of two letters.
- Each participant will see two project displays.
  - One for each reliability amount condition.
  - Each display will have one of two sets of five projects (10 individual projects total).
  - Each display has a table describing the projects in the set, with ranking and allocation inputs.
  - Before each display, participants will see an "interstitial" page, whose role is 1. to introduce the next display, and 2. an attention check (not required to answer, so can be skipped if the interstitial text isn't read).
- The following are counterbalanced:
  - The association of reliability amount and project set (two variations).
  - The association of business name with NPV (five latin square variations).
  - Project variation (five variations per alignment condition).
    * For high alignment this means the project type.
    * For low alignment this means the intrinsic feature variant for the relevant project type.
- The following are randomised:
  - Table column order.
  - Project display order.
- The below figures show a sample of the possible project displays participants will see.
  - For the low alignment displays, only one "variation" is shown here.

* Across the two reliability amount conditions this shows all 10 possible project types.

* Both reliability type conditions are shown.

· All that differs here is the way the NPV is described.

– For the high alignment displays, all five "variations" are shown.

* For both reliability amount conditions.

Screenshots

Imagine that you are a CEO of a large company composed of many individual businesses.

You will be shown information about a number of projects that your company is considering to invest in. Each project is independent of the others. Some specific information about the project itself is provided. In addition to those numbers, you will find each project's net present value (NPV), which is the company's estimation of the future returns of the project. An NPV that is greater than 0 (zero) indicates that there is an expectation of profit. The higher the NPV, the better the expectations for each project.

For each project, you will see a range of possible NPVs alongside a 'midpoint'. The range literally represents the range of plausible outcomes (a uniform distribution), but the midpoint is the best guess, and hence is the same as a single NPV. That is, all values within the range are equally likely, but the midpoint is still the best guess because it is the value that is closest to all the other values.

Your task is to rank the projects in order of investment priority and decide how to allocate the available budget (as a percentage) between them.

Test yourself on the above instructions. If Project A has an NPV of $100, and Project B has an NPV of $200, write in the following text box the name of the project that has a greater expectation of profit: Project ☐

Continue

Figure 3

Instructions, reliability type: implicit.

Imagine that you are a CEO of a large company composed of many individual businesses.

You will be shown information about a number of projects that your company is considering to invest in. Each project is independent of the others. Some specific information about the project itself is provided. In addition to those numbers, you will find each project's net present value (NPV), which is the company's estimation of the future returns of the project. An NPV that is greater than 0 (zero) indicates that there is an expectation of profit. The higher the NPV, the better the expectations for each project.

For each project, you will see an NPV, alongside a statement of whether NPV is considered to be a reliable (or an unreliable) metric for that project. There are usually a range of plausible NPV outcomes, so when NPV is considered to be "reliable" this means that the range of possible values is relatively narrow (indicating high confidence in the estimate). Conversely, when NPV is considered to be "unreliable", this means that the range of possible values is relatively wider (indicating low confidence in the estimate).

Your task is to rank the projects in order of investment priority and decide how to allocate the available budget (as a percentage) between them.

Test yourself on the above instructions. If Project A has an NPV of $100, and Project B has an NPV of $200, write in the following text box the name of the project that has a greater expectation of profit: Project ☐

Continue

Figure 4

Instructions, reliability type: explicit.

You will now see project display #1. It is important that you pay attention and read through the task carefully.

To show that you are reading and paying attention, please click on the following checkbox **before** clicking on "Continue": ☐

Continue

Figure 5

Interstitial 1.

You will now see project display #2. It is important that you pay attention and read through the task carefully.

To show that you are reading and paying attention, please click on the following checkbox **before** clicking on "Continue": ☐

