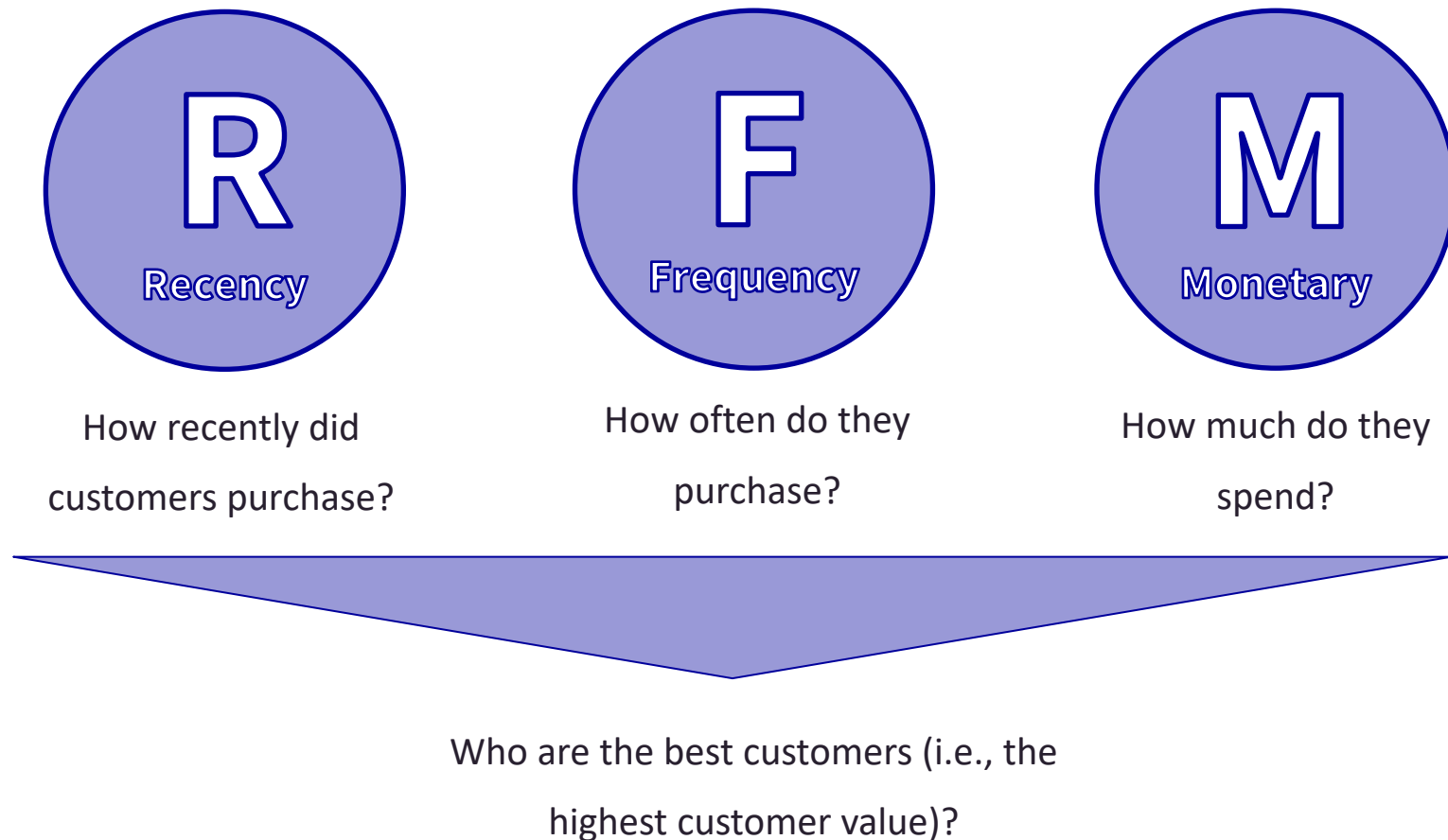


# Scoring model exercise: An introduction to RFM models

# Developing a scoring model to identify the best customers



# Measuring the value of a customer within the RFM framework

1. Measure the recency, frequency, and monetary value of customer purchases.
2. Set a score to rank customers according to their purchase recency, frequency, and monetary value.
3. Calculate the overall RFM score.
4. Analyze RFM group differences.



