QFD ANALYSIS

TEAM POST-CHAIRNOBYL

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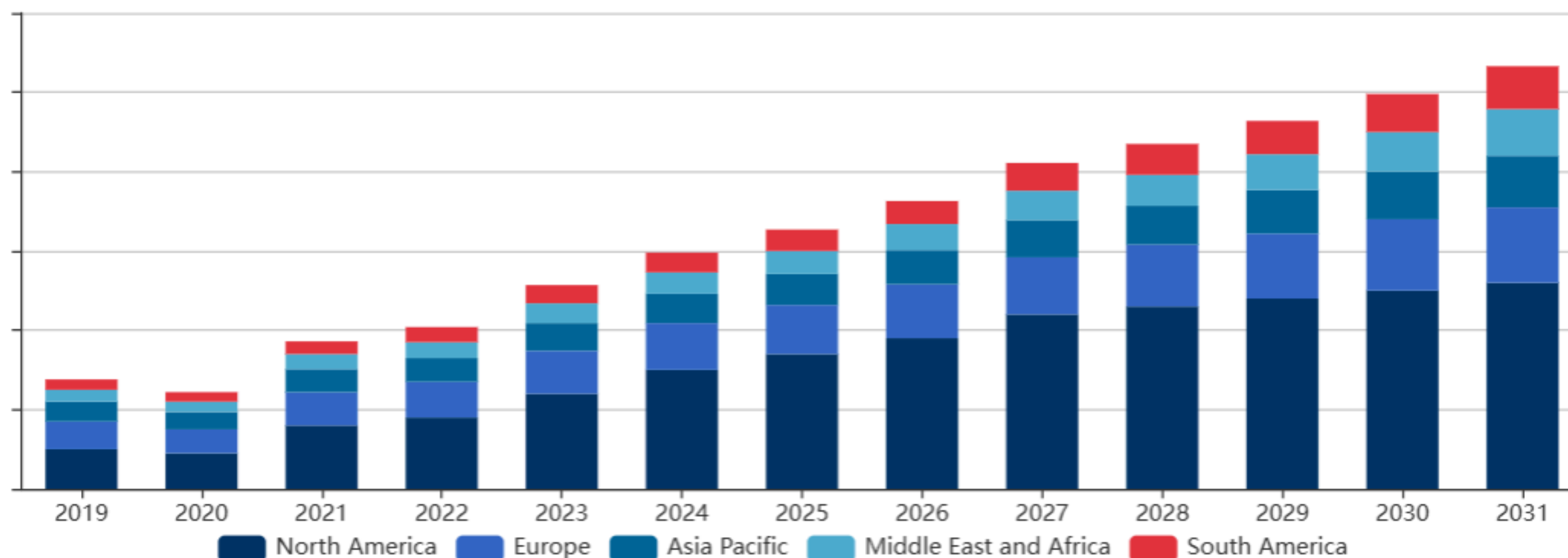# MARKET ANALYSIS

POSTAL FRANKING MACHINE

As per the report : **DATAINTELO**

- The global franking machines sales **market size** was valued at USD 1.2 billion in 2023 and is projected to reach USD 2.0 billion by 2032, **growing at a CAGR** of 5.2% from 2024 to 2032.
- **Key Players**
    - Pitney Bowes Inc.(market leader)
    - Neopost S.A.
    - Frama AG
- **M**arket share by region

- **Market segmented on the basis of**

- **Product Type**
- Automatic
- Semi-Automatic
- Manual Franking Machines
- **Application**
- Corporate Offices
- Government Offices
- Educational Institutions
- Others
- **Distribution Channel**
- Online Stores
- Offline Stores

Franking Machines Market Share (%) by Region (2019-2031)

Legend: North America, Europe, Asia Pacific, Middle East and Africa, South America

MARKET ANALYSIS

POSTAL FRANKING MACHINE

- Some popular machines for each category:

for Small Business

Pitney Bowes DM60

for Medium Business

Pitney Bowes DM130i

for large Business

Pitney Bowes Connect+ 3000

Price
- Approximate Price: ₹70,000

Features:
- Processes up to **18 letters per min**
- Manual feeding for precise and accurate impressions.
- Supports up to **2.5 kg** weight.
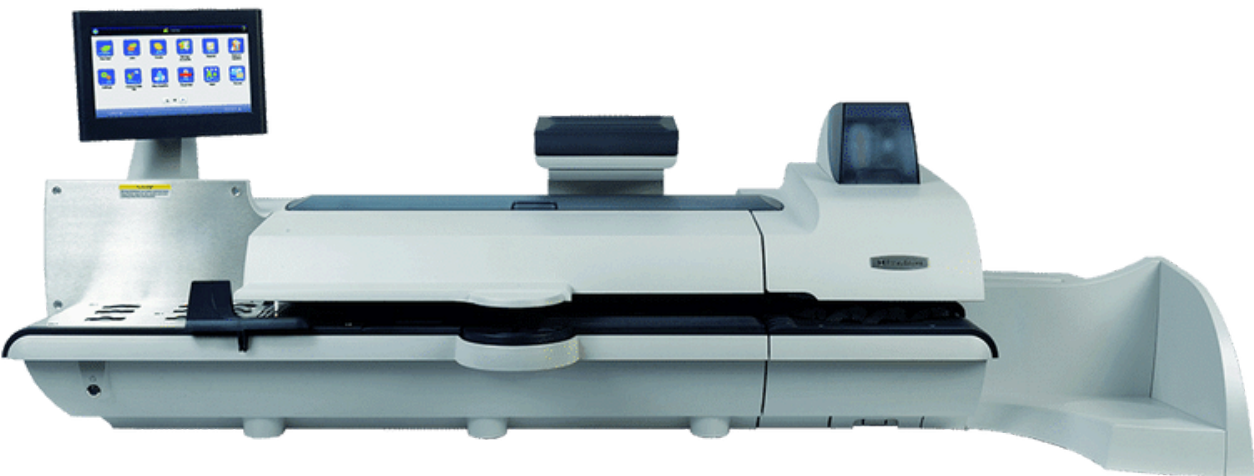- **Connectivity**: LAN, WiFi, or PC Meter Connect.

