Project: Market Basket insights

Problem definition :

Market basket analysis is a data mining technique used by retailers to increase sales by better understanding customer purchasing patterns. It involves analyzing large data sets, such as purchase history, to reveal product groupings, as well as products that are likely to be purchased together.

Why use of the market basket insights ?

Benefits of market baskeanalysisMarket basket analysis can increase sales and customer satisfaction. Using data to determine that products are often purchased together, retailers can optimize product placement, offer special deals and create new product bundles to encourage further sales of these combinations.

Types of Market Basket Analysis

☞**Association Rule Mining:** It involves identifying frequent item sets and generating association rules that express the likelihood of one item being purchased with the purchase of another item. It is used to identify the relationships or associations between items in a transactional dataset.

☞**Sequence Analysis:** This type of market basket analysis focuses on the order in which items are purchased in a transaction. It identifies frequent item sequences and generates sequential association rules describing the likelihood of one item sequence being followed by another.

☞**Cluster Analysis:** This type of market basket analysis involves grouping similar items or transactions into clusters or segments based on their attributes. It helps to identify customer segments with similar purchasing behaviors, which can inform product recommendations and marketing strategies.

Design Thinking:

Design thinking is about solving problems – 'wicked problems'- the type of problems that market researchers tackle on a daily basis. They are 'wicked' in the sense of their comparison to straight-forward problems (rather than in the moral sense), the term describes problems which are indeterminate in that there is no definitive right or wrong solution and it may not be clear .

Applying Design Thinking:

the process of design thinking as being structured within five modes: Empathise; Define; Ideate; Prototype; and Test. For researchers it is important to understand what each mode 'looks' like and how it can be applied to market research .

Empathise:

The importance of understanding the end user in market research might sound like a given, but to empathise, to understand feelings and even experience them requires something more immersive .

Ideate:

In design thinking, the ideation stage is often referenced in relation to the design team generating ideas, 'going wide' and getting creative – for market researchers, however, the participants are the team. Here market researchers need to treat their 'team' in a way that inspires them to generate options - Focus groups, online discussions, forum topics and collaborative tasks can all be utilised, but the researcher must create an exciting environment where all possibilities are open.

Prototype:

 Prototyping, allows users to experience a potential solution in way that is 'safe' and inexpensive from the client's point of view. Market researchers (and their clients) should get comfortable with a 'fail fast' approach – to quote Rikke Friis Dam and Teo Yu Siang of the Interaction Design Foundation, "Design thinking has a bias towards action."

Test:

 Testing in a market research scenario, in best practice should involve observation of the users interacting with the proposed solution, whether that's previewing a new packaging design, testing a sample product or taking a virtual tour of a new restaurant. There is likely to be more emphasis on qualitative methodology, with some supporting quantitative rating questions.

Conclusion :

Market basket analysis may be used by more and more businesses to get relevant information about associations and unspoken linkages. A predictive form of market basket analysis is gaining traction across various industries in an effort to pinpoint seq