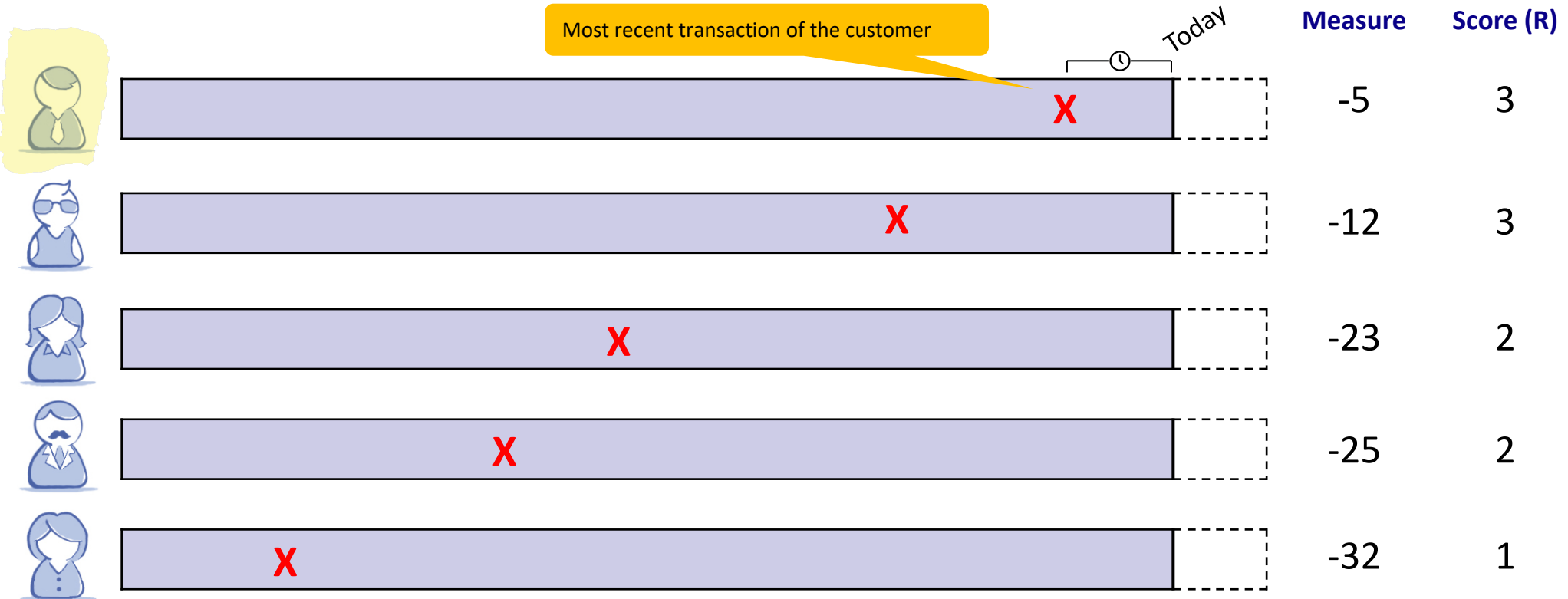
# Step 1: Measure the recency, frequency, and monetary value

All RFM measures have to be measured on the individual customer level during an observation period:

- **Recency:** difference in days between the latest purchase and today
- **Frequency:** number of transactions
- **Monetary value:** average amount spent per transaction

