

## Transition Matrix - A tool for Business Managers

Transition Matrix is Markov's quantitative model technique that organisations can use to effectively plan their workforce by ensuring that they have the right number of people with the right skills and competencies at the right time to carry out organisational strategies.

Markov's transition matrix can be utilised by using probabilities to determine the current and future state of employees in any organisation. Transition probabilities explain staff movements from one state to another; these movements may be in terms of promotion, demotion, transfers, redundancy or voluntary exit from the organisation. This analysis is used to predict the future flow of employees based on the past movement or flow using the trend of previous floods. Organisations can easily predict their internal workforce needs by forecasting supply needs using the Markov model to determine future workforce needs and achieve competitive advantage in their workforce planning strategies. This is an easy process model applicable to every business to ensure an adequate workforce to meet organisational objectives.

### Manpower planning using Markov Analysis in an e-commerce company.

The job classes in this organisation are categorised into five levels of organisational hierarchy:

**Warehouse clerk ► Packaging officer ► Inventory Associate ► Inventory Supervisor ► Inventory Manager**

The table presents the values of probabilities of flow of employees from one position to another in a particular period. Each column's probabilities sum up to 1; probabilities of promotions, demotions, retaining the same position and a percentage leaving the company voluntarily or involuntarily.

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Job Level	Inventory Manager	Inventory Supervisor	Inventory Associate	Packaging Officer	Clerical Officer
Inventory Manager					
Inventory Supervisor					
Inventory Associate					
Packaging Officer					
Clerical Officer					
EXITS	0.1	0.07	0.12	0.18	0.22
TOTAL	1	1	1	1	1



The matrix model is based on probabilities and current count of employees at the beginning of a period in order to determine forecasted internal workforce needs at the end of the period.

Taking the role of an Inventory Associate as an illustration:

- a) 0.10** - It is estimated that 10% of the employees in this role are expected to be promoted to the next level which is inventory supervisor.
- b) 0.73** - This illustrates that there is a probability that 73% of employees in this role will be retained in the same position.
- c) 0.05** - Based on the current assessment, 5% of the employees will be demoted to the role of packaging officer.
- d) 0.12** - This shows that 12% of the employees in this role will leave the company either voluntarily or involuntarily.

Having adequate workforce data to develop this matrix will aid businesses in making informed decisions and planning ahead of workforce needs. The efficient implementation of this model would facilitate employee engagement through improved training and development as well as ensuring that the overall corporate strategy is achieved.

This is an easy to use procedure that is applicable to every type of business as long as the company has adequate HR data to guide business decisions. For additional enquiries on how to effectively use this tool to achieve a cost-effective workforce plan, reach out to us at [hello@staffingandco.com](mailto:hello@staffingandco.com), we would be delighted to support you.