Price
- Approximate Price: ₹1,20,000

Features:
- Processes **45 letters per minute.**
- capacity of up to **2.5 kg**.
- **Connectivity**: LAN, WiFi, or PC Meter Connect.
- PIN Security: Yes.
- Smart Meter Technology: Yes.
- Mailmark Technology

Price
- Approximate Price: ₹3,50,000

Features:
- Processes up to **310 letters per minute**.
- Weighs variable-sized mail automatically upto **67.59 kg.**
- Printing: 1,200 dpi HP powered ink-jet printing color
- **Better Display:** 10.2" color touch-screen display
- High-speed LAN connectivity
- **Programmable job** ,Includes options for **barcode** scanner, laser printer, wireless keyboard etc.
- **Package Tracking**, Address Correction, and electronic Return Receipt

QUALITY FUNCTION DEPLOYMENT

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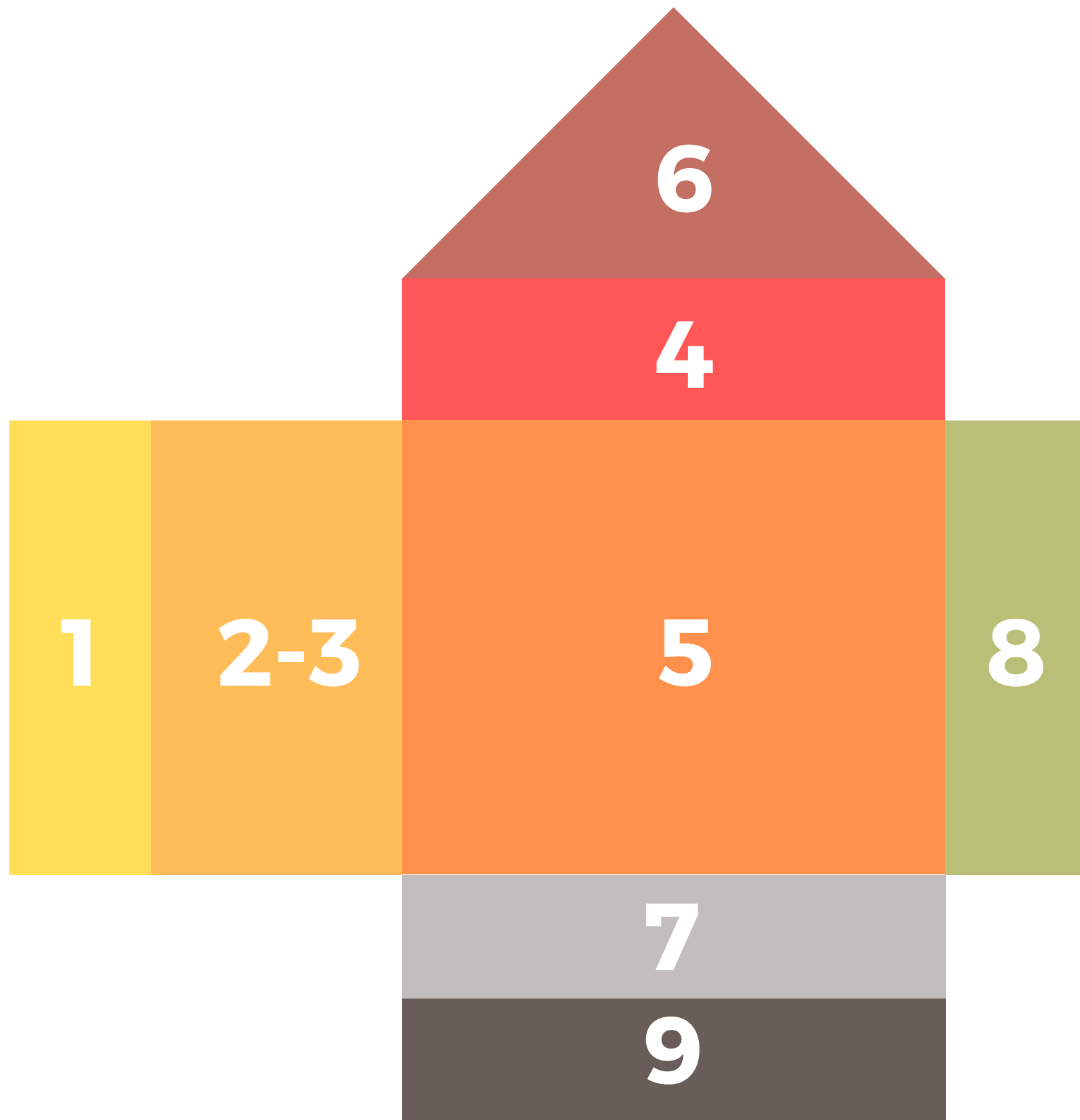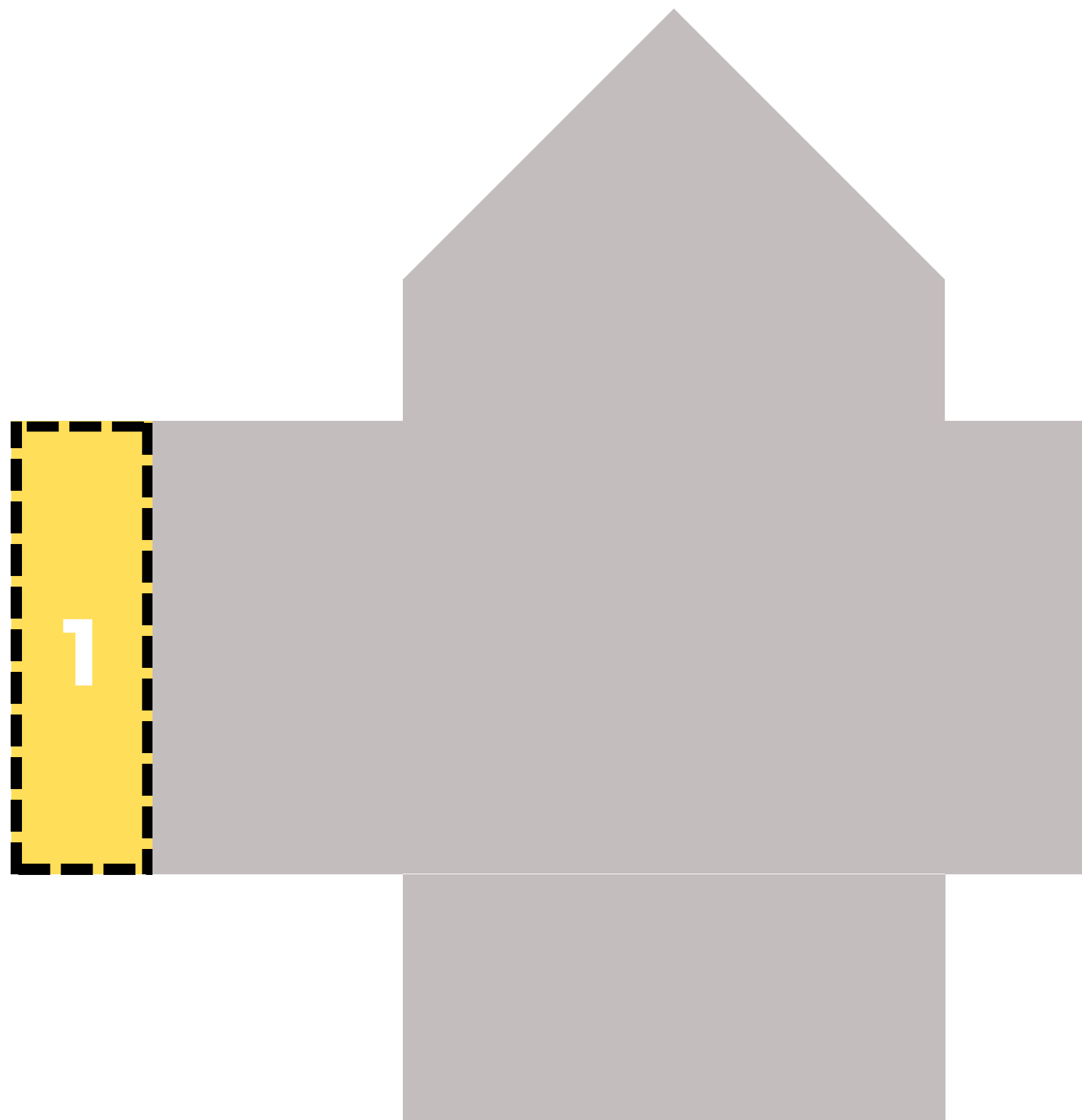
**Make an overview of product attributes reflecting wishes of the customer**