## Step 2: Set a score to rank customers

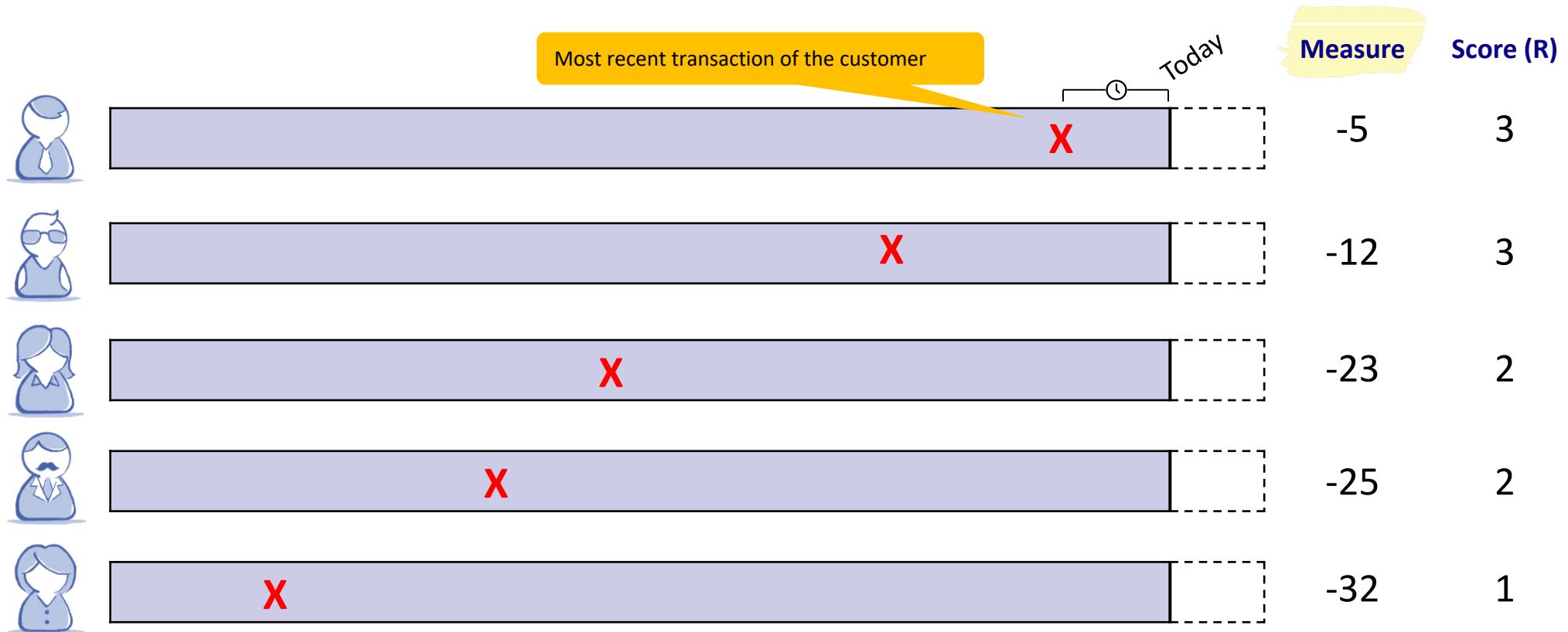
### Recency (R)



➤ The higher the recency measure, the lower the score.

## Step 2: Set a score to rank customers

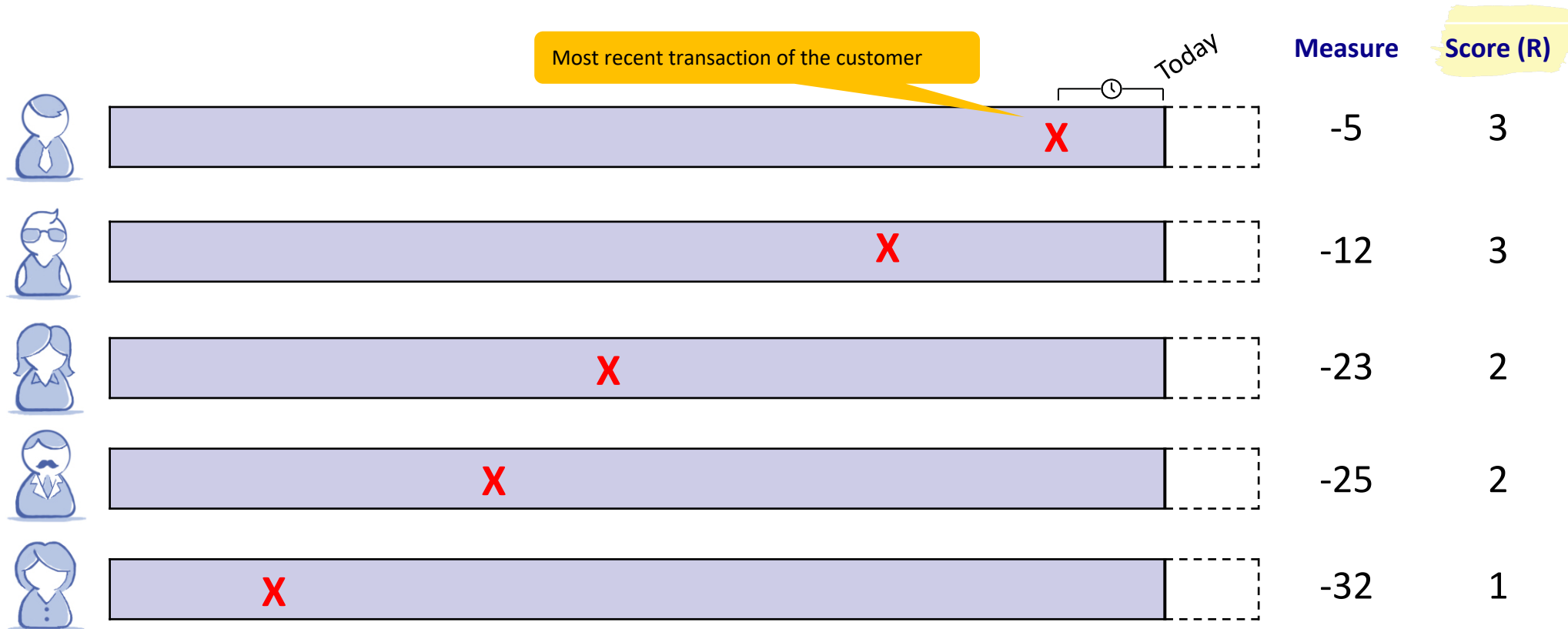
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## Step 2: Set a score to rank customers