Continue

Figure 6

Interstitial 2.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Refinera	Microxy	Dinerly	Logivia	Vital Records
Project type	<u>oil well</u>	<u>microchip</u>	<u>restaurant chain</u>	<u>shipping logistics</u>	<u>record label</u>
Predicted project features	• Oil extracted: 2,000L an hour • Time the machinery lasts before requiring maintenance: 7 years • Probability of finding oil: 90%	• Microchips produced: 4,000 an hour • Usable semiconductor yield after testing: 60% • Compatible PCs in the market: 80%	• Restaurants established: 9 a year • Number of reservations on a Saturday night: 100 • Positive reviews: 40 a month	• Packages shipped: 800 a week • Number of packages that do not spend time in a bottleneck: 400 a day • Average accuracy of shipments: 94%	• Record projects completed: 8 a year • Radio listenership nationally: 2 million • Relevant network connections: 13
NPV ($)	636 million. (In this industry, NPV is a **reliable** predictor of a project's profits.)	735 million. (In this industry, NPV is a **reliable** predictor of a project's profits.)	407 million. (In this industry, NPV is a **reliable** predictor of a project's profits.)	836 million. (In this industry, NPV is a **reliable** predictor of a project's profits.)	516 million. (In this industry, NPV is a **reliable** predictor of a project's profits.)

Continue

Figure 7

Project allocation - alignment: low, reliability type: explicit, reliability amount: high, variation: 1.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Pressbloom	Pharmacore	Railmont	Erectic	Cweb
Project type	national newspaper	pharmaceutical	railway	high-rise construction	software
Predicted project features	• Newspapers printed: 50,000 a day • Number of weekly advertisers: 80 • Ink that is not discarded due to impurities: 5,000L a day	• Pills pressed: 300,000 an hour • Shelf life: 20 months • Probability of symptom reduction after a week: 90%	• Railway lines built: 5 a decade • Number of seats filled by paying customers at peak hour: 2,000 • Time before the train carriages will need to be serviced: 12 years	• High-rises built: 8 a year • Probability that the builders complete construction within a month of the due date: 70% • Number of tenant expressions of interest: 100	• Code written: 1,000 lines a day • Security rating: 60% • Number of potential customers in first year: 3 million
NPV ($)	550 million. (In this industry, NPV is an **unreliable** predictor of a project's profits.)	742 million. (In this industry, NPV is an **unreliable** predictor of a project's profits.)	407 million. (In this industry, NPV is an **unreliable** predictor of a project's profits.)	804 million. (In this industry, NPV is an **unreliable** predictor of a project's profits.)	635 million. (In this industry, NPV is an **unreliable** predictor of a project's profits.)

Continue

Figure 8

Project allocation - alignment: low, reliability type: explicit, reliability amount: low, variation: 1.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Vital Records	Logivia	Refinera	Dinerly	Microxy
Project type	record label	shipping logistics	oil well	restaurant chain	microchip
Predicted project features	• Record projects completed: 8 a year • Radio listenership nationally: 2 million • Relevant network connections: 13	• Packages shipped: 800 a week • Number of packages that do not spend time in a bottleneck: 400 a day • Average accuracy of shipments: 94%	• Oil extracted: 2,000L an hour • Time the machinery lasts before requiring maintenance: 7 years • Probability of finding oil: 90%	• Restaurants established: 9 a year • Number of reservations on a Saturday night: 100 • Positive reviews: 40 a month	• Microchips produced: 4,000 an hour • Usable semiconductor yield after testing: 60% • Compatible PCs in the market: 80%
NPV ($)	490-542 million. (Midpoint: 516.)	794-878 million. (Midpoint: 836.)	604-668 million. (Midpoint: 636.)	387-427 million. (Midpoint: 407.)	698-772 million. (Midpoint: 735.)

Continue

Figure 9

Project allocation - alignment: low, reliability type: implicit, reliability amount: high, variation: 1.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Railmont	Cweb	Pharmacore	Pressbloom	Erectic
Project type	railway	software	pharmaceutical	national newspaper	high-rise construction
Predicted project features	• Railway lines built: 5 a decade • Number of seats filled by paying customers at peak hour: 2,000 • Time before the train carriages will need to be serviced: 12 years	• Code written: 1,000 lines a day • Security rating: 60% • Number of potential customers in first year: 3 million	• Pills pressed: 300,000 an hour • Shelf life: 20 months • Probability of symptom reduction after a week: 90%	• Newspapers printed: 50,000 a day • Number of weekly advertisers: 80 • Ink that is not discarded due to impurities: 5,000L a day	• High-rises built: 8 a year • Probability that the builders complete construction within a month of the due date: 70% • Number of tenant expressions of interest: 100
NPV ($)	61-753 million. (Midpoint: 407.)	95-1175 million. (Midpoint: 635.)	111-1373 million. (Midpoint: 742.)	82-1018 million. (Midpoint: 550.)	121-1487 million. (Midpoint: 804.)