STEP 1

MAKE AN OVERVIEW OF PRODUCT ATTRIBUTES REFLECTING WISHES OF THE CUSTOMER

Parameter	Weight
Economical	3
Compact	1
Reliable	5
Easy to use	4
Efficiency	4
Automatic	3
Speed	3
Connectivity	2
Accuracy	5

MATRIX METHOD FOR DETERMINING CUSTOMER REQUIREMENT PRIORITY

Sr. No.		K1	K2	K3	K4	K5	K6	K8	K7	K9	SUM	100 Points distribution	10 Points scaling	Rank
1	Economic		0.5	0.5	0	0.5	1	0	0	0	2.5	7.35	4.16	6
2	Compact	0.5		0	1	0	1	0	0.5	0	2	5.88	3.33	7
3	Easy to use	0.5	1		0.5	0	1	0.5	0	0	3.5	10.29	5.83	4
4	Automatic	1	0	0.5		0.5	0.5	0.5	0.5	0	3.5	10.29	5.83	4
5	Reliable	0.5	0.5	1	0.5		1	0.5	1	0.5	5.5	16.18	9.27	2
6	Speed	1	1	0.5	0.5	0		0	0	0	3	8.83	5.00	5
7	Efficiency	0.5	1	1	0.5	0	1		1	0.5	4.5	13.24	7.50	3
8	Connectivity	1	0	0.5	0.5	0.5	1	0		0	3.5	10.29	5.83	4
9	Accuracy	0.5	1	0.5	1	0.5	1	1	0.5		6	17.65	10	1

2-3

2-3
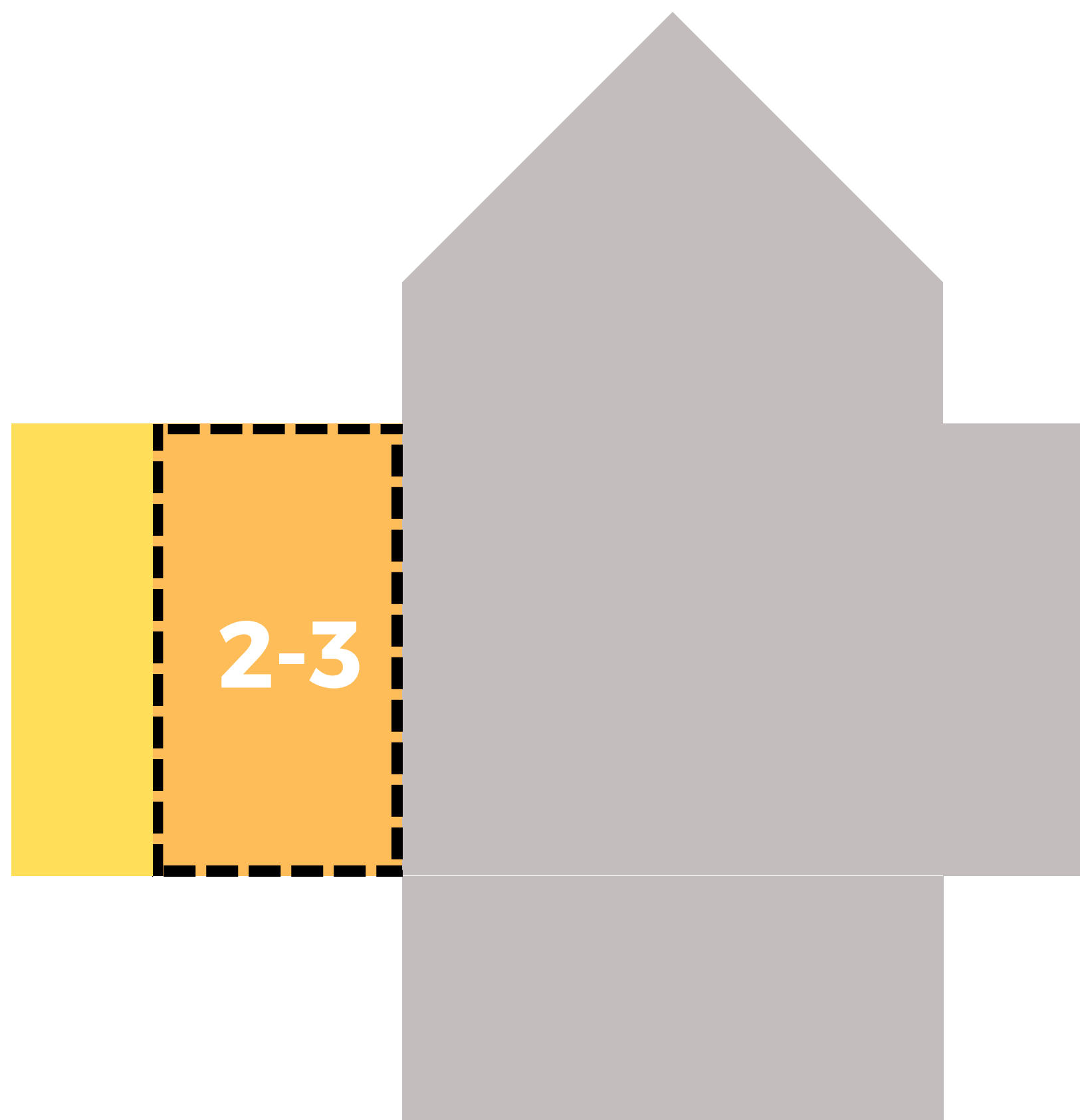
Benchmark current product with competitive products

