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Data Driven Marketing Strategies For an Online Retailer

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#SASGF

DATA DRIVEN MARKETING STRATEGIES FOR AN ONLINE RETAILER

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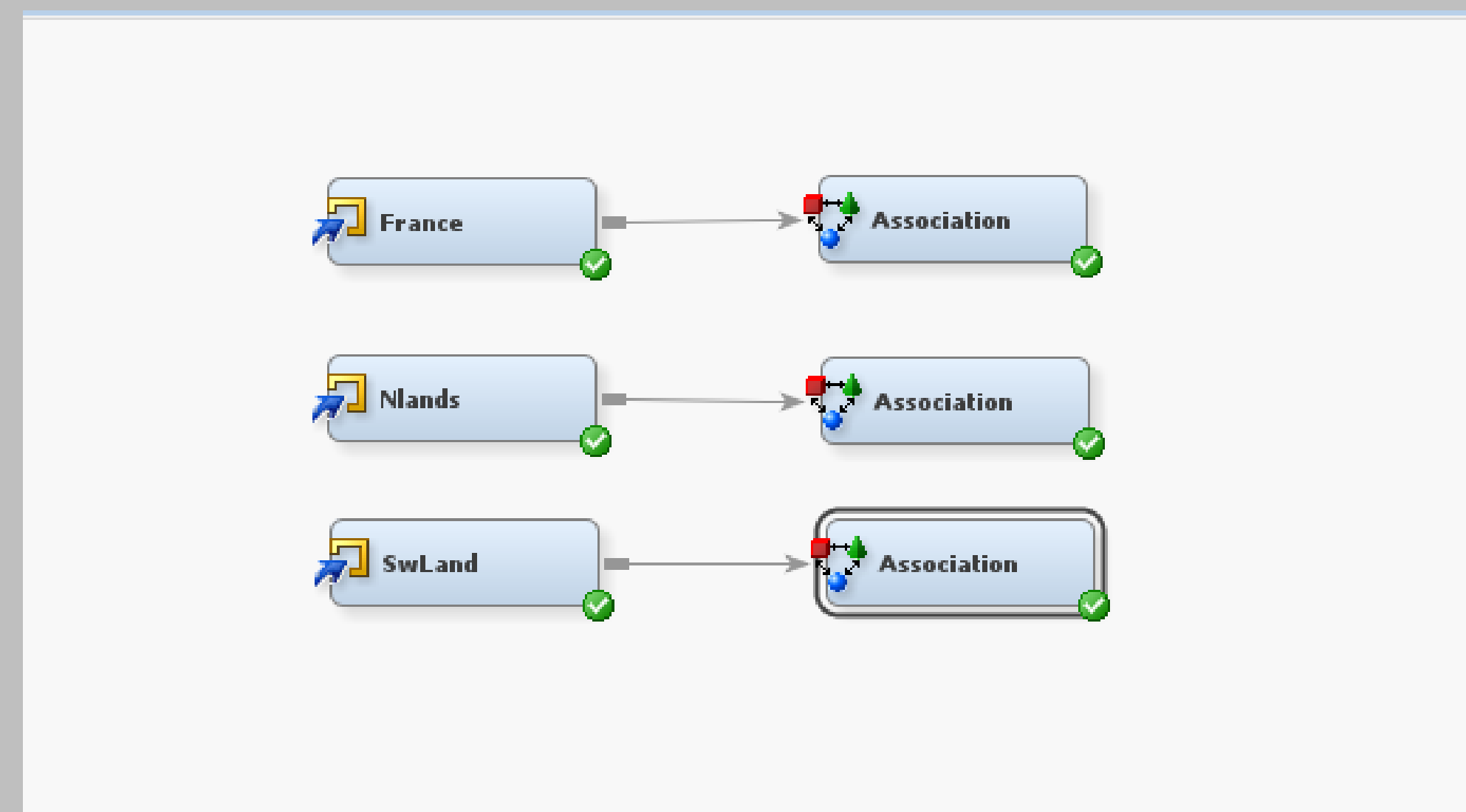
Oklahoma State University