Continue

Figure 10

Project allocation - alignment: low, reliability type: implicit, reliability amount: low, variation: 1.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Enfuel	Petroyield	Refinera	Oilpier	Liquid Pipeline
Project type	oil well	oil well	oil well	oil well	oil well
Predicted project features	• Oil extracted: 2,000L an hour • Time the machinery lasts before requiring maintenance: 7 years • Probability of finding oil: 90%	• Oil extracted: 4,110L an hour • Time the machinery lasts before requiring maintenance: 14 years • Probability of finding oil: 99%	• Oil extracted: 2,530L an hour • Time the machinery lasts before requiring maintenance: 8 years • Probability of finding oil: 92%	• Oil extracted: 3,050L an hour • Time the machinery lasts before requiring maintenance: 10 years • Probability of finding oil: 94%	• Oil extracted: 3,580L an hour • Time the machinery lasts before requiring maintenance: 12 years • Probability of finding oil: 96%
NPV ($)	794-878 million. (Midpoint: 836.)	387-427 million. (Midpoint: 407.)	698-772 million. (Midpoint: 735.)	604-668 million. (Midpoint: 636.)	490-542 million. (Midpoint: 516.)

Continue

Figure 11

Project allocation - alignment: high, reliability type: implicit, reliability amount: high, variation: 1.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Wired Board	GridCircuit	Altchip	Microxy	Plextronics
Project type	microchip	microchip	microchip	microchip	microchip
Predicted project features	• Microchips produced: 5,050 an hour • Usable semiconductor yield after testing: 63% • Compatible PCs in the market: 82%	• Microchips produced: 8,220 an hour • Usable semiconductor yield after testing: 72% • Compatible PCs in the market: 88%	• Microchips produced: 7,160 an hour • Usable semiconductor yield after testing: 69% • Compatible PCs in the market: 86%	• Microchips produced: 4,000 an hour • Usable semiconductor yield after testing: 60% • Compatible PCs in the market: 80%	• Microchips produced: 6,110 an hour • Usable semiconductor yield after testing: 66% • Compatible PCs in the market: 84%
NPV ($)	698-772 million. (Midpoint: 735.)	387-427 million. (Midpoint: 407.)	490-542 million. (Midpoint: 516.)	794-878 million. (Midpoint: 836.)	604-668 million. (Midpoint: 636.)

Continue

Figure 12

Project allocation - alignment: high, reliability type: implicit, reliability amount: high, variation: 2.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Cargo Ace	Direct Vector	Solgistics	Logivia	Tough Haul
Project type	shipping logistics	shipping logistics	shipping logistics	shipping logistics	shipping logistics
Predicted project features	• Packages shipped: 1,220 a week • Number of packages that do not spend time in a bottleneck: 611 a day • Average accuracy of shipments: 96%	• Packages shipped: 1,010 a week • Number of packages that do not spend time in a bottleneck: 505 a day • Average accuracy of shipments: 95%	• Packages shipped: 1,430 a week • Number of packages that do not spend time in a bottleneck: 716 a day • Average accuracy of shipments: 97%	• Packages shipped: 800 a week • Number of packages that do not spend time in a bottleneck: 400 a day • Average accuracy of shipments: 94%	• Packages shipped: 1,640 a week • Number of packages that do not spend time in a bottleneck: 822 a day • Average accuracy of shipments: 98%
NPV ($)	604-668 million. (Midpoint: 636.)	698-772 million. (Midpoint: 735.)	490-542 million. (Midpoint: 516.)	794-878 million. (Midpoint: 836.)	387-427 million. (Midpoint: 407.)

