CLIENT BRIEF

Revenue Optimisation & Booking Management Decision Support System

Client: Coastal Nest Motel
Project Duration: 6 weeks
Engagement Type: Spreadsheet-Based Decision Modelling & Analytics
Issue Date: March 2025

1. ABOUT COASTAL NEST MOTEL

Coastal Nest Motel is a boutique 20-unit beachside property located along Melbourne's popular coastal tourist route. We serve the growing market of holidaymakers seeking unique, affordable short-term stays in an Airbnb-style accommodation experience with the reliability and service standards of traditional hospitality.

Our Market Position

Operating in the competitive Melbourne beachside tourism sector, we position ourselves as a premium boutique property that combines:

- The personalised experience of boutique accommodation
- The flexibility and pricing dynamics of modern short-term rental platforms
- Traditional motel service standards and reliability

Our operational parameters and business model reflect industry benchmarks for small-to-medium-sized properties (SMEs) in the coastal accommodation sector, where agility and data-driven decision-making are critical competitive advantages.

Current Business Environment

The beachside accommodation market is characterised by:

- **Seasonal demand fluctuations**: Sharp peaks during holiday periods and school vacations
- **Dynamic pricing expectations**: Guests compare rates across platforms in real-time
- **Booking volatility**: Last-minute reservations, cancellations, and no-shows
- **Competitive intensity**: Competition from traditional hotels, Airbnb hosts, and other boutique properties
- **Guest experience sensitivity**: Online ratings and reviews directly impact booking rates

2. THE BUSINESS CHALLENGE

As the upcoming holiday travel season approaches, we anticipate a sharp rise in guest bookings from holidaymakers seeking unique beachside experiences. This seasonal surge presents both significant revenue opportunities and operational challenges.

Current Pain Points:

1. **Pricing Decisions**: Difficulty determining optimal room rates that maximise both occupancy and revenue
2. **Overbooking Management**: Balancing the risk of lost revenue from empty rooms against compensation costs for overbooking
3. **Cancellation Uncertainty**: Unable to predict or effectively manage the financial impact of booking cancellations
4. **Demand Forecasting**: Limited tools to anticipate booking patterns and adjust strategies proactively
5. **Risk Visibility**: Lack of quantitative risk assessment for different operational scenarios

Business Impact:

Without a structured decision support system, our Sales Manager currently makes critical pricing and availability decisions based on experience and intuition rather than data-driven analysis. This approach:

- Leaves revenue on the table during peak periods
- Increases exposure to overbooking risks
- Creates reactive rather than proactive management
- Limits our ability to optimise profitability while maintaining service quality

3. PROJECT OBJECTIVES

We are seeking an experienced business analyst to develop a comprehensive spreadsheet-based decision model that will empower our Sales Manager to make informed, data-driven decisions on room pricing, availability, promotional strategies, and risk mitigation.

Primary Business Objectives:

1. **Maximise occupancy rates** during peak and shoulder seasons
2. **Maximise daily profits** while maintaining competitive pricing
3. **Minimise overbooking risks** and associated compensation costs
4. **Improve demand forecasting** accuracy
5. **Enhance operational agility** in response to market changes

Strategic Goals:

- Maintain our strong customer satisfaction ratings (currently 4.6/5.0 average)

- Solidify reputation as a premier destination for discerning travellers
- Build sustainable competitive advantage through analytics-driven operations
- Create a scalable decision framework that can adapt to future market conditions

4. OPERATIONAL CONTEXT & BUSINESS PARAMETERS

To ensure the decision model reflects our actual operating environment, please note the following business realities:

Property Specifications:

- **Total units**: 20 rooms (single room type for operational simplicity)
- **Target market**: Holiday travellers, weekend getaways, short-term stays (1-3 nights typical)
- **Pricing model**: Dynamic pricing based on demand, seasonality, and competitive positioning

Booking & Cancellation Policies:

- **Cancellations are expected**: Guests cancel due to travel plan changes, weather, or personal circumstances
- **Cancellation patterns vary**: Higher cancellation rates during uncertain weather periods and economic downturns
- **Late cancellation fees apply**: We charge fees for cancellations within 48 hours of arrival

Overbooking Strategy:

- **We implement strategic overbooking**: Industry-standard practice to compensate for expected cancellations
- **Overbooking compensation policy**: Guests affected by overbooking receive a full refund plus compensation equivalent to one night's stay
- **Overbooking limits**: Predefined maximum to balance revenue optimisation with reputation risk
- **Walk-in acceptance**: We accommodate walk-in guests within our overbooking limit on a space-available basis

Revenue & Cost Structure:

- **Room revenue**: Primary income source, varies by season and day of week
- **Operating costs**: Housekeeping per room, utilities, maintenance, staffing
- **Variable costs**: Laundry, amenities, booking platform commissions
- **Compensation costs**: Overbooking payouts, service recovery

Market Benchmarks (Melbourne Beachside Sector - SME Properties):

- **Average occupancy rate**: 65-75% annually (85-95% peak season, 45-60% off-peak)
- **Average daily rate (ADR)**: $120-180, depending on season
- **Cancellation rate**: 8-15% of confirmed bookings
- **No-show rate**: 0-15% of confirmed bookings
- **Walk-in contribution**: 5-12% of daily bookings

5. DECISION MODEL REQUIREMENTS

We need a fully functional, Excel-based decision model capable of accommodating both fixed operational parameters and variable market factors, generating actionable insights for daily operational decisions.