STEP 2-3

BENCHMARK CURRENT PRODUCT WITH COMPETITIVE PRODUCTS

Parameter	Ranking	1	2	3	4	5	Target Value	Improve Rate	Weight	Weight%
Economical	3		●		○		4	1	3	6
Compact	1			○	●		4	1.33	1.33	3
Reliable	5			○		●	5	1.7	8.5	17
Easy to use	4		○	●			4	2	8	16
Efficiency	4			○	●		5	1.7	6.8	13
Automatic	3	○			●		3	3	9	18
Speed	3			○	●		4	1.33	3.99	8
Connectivity	2		○			●	4	2	4	8
Accuracy	5				○	●	5	1.25	6.25	13

○ Our product   ● Competitor's product: Pitney Bowes DM60

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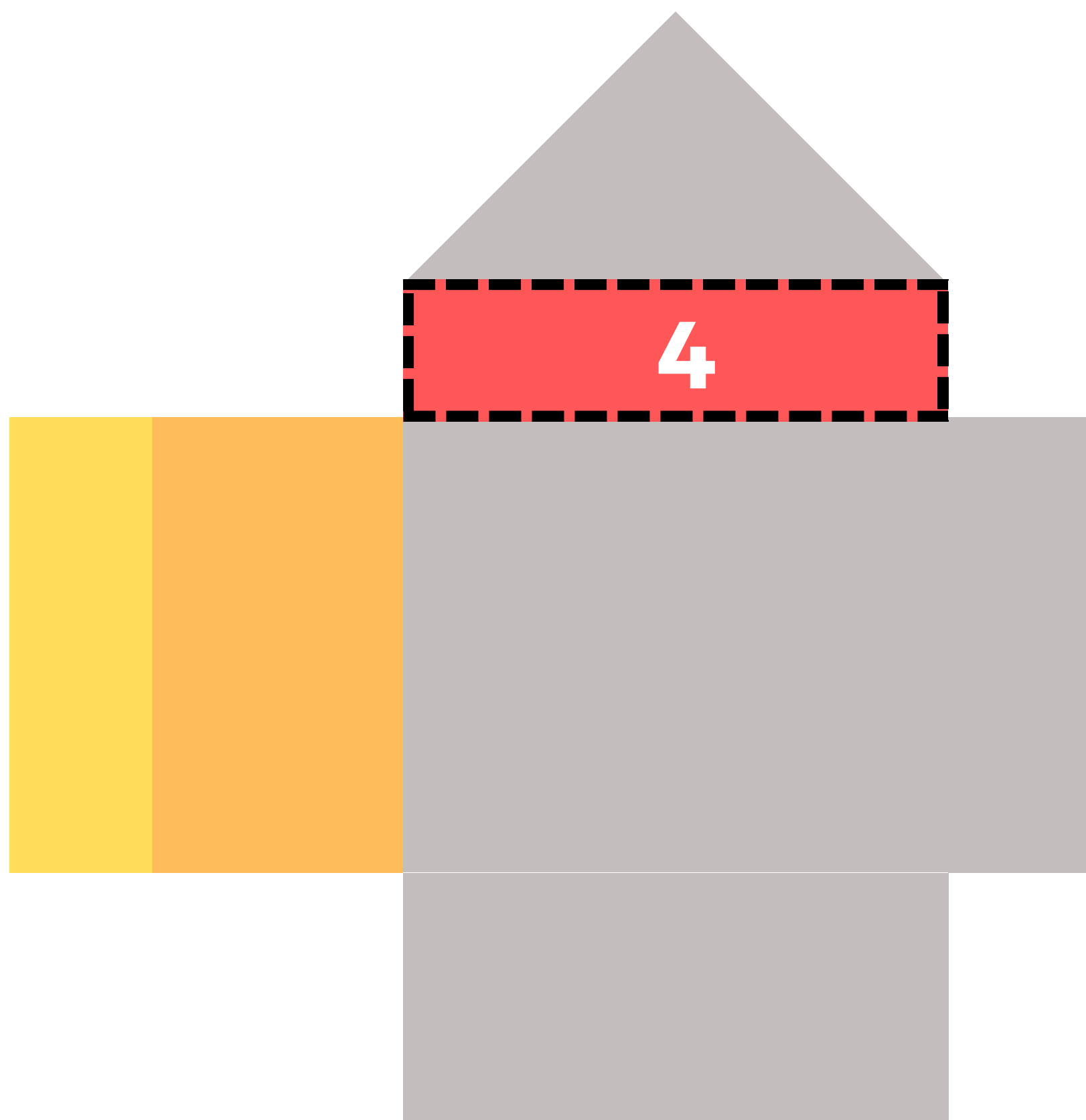
Describe new product in terms of technical Parameters