Continue

Figure 13

Project allocation - alignment: high, reliability type: implicit, reliability amount: high, variation: 3.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Farmhouse Chef	Savoro	Dinerly	LunchLover	Third Cook
Project type	restaurant chain	restaurant chain	restaurant chain	restaurant chain	restaurant chain
Predicted project features	• Restaurants established: 11 a year • Number of reservations on a Saturday night: 126 • Positive reviews: 50 a month	• Restaurants established: 13 a year • Number of reservations on a Saturday night: 153 • Positive reviews: 61 a month	• Restaurants established: 18 a year • Number of reservations on a Saturday night: 205 • Positive reviews: 82 a month	• Restaurants established: 16 a year • Number of reservations on a Saturday night: 179 • Positive reviews: 71 a month	• Restaurants established: 9 a year • Number of reservations on a Saturday night: 100 • Positive reviews: 40 a month
NPV ($)	698-772 million. (Midpoint: 735.)	604-668 million. (Midpoint: 636.)	387-427 million. (Midpoint: 407.)	490-542 million. (Midpoint: 516.)	794-878 million. (Midpoint: 836.)

Continue

Figure 14

Project allocation - alignment: high, reliability type: implicit, reliability amount: high, variation: 4.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Dotsonic	NextRecord	Poppin	Vital Records	Extasy
Project type	record label	record label	record label	record label	record label
Predicted project features	• Record projects completed: 8 a year • Radio listenership nationally: 2 million • Relevant network connections: 13	• Record projects completed: 14 a year • Radio listenership nationally: 3 million • Relevant network connections: 23	• Record projects completed: 12 a year • Radio listenership nationally: 3 million • Relevant network connections: 19	• Record projects completed: 16 a year • Radio listenership nationally: 4 million • Relevant network connections: 26	• Record projects completed: 10 a year • Radio listenership nationally: 2 million • Relevant network connections: 16
NPV ($)	794-878 million. (Midpoint: 836.)	490-542 million. (Midpoint: 516.)	604-668 million. (Midpoint: 636.)	387-427 million. (Midpoint: 407.)	698-772 million. (Midpoint: 735.)

Continue

Figure 15

Project allocation - alignment: high, reliability type: implicit, reliability amount: high, variation: 5.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Grown Media	Pressbloom	National Editorial	Byline	Penny Gazette
Project type	national newspaper	national newspaper	national newspaper	national newspaper	national newspaper
Predicted project features	• Newspapers printed: 74,400 a day • Number of weekly advertisers: 119 • Ink that is not discarded due to impurities: 7,440L a day	• Newspapers printed: 86,600 a day • Number of weekly advertisers: 139 • Ink that is not discarded due to impurities: 8,660L a day	• Newspapers printed: 98,800 a day • Number of weekly advertisers: 158 • Ink that is not discarded due to impurities: 9,880L a day	• Newspapers printed: 50,000 a day • Number of weekly advertisers: 80 • Ink that is not discarded due to impurities: 5,000L a day	• Newspapers printed: 62,200 a day • Number of weekly advertisers: 99 • Ink that is not discarded due to impurities: 6,220L a day
NPV ($)	95-1175 million. (Midpoint: 635.)	82-1018 million. (Midpoint: 550.)	61-753 million. (Midpoint: 407.)	121-1487 million. (Midpoint: 804.)	111-1373 million. (Midpoint: 742.)

Continue

Figure 16

Project allocation - alignment: high, reliability type: implicit, reliability amount: low, variation: 1.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Pharmacore	Drugcard	Healthgenic	Genematic	Curezo
Project type	pharmaceutical	pharmaceutical	pharmaceutical	pharmaceutical	pharmaceutical
Predicted project features	• Pills pressed: 593,000 an hour • Shelf life: 39 months • Probability of symptom reduction after a week: 99%	• Pills pressed: 373,000 an hour • Shelf life: 24 months • Probability of symptom reduction after a week: 92%	• Pills pressed: 446,000 an hour • Shelf life: 29 months • Probability of symptom reduction after a week: 94%	• Pills pressed: 519,000 an hour • Shelf life: 34 months • Probability of symptom reduction after a week: 96%	• Pills pressed: 300,000 an hour • Shelf life: 20 months • Probability of symptom reduction after a week: 90%
NPV ($)	61-753 million. (Midpoint: 407.)	111-1373 million. (Midpoint: 742.)	95-1175 million. (Midpoint: 635.)	82-1018 million. (Midpoint: 550.)	121-1487 million. (Midpoint: 804.)