ABSTRACT

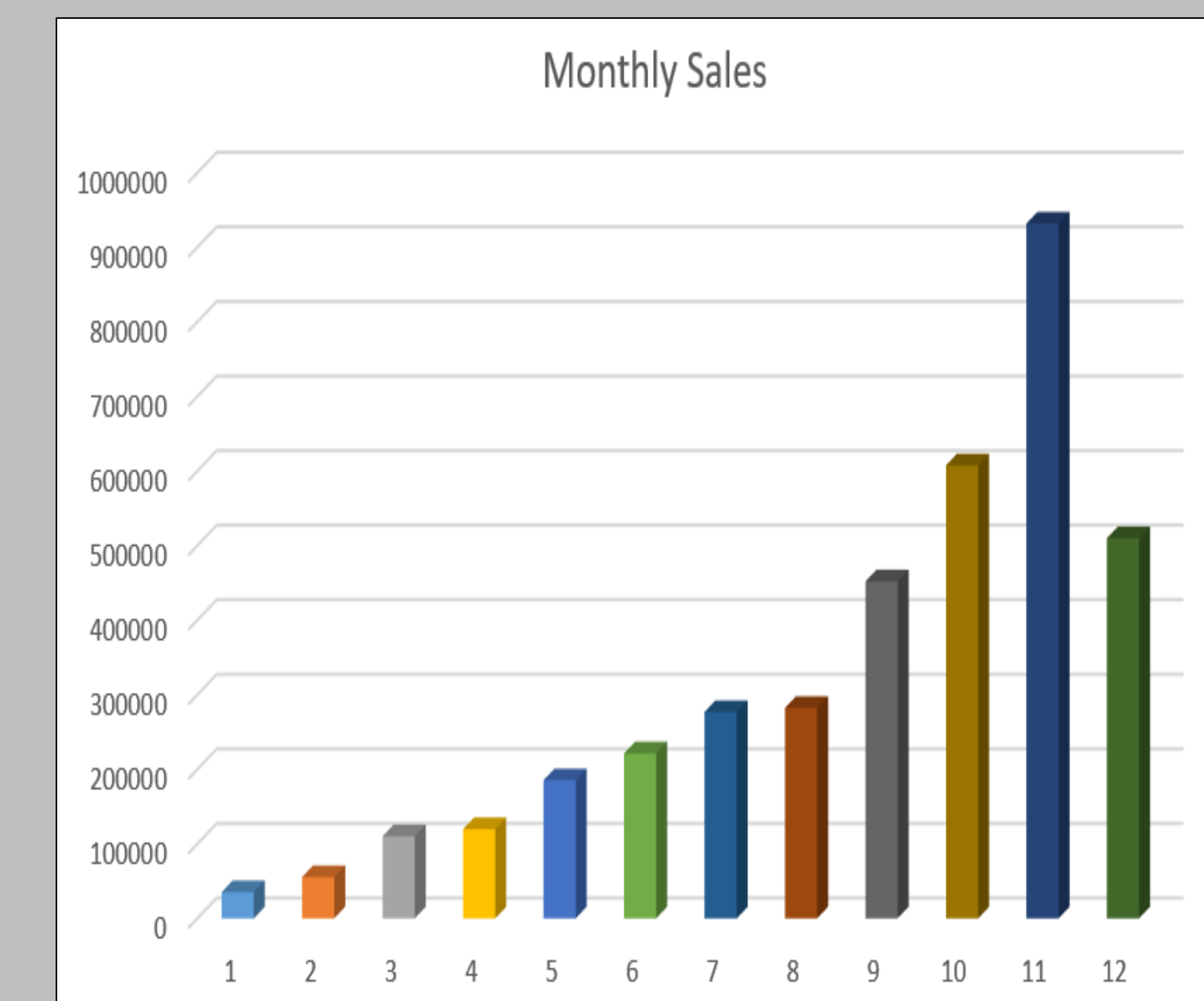
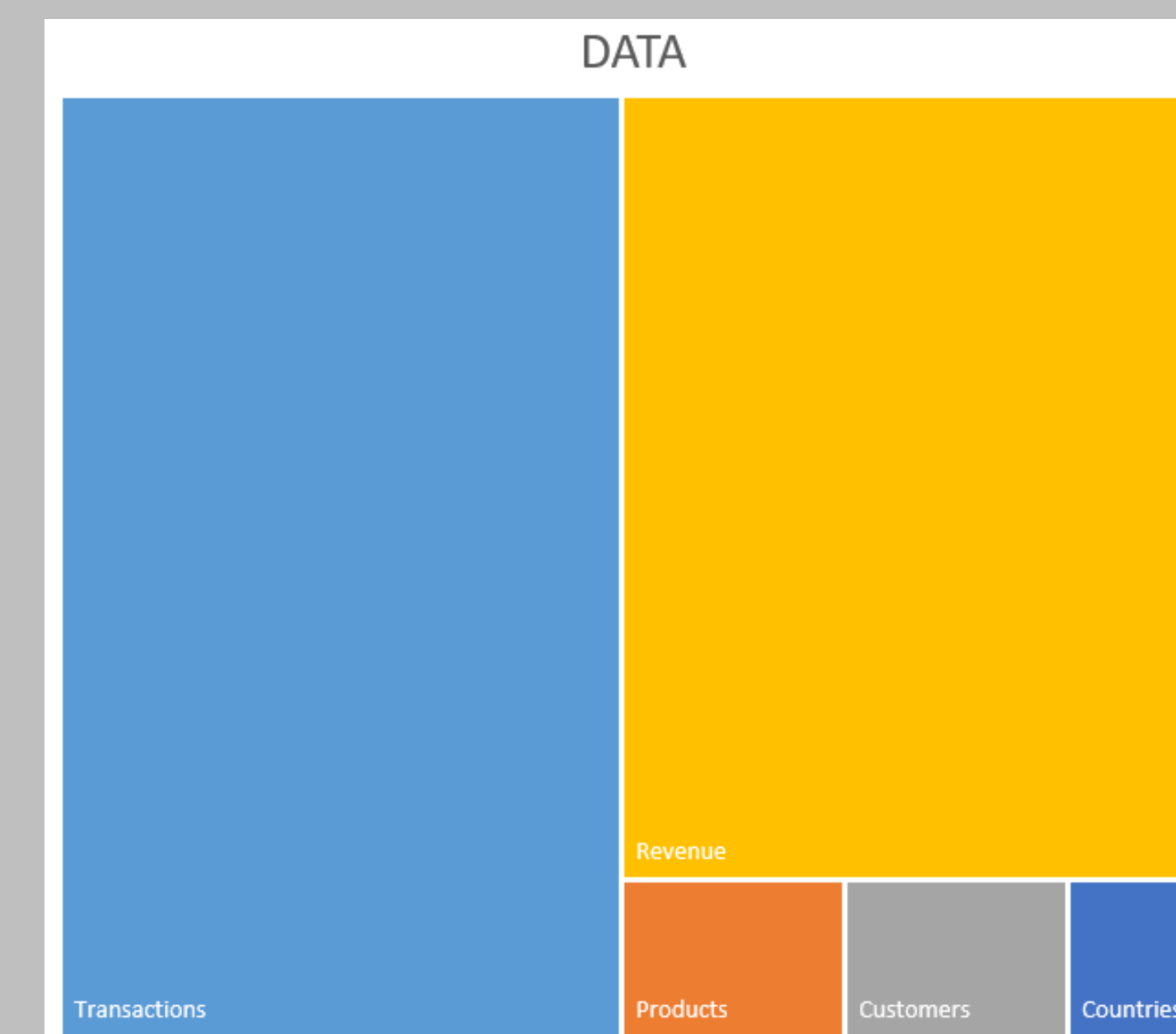
Online retailing has changed the overall buying and selling experience for both, retailers as well as for consumers. From handmade artifacts till high end electric cars almost anything and everything can be purchased with a click of a button. Though it has helped retailers save considerable amount of money on infrastructure; optimized supply chain, sales planning , offering right set of product mix to right customers are still some of the challenges . This paper attempts to find out different combinations of highly associated products that customers buy frequently with the help of Association Analysis. For example, from the initial analysis, it was observed that in France, 'Tin Spaceboy' and 'Woodland Animals' (toys) are highly associated but the quantity sold for the former product is lesser than the latter one. Such finding could potentially be used to decide the best product mix, plan sales and help building customized marketing campaigns. The data has more than 500,000 transactions of 12 months from 38 countries. SAS Enterprise Miner and SAS Forecast Studio were used for the analysis.