STEP 4

DESCRIBE NEW PRODUCT IN TERMS OF TECHNICAL PARAMETERS

Parameter	Weight
Mail Size Capacity (cm^3)	4
Ink Efficiency (imprints/ml)	3
Throughput Efficiency (letters/min)	5
Print Speed (pages/min)	4
Weighing Accuracy (gram)	4
Print Resolution (dots pers inch)	3
Silent Operation (dB)	4

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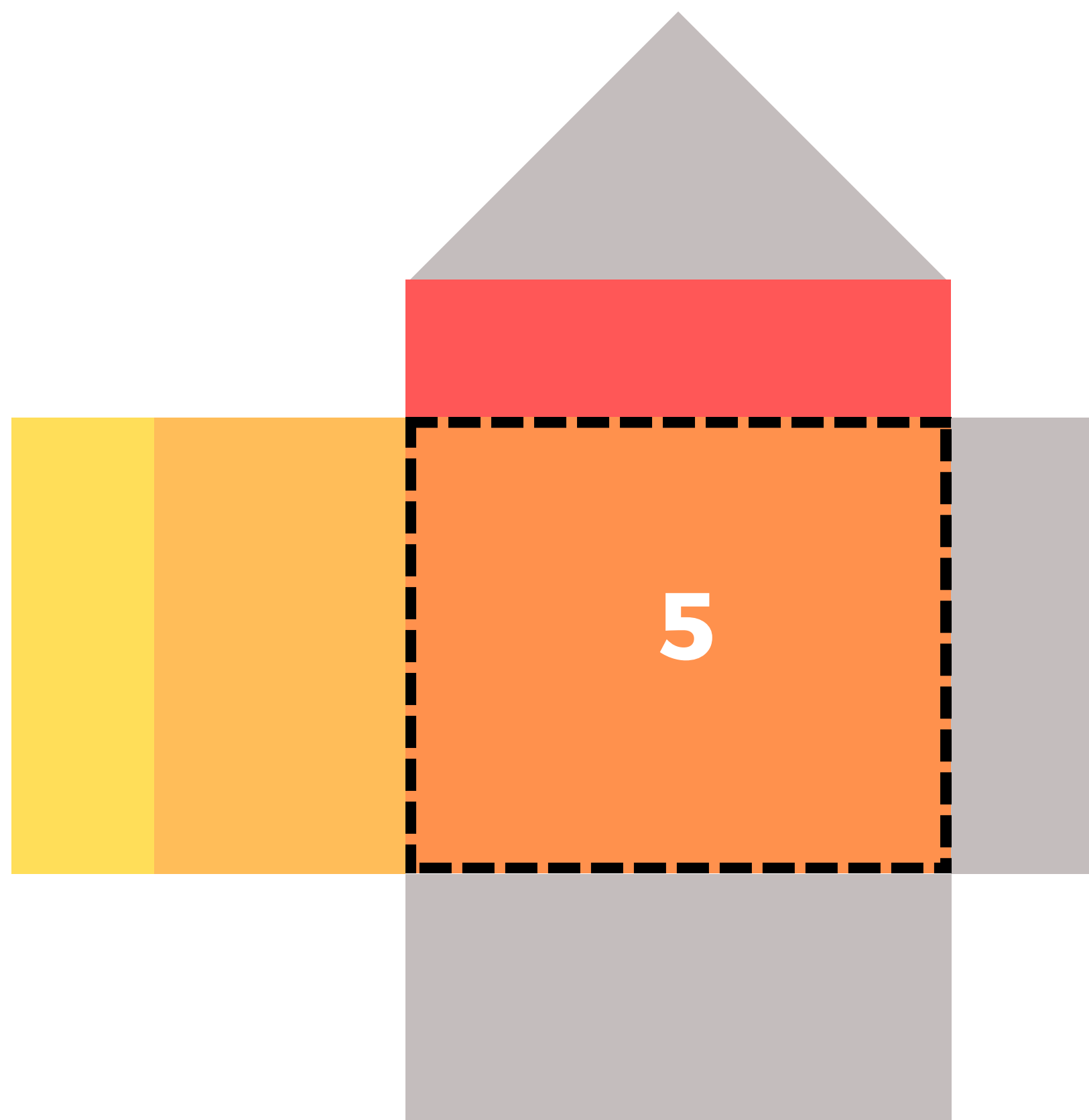
Translate project objectives into priorities for technical parameters

STEP 5

TRANSLATE PROJECT OBJECTIVES INTO PRIORITIES FOR TECHNICAL PARAMETERS

	10 pt scale	Mail Size Capacity	Usage of Ink	Throughput (Efficiency)	Print speed	Weighing Accuracy	Print Resolution	Noise Level
Economic	4.16	9	9	3	3	3	3	9
Compact	3.33	9	1	1	1	1	1	9
Easy to use	5.83	1	1	9	1	1	1	9
Automatic	5.83	9	1	9	9	1	1	3
Reliable	9.27	3	1	9	1	9	3	1
Speed	5.00	9	3	9	9	3	9	9
Efficiency	7.50	9	9	9	9	1	3	3
Connectivity	5.83	1	1	9	3	1	1	1
Accuracy	10	1	1	1	9	9	9	1
Total		281.85	160	379.15	303.37	229.23	218.61	229.97