Continue

Figure 17

Project allocation - alignment: high, reliability type: implicit, reliability amount: low, variation: 2.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	MetroAlley	FreightCog	Railmont	Tresletrack	Rural Pass
Project type	railway	railway	railway	railway	railway
Predicted project features	• Railway lines built: 6 a decade • Number of seats filled by paying customers at peak hour: 2,490 • Time before the train carriages will need to be serviced: 14 years	• Railway lines built: 7 a decade • Number of seats filled by paying customers at peak hour: 2,980 • Time before the train carriages will need to be serviced: 17 years	• Railway lines built: 5 a decade • Number of seats filled by paying customers at peak hour: 2,000 • Time before the train carriages will need to be serviced: 12 years	• Railway lines built: 8 a decade • Number of seats filled by paying customers at peak hour: 3,460 • Time before the train carriages will need to be serviced: 20 years	• Railway lines built: 9 a decade • Number of seats filled by paying customers at peak hour: 3,950 • Time before the train carriages will need to be serviced: 23 years
NPV ($)	111-1373 million. (Midpoint: 742.)	95-1175 million. (Midpoint: 635.)	121-1487 million. (Midpoint: 804.)	82-1018 million. (Midpoint: 550.)	61-753 million. (Midpoint: 407.)

Continue

Figure 18

Project allocation - alignment: high, reliability type: implicit, reliability amount: low, variation: 3.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Refit	Edifice	Erectic	Logis	Boltwork
Project type	high-rise construction	high-rise construction	high-rise construction	high-rise construction	high-rise construction
Predicted project features	• High-rises built: 15 a year • Probability that the builders complete construction within a month of the due date: 91% • Number of tenant expressions of interest: 198	• High-rises built: 11 a year • Probability that the builders complete construction within a month of the due date: 80% • Number of tenant expressions of interest: 149	• High-rises built: 8 a year • Probability that the builders complete construction within a month of the due date: 70% • Number of tenant expressions of interest: 100	• High-rises built: 13 a year • Probability that the builders complete construction within a month of the due date: 85% • Number of tenant expressions of interest: 173	• High-rises built: 9 a year • Probability that the builders complete construction within a month of the due date: 75% • Number of tenant expressions of interest: 124
NPV ($)	61-753 million. (Midpoint: 407.)	95-1175 million. (Midpoint: 635.)	121-1487 million. (Midpoint: 804.)	82-1018 million. (Midpoint: 550.)	111-1373 million. (Midpoint: 742.)

Continue

Figure 19

Project allocation - alignment: high, reliability type: implicit, reliability amount: low, variation: 4.

Carefully read through the project descriptions below and then do the following: 1. Rank the projects between 1 (highest) and 5 (lowest) in order of investment priority in the relevant "Project Ranking" row input; and 2. Allocate each project a percentage (a number between 0 and 100) of the total budget in the relevant "Project Allocation" row input.

Relevant information	Project 1	Project 2	Project 3	Project 4	Project 5
Project ranking	Ranking:	Ranking:	Ranking:	Ranking:	Ranking:
Project allocation (%)	Allocation:	Allocation:	Allocation:	Allocation:	Allocation:
Business name	Techip	Digics	Zenix	Cweb	Codeck
Project type	software	software	software	software	software
Predicted project features	• Code written: 1,000 lines a day • Security rating: 60% • Number of potential customers in first year: 3 million	• Code written: 1,490 lines a day • Security rating: 78% • Number of potential customers in first year: 4 million	• Code written: 1,240 lines a day • Security rating: 69% • Number of potential customers in first year: 3 million	• Code written: 1,730 lines a day • Security rating: 87% • Number of potential customers in first year: 5 million	• Code written: 1,980 lines a day • Security rating: 96% • Number of potential customers in first year: 5 million
NPV ($)	121-1487 million. (Midpoint: 804.)	95-1175 million. (Midpoint: 635.)	111-1373 million. (Midpoint: 742.)	82-1018 million. (Midpoint: 550.)	61-753 million. (Midpoint: 407.)

Continue

Figure 20

Project allocation - alignment: high, reliability type: implicit, reliability amount: low, variation: 5.

References

Lakens, D., Scheel, A. M., & Isager, P. M. (2018). Equivalence Testing for
    Psychological Research: A Tutorial. *Advances in Methods and Practices in
    Psychological Science, 1*(2), 259–269. https://doi.org/10.1177/2515245918770963