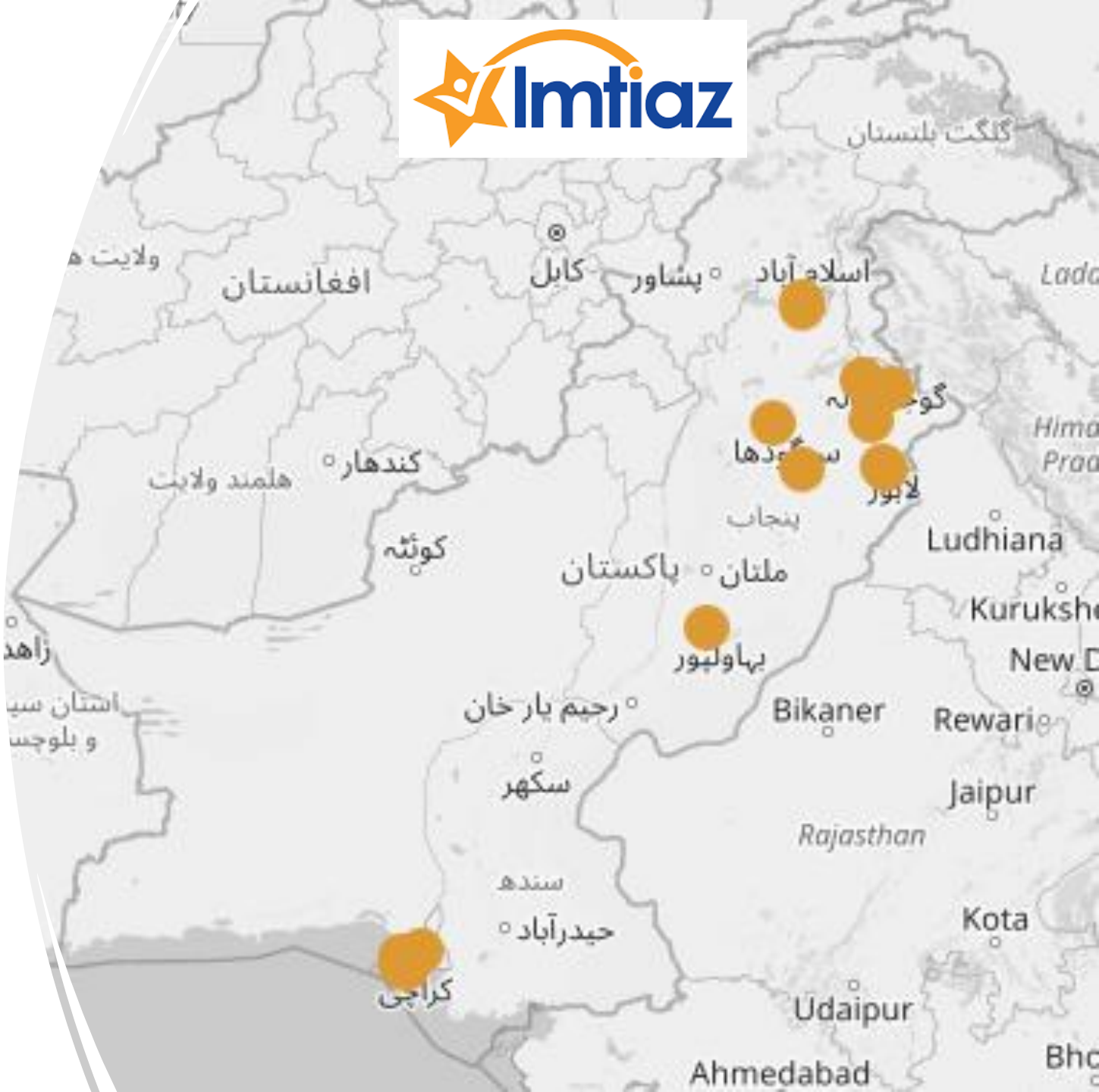
INVENTORY MANAGEMENT

SIMULATION GAME

PERIENCE
THE SIMULATIONS

Scenario Details

- Imtiaz Super Market (ISM) is one the biggest retail chains in Pakistan, consists of **13,000+ employees** and **850,000+ loyal customers**.
- ISM has **26 branches** located across **11 cities** of Pakistan, such as, Karachi, Islamabad, Lahore, Bahawalpur, Peshawar, Faisalabad, Sargodha, Gujranwala, Gujrat and Vehari.
- The stores hold **52,000+ products** consisting of **10,000+ brands**.



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Scenario Details

- Daily footfall for ISM is around **250,000 shoppers** while they maintain close relationships with 85,000 unique clients.
- In addition to their aim of becoming a trusted super store for grocery shopping and other requirements, ISM also intends to fulfill customer orders in a short span of time.
- ISM has expanded its e-commerce operations. Their online platform consists of a range of products. With investments in technology and logistics, ISM aims to provide accurate and timely delivery of their products. ISM currently caters to around 700,000 customers through their e-commerce platform.

Scenario Details

- ISM's 'Warehouse Ops Team (WOT)' provides support at national level to the 'Store Ops Team (SOT)'.
- Culinary Section of WOT has identified that National Foods Limited's (NFL) BBQ Masala 44gm is facing excess stocks and stock-outs in Karachi's Seven Stores.
- To resolve this issue, ISM has developed a Team:
  - *Manager Store Operations (Team Lead, attends the meetings irregularly),*
  - *Manager Sales,*
  - *Manager Supply Chain,*
  - *Manager Procurement.*

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Simulation Details

PERIENCE THE SIMULATIONS

Imtiaz

- DISCIPLINE during the simulation is key!
- You will play this simulation for 18-24 months
- Actual Demand is known once you have placed the order for next months (MOQ is zero)
- Each month will approx. take 5min to play
- You can also export the data into MS Excel to do analysis, if required

- Constant NFL Delivery Lead Time: 1 Month
- Only One Order per Month can be Placed

Convention: Beginning of the Month Delivery

Buying Price (P) = 75

Selling Price (MRP) = 95

Profit = 20

Ordering Cost (O) = 5K

Holding Cost (H) = 2

Lost Sales (L) = 20

Shrinkage Cost (S) = 75

MOQ: Zero Boxes

Order Size: Multiple of Box (having 24 pieces)
Max.: 1200 Boxes

Although demand is variable, the MAD remains around 560 units

Avg. Shrinkage Units per month: 0.8%

Max. Shrinkage has never crossed 1%

Ordering Cost and Purchase Price are Fixed

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Debrief

- **What decisions the leading team got right?**
  - EOQ = 11,215 *(What is the role of Shrinkage Units and Seasonality in deviation of EOQ?)*
  - Place order after every 15 days *(but one order can only be placed per month)*
- **You were required to take into consideration the following before taking the decision:**
  - *EOQ, ROP, MOQ, Shrinkage, Seasons, Order every X? weeks, Service Level, Normal Distribution, Variability (Forecast Error = Actual – Available Inv.), Stock Norm, Forecasting approach*
  - *Which one is lesser evil: Going towards Carrying or Ordering? (if unable to achieve EOQ)*
  - *How carrying cost is calculated? What are the elements of carrying cost, ordering cost, and shortage cost? VC vs. FC?*
  - *What implications Back-Order provision can bring? What impacts the Beginning Inventory?*
  - *Is Inventory Mgmt. of a bought or sold product same? Fixed Period vs. Fixed Order? Safety Stock Calculations vs. Service Level? ROP?*
- **After the game, Can you better handle the complexity (that is involved in managing inventory)?**