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## Step 2: Set a score to rank customers

### Frequency (F)






		Today	Measure	Score (F)
	<div> <div> <span>XX</span> <span>XXXX</span> <span>XXX</span> <span>X</span> <span>XX</span> <span>X</span> <span>XX</span> <span>XXXX</span> <span>XX</span> </div> <div> <span>1</span> </div> </div> <div>This customer has a high purchase frequency</div>		21	3
	<div> <span>X</span> <span>X</span> <span>XX</span> <span>XX</span> <span>XX</span> <span>XX</span> <span>XX</span> </div>		12	2
	<div> <span>XX</span> <span>XXXX</span> <span>XX</span> </div>		9	2
	<div> <span>XXX</span> <span>XX</span> </div>		5	1
	<div> <span>XX</span> </div> <div> <span>2</span> </div> <div>This customer has only purchased twice in the observation period</div>		2	1

➤ The higher the frequency measure, the higher the score.



## Step 2: Set a score to rank customers






### Frequency (F)

		Today	Measure	Score (F)
	<div> <div>This customer has a high purchase frequency<sup>1</sup></div> <div>XX XXXX XXX X XX X XX XXXX XX</div> </div>		21	3
	<div><div>X</div><div>X</div><div>XX</div><div>XX</div><div>XX</div><div>XX</div><div>XX</div><div>XX</div></div>		12	2
	<div><div>XX</div><div>XXXX</div><div>XX</div></div>		9	2
	<div><div>XXX</div><div>XX</div></div>		5	1
	<div> <div>XX</div> <div>This customer has only purchased twice in the observation period<sup>2</sup></div> </div>		2	1

➤ The higher the frequency measure, the higher the score.

## Step 2: Set a score to rank customers






### Monetary value (M)

		Measure	Score (M)
	\$160 all transactions (∅)	160	3
	\$78 all transactions (∅)	78	2
	\$54 all transactions (∅)	54	2
	\$29 all transactions (∅)	29	1
	\$15 all transactions (∅)	15	1

➤ The higher the monetary value measure, the higher the score.

## Step 2: Set a score to rank customers






### Monetary value (M)

		Measure	Score (M)
	\$160 all transactions (ø)	160	3
	\$78 all transactions (ø)	78	2
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	\$29 all transactions (ø)	29	1
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## Step 2: Set a score to rank customers

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➤ The higher the monetary value measure, the higher the score.

## Step 3: Calculate the overall RFM score

RFM scores can be either unweighted or weighted:

<sup>1</sup> The unweighted score takes the simple average over all scores






	R	F	M	Score 1	Score 2
	2	2	3	2.33	2.2
	1	1	2	1.33	1.2
	2	1	2	1.67	1.8
	3	3	1	2.33	2.6
	3	2	1	2	2.4

<sup>2</sup> The weighted score takes a weighted average over the scores, e.g., 60-20-20

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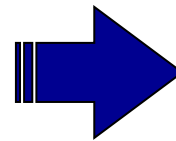
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<sup>2</sup> The weighted score takes a weighted average over the scores, e.g., 60-20-20

## Step 4: Analyze RFM group differences

Based on their RFM scores, customers can be divided into target groups.

	Score 2	Group
	2.2	2
	1.2	1
	1.8	2
	2.6	3
	2.4	2



### Group 1

(low value customers)



### Group 2

(middle value customers)



### Group 3

(high value customers)





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