METHODS

- Transactional data was obtained from UCI website
- Data was filtered by different country
- Transaction was set as a Target Variable, Customer ID as ID and Invoice Time as Time Variable



RESULTS



France

| Antecedents | Consequents | Support | Confidence | Lift |
|----------------------------|----------------------------------|---------|------------|-------|
| ALARM CLOCK BAKELIKE RED | ALARM CLOCK BAKELIKE GREEN | 0.08 | 0.83 | 10.16 |
| CHILDRENS CUTLERY SPACEBOY | CHILDRENS CUTLERY DOLLY GIRL | 0.058 | 0.925 | 15.24 |
| PLASTERS IN TIN SPACEBOY | PLASTERS IN TIN WOODLAND ANIMALS | 0.11 | 0.75 | 5.22 |

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RESULTS CONTINUED

Netherlands

| Antecedents | Consequents | Support | Confidence | Lift |
|--|-------------------------|---------|------------|------|
| COWBOYS AND INDIANS BIRTHDAY CARD | LUNCH BAG RED RETROSPOT | 0.07 | .95 | 9.5 |
| CARD BIRTHDAY COWBOY | SPACEBOY LUNCH BOX | 0.09 | 0.88 | 3.01 |
| RED TOADSTOOL LED NIGHT LIGHT, DOLLY LUNCH BOX | WOODLAND CHARLOTTE BAG | 0.08 | 0.87 | 5.19 |

Switzerland

| Antecedents | Consequents | Support | Confidence | Lift |
|---|------------------------------------|---------|------------|-------|
| STRAWBERRY SHOPPER BAG, RED RETROSPOT BAG | PLASTERS IN TIN WOODLAND ANIMALS | 0.07 | 0.90 | 4.15 |
| CHILDRENS CUTLERY POLKADOT PINK | WHITE SPOT RED CERAMIC DRAWER KNOB | 0.09 | 0.80 | 10.80 |
| WATERING CAN PINK BUNNY | RED TOADSTOOL LED NIGHT LIGHT | 0.11 | 0.83 | 5.63 |
| RED TOADSTOOL LED NIGHT LIGHT | WATERING CAN BLUE ELEPHANT | 0.09 | 0.80 | 6.17 |

Portugal

| Antecedents | Consequents | Support | Confidence | Lift |
|--------------------------------|--------------------------------|---------|------------|------|
| JUMBO BAG RED RETROSPOT | JUMBO BAG PINK VINTAGE PAISLEY | 0.14 | 0.88 | 5.64 |
| JUMBO BAG RED RETROSPOT | LUNCH BAG CARS BLUE | 0.14 | 0.88 | 4.23 |
| JUMBO BAG PINK VINTAGE PAISLEY | LUNCH BAG RED RETROSPOT | 0.16 | 0.89 | 3.68 |

CONCLUSIONS

- The Analysis helps us to design a recommendation system with simple transactional dataset
- Different product mix/ product bundling in different region can be offered through this analysis
- The analysis can be used to optimize functions like distribution, purchase and marketing

FUTURE SCOPE

- Time Series analysis can be done on highly associated products to improve optimization

REFERENCES

- <https://support.sas.com/documentation/onlinedoc/miner/em43/assoc.pdf>
- archive.ics.uci.edu/ml/datasets/online+retail
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