Essential Model Features:

1. Efficient Booking Management:

- Support for managing reservations effectively
- Account for room availability, pricing strategies, and refund rules
- Enable "what-if" scenario testing for different booking strategies

2. Risk Evaluation:

- Identify and quantify risks related to overbooking
- Assess the financial impact of cancellations
- Evaluate revenue volatility under different scenarios

3. Demand Forecasting:

- Predict changes in customer demand patterns
- Support proactive booking strategy adjustments
- Improve room occupancy optimisation

4. Profit Optimisation:

- Provide booking and pricing recommendations to maximise daily profit
- Balance profitability with customer satisfaction metrics
- Support trade-off analysis between revenue and risk

5. User-Friendly Design:

- Easy-to-use interface for Sales Manager (non-technical user)
- Quick access to key performance indicators
- Clear visualization of decision impacts

6. SCOPE OF WORK

6.1 Excel Decision Model Development

You will develop a comprehensive Excel-based decision model with the following components:

Core Operational Parameters (fixed inputs):

- Number of available rooms (20 units)
- Housekeeping cost per room
- Other fixed daily operating costs
- Late cancellation fee structure

Variable Market Factors (stochastic/uncertain inputs):

- Daily online reservation volume
- Late cancellation occurrences
- Walk-in guest volume
- Daily miscellaneous expenses
- Other relevant market variables you identify

Strategic Decision Levers (decision variables):

- Room rate/pricing levels
- Overbooking rate (percentage above capacity)
- Late cancellation fee amounts
- Other strategic variables you recommend

Calculated Performance Metrics:

- Number of occupied rooms
- Daily sales revenue
- Total daily operating costs
- Cancellation fee revenue
- Net daily profit
- Occupancy rate
- Other relevant KPIs

Output Indicators:

- Sold-out status (Yes/No)
- Daily profit
- Risk metrics
- Other decision-support outputs

Note: You have flexibility in structuring these components. For example, late cancellation fees could be treated as fixed costs, decision variables, or calculated values depending on your modeling approach. We value a balanced model that is both realistic and analytically useful for practical decision-making.

6.2 Scenario Analysis

Develop scenario analysis capabilities that allow us to:

- Explore a range of scenarios involving uncertain market factors (demand, cancellations, walk-ins)
- Assess the impact of different scenarios on key outputs (revenue, profit, occupancy)
- Analyse the sensitivity of outcomes to changes in strategic decision variables
- Compare performance across best-case, base-case, and worst-case scenarios

Deliverable: Excel worksheets with multiple scenario configurations and a summary worksheet clearly presenting findings under each scenario.

6.3 Stochastic Modelling (Probability Distributions)

Implement stochastic modelling where uncertain inputs are treated as random variables with appropriate probability distributions. This includes:

- Selecting appropriate probability distributions for each uncertain input (e.g., normal, Poisson, uniform)
- Justifying distribution choices based on:
    - Industry data and market research
    - Historical patterns in the beachside accommodation sector
    - Descriptive statistical analysis
- Documenting assumptions and parameters for each distribution

6.4 Simulation-Based Risk Analysis

Conduct a Monte Carlo simulation or similar techniques to:

- Generate simulated output distributions for daily profit and other key metrics
- Quantify risks associated with different operational strategies
- Provide probability assessments for achieving profit targets
- Identify worst-case scenarios and their likelihood
- Support risk-informed decision-making

Deliverable: Comprehensive risk analysis report showing:

- Distribution of simulated outcomes
- Confidence intervals for key metrics
- Probability of meeting profit thresholds
- Risk metrics (VaR, expected shortfall, etc.)

7. DELIVERABLES

7.1 Excel Decision Model (Primary Tool)

Format: Single Microsoft Excel file with clearly labelled worksheets

Required Worksheets:

1. **Decision Model Dashboard**: Main interface with inputs, decision variables, and outputs
2. **Scenario Analysis**: Multiple scenario configurations and summary results
3. **Stochastic Inputs**: Distribution parameters and statistical justifications
4. **Simulation Results**: Risk analysis outputs and visualisations
5. **Documentation**: Model assumptions, formulas, and user guide

Technical Requirements:

- User-friendly interface suitable for our non-technical Sales Manager
- Clear colour-coding and notation for different component types
- Error-free formulas and calculations
- Professional formatting and layout
- Ability to accommodate both deterministic and stochastic inputs

7.2 Executive Presentation

Required Content:

1. **Introduction**
    - Project context and business challenge
    - Objectives and expected outcomes
2. **Model Overview**
    - Concise description of the decision model (up to 100 words)
    - Key features and capabilities
    - How the model addresses our business needs
3. **Conceptual Model & Assumptions**
   Visual representation of model structure using appropriate colour codes and notation
    - Fixed inputs, stochastic inputs, decision variables, calculated variables, outputs
    - Underlying business assumptions
    - Operational constraints
4. **Decision Model Screenshots**
   