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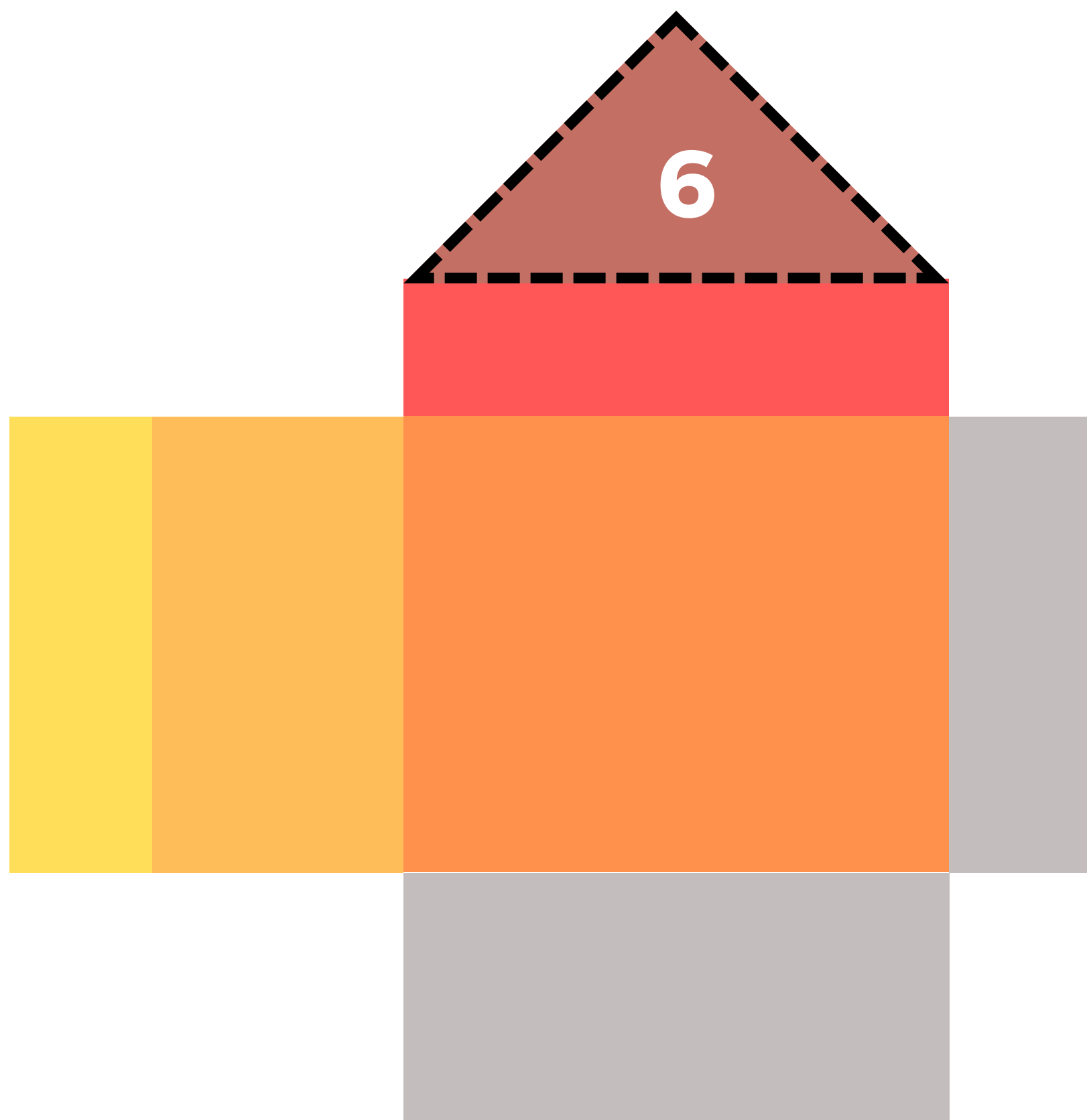
Make nature and strength of interactions between parameters explicit

STEP 6

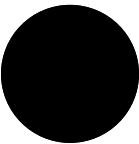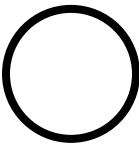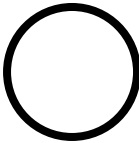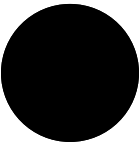**MAKE NATURE AND STRENGTH OF INTERACTIONS BETWEEN PARAMETERS EXPLICIT**

Mail Size Capacity	Usage of Ink	Through put (Efficien cy)	Print speed	Weighing Accuracy	Print Resoluti on	Noise Level

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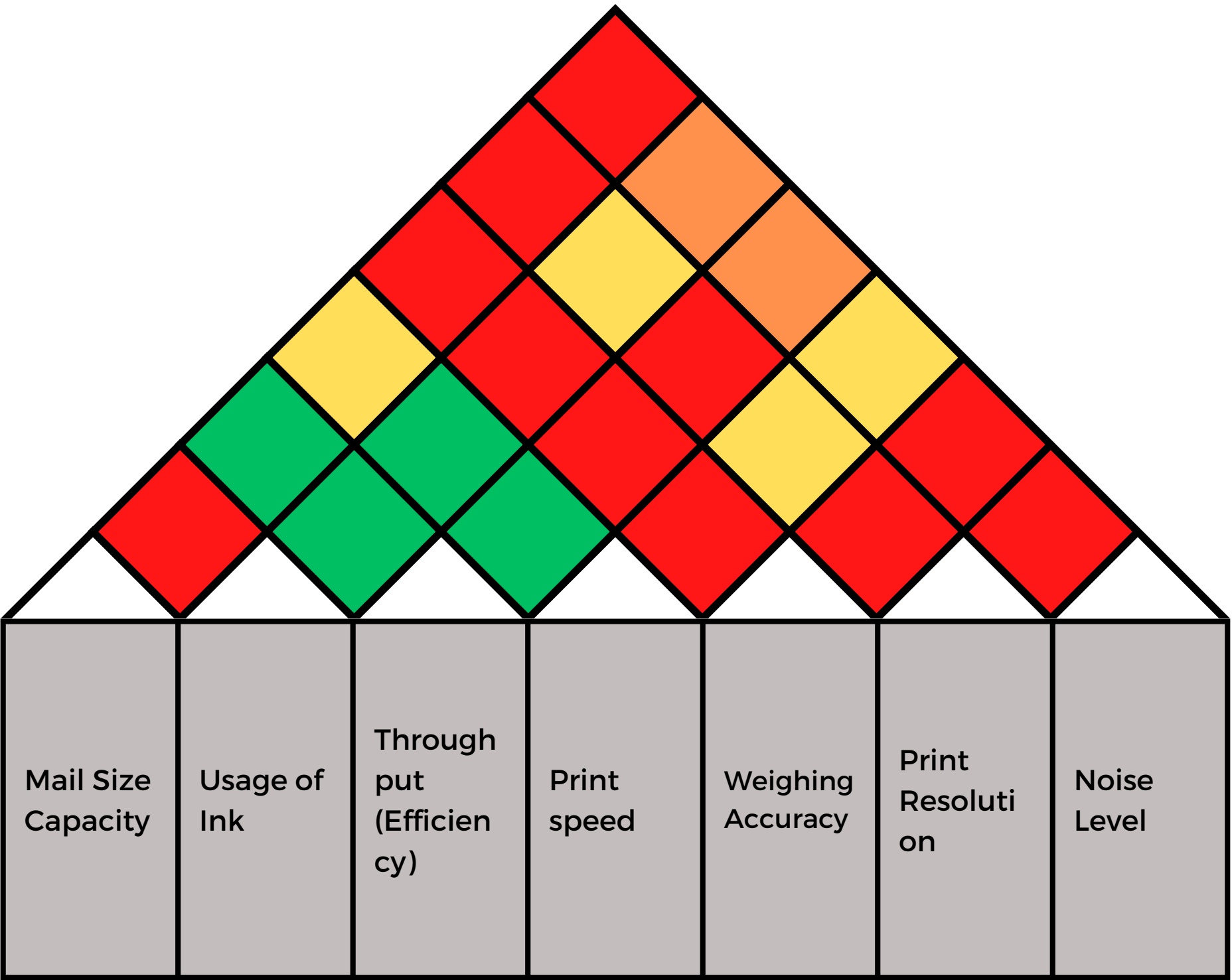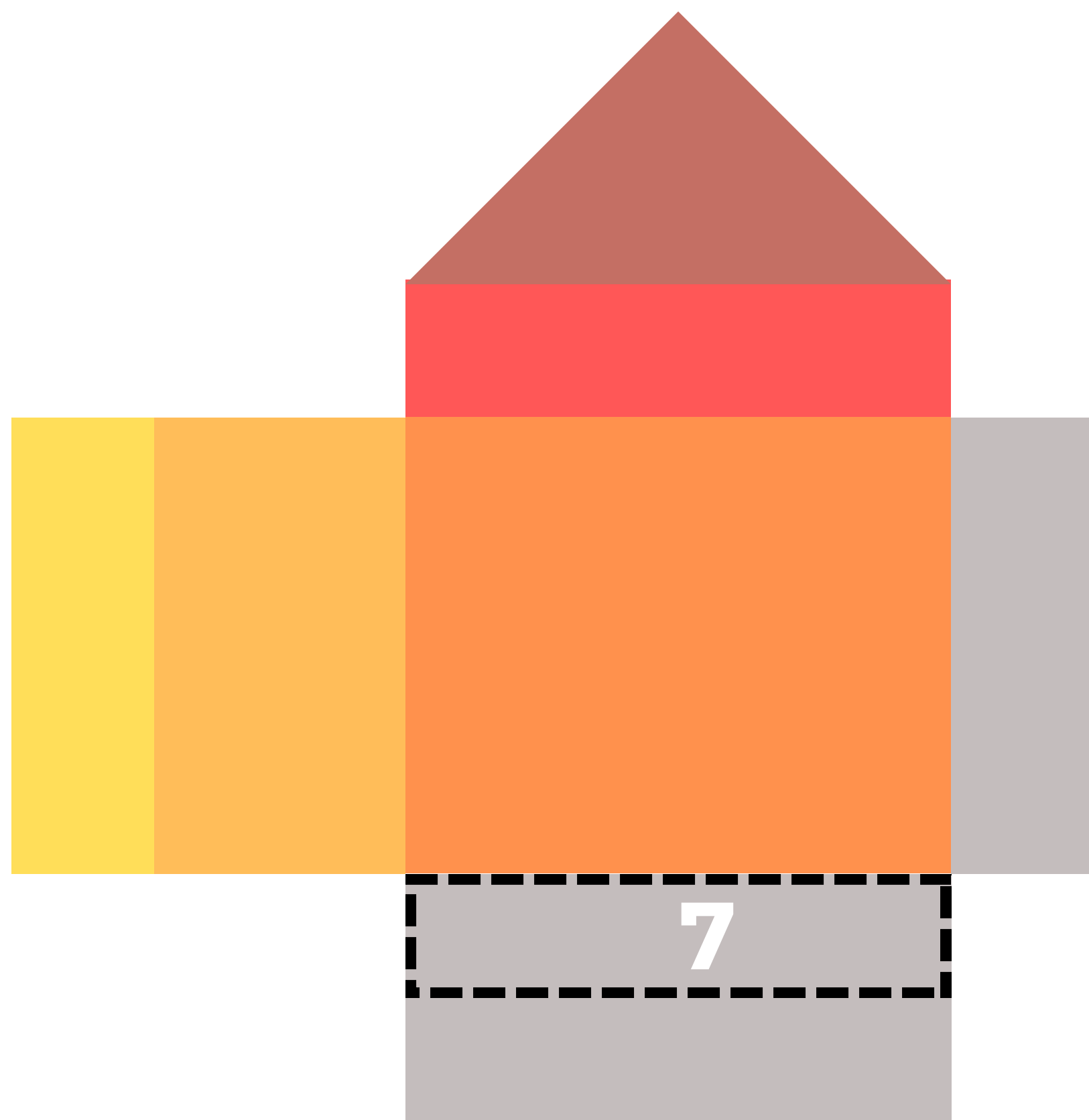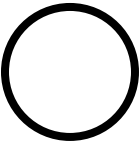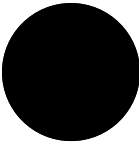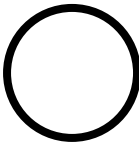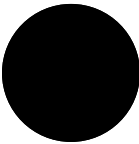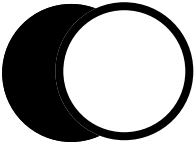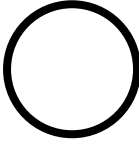
Analyse current/competitive products to establish target values

STEP 7

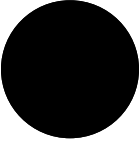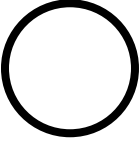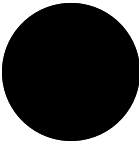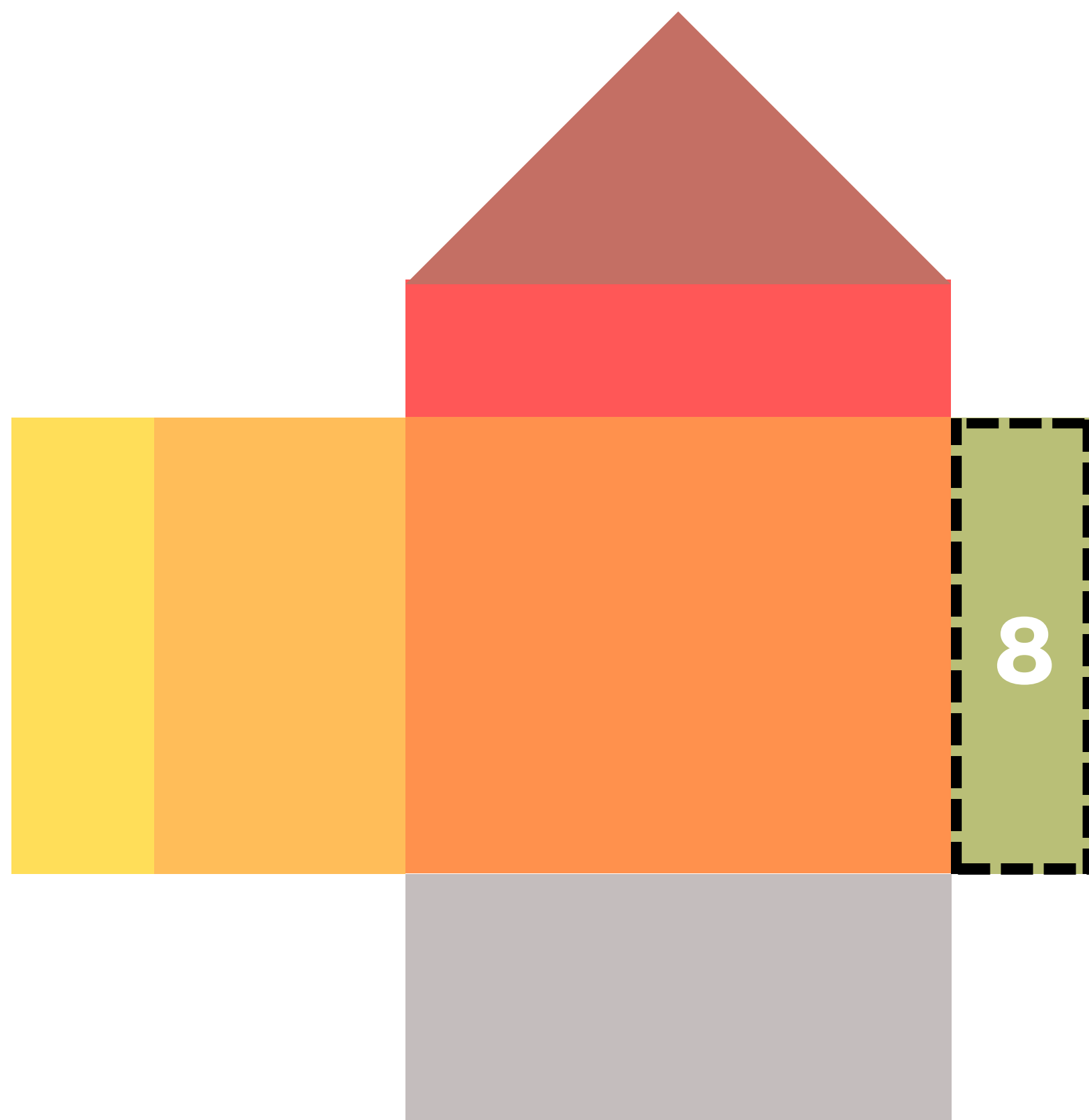## ANALYSE CURRENT/COMPETITIVE PRODUCTS TO ESTABLISH TARGET VALUES

Parameter	Weight	1	2	3	4	5	Target Value	Improve Rate	Weight	Weight%
Mail Size Capacity	4			●	○		4	1	4	10
Ink Efficiency	3		○	●			4	2	6	14
Throughput (Efficiency)	5			○	●		5	1.7	8.5	20
Print speed	4		○		●		4	2	8	19
Weighing Accuracy	4				●○		4	1	4	10
Print Resolution	3		○	●			4	2	6	14
Silent Operation	4			○	●		4	1.33	5.32	13

*https://issuu.com/fpusa/docs/postbase-mini-2-brochure?fr=sMDE1NDQwODcy

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Seek feasibility of intended improvements (benefit vs cost)

STEP 8

SEEK FEASIBILITY OF INTENDED IMPROVEMENTS (BENEFIT VS COST)

Parameter	Methods probable for improvement
Mail Size Capacity (cm)	No need for improvement
Ink Efficiency (imprints/ml)	A better designed nozzle can help (if we are using a conventional printer, according to HP) More ink capacity ensures less frequent changes (added imprints)
Throughput Efficiency (letters/min)	Throughput is dependant on print speed, as well as print drying. Automation of the other associated processes, such as weighing and sorting by destination are possible avenues for improving speed of processing letters.
Print Speed (pages/min)	One should use adaptive printing modes, but may cause legibility issues. Novel methods like LIFT and high speed laser processing are much faster but very costly.
Weighing Accuracy (gram)	No need of improvement
Print Resolution (dots pers inch)	Using higher quality LASERS such as The vertical-cavity surface-emitting laser (VCSEL) reduces dot overlap and help provide finer details.
Silent Operation (dB)	Sound Damping Enclosures, rubberised components,

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Develop plan for the product involved (targets, priorities, relationships)

STEP 9

DEVELOP PLAN FOR THE PRODUCT INVOLVED (TARGETS, PRIORITIES, RELATIONSHIPS)

Measurement Unit	Package Capacity (cm^3)	imprints/ml	letters/day	pages/min	g	dots per inch (dpi)	dB
Our product	-----	----	200	---	----	---	70
Competitor's product	25.4 x 35.6 x 0.65	190	50	17	0.1-0.2	<600	55
Target Value	25.4 x 35.6 x 0.65	150	250	20	0.1	600	55

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https://www.mailcoms.co.uk/franking-machines/fp-mailing/postbase-mini-franking-machine/#:~:text=This%20machine%20is%20suited%20for,items%20of%20mail%20a%20minute.

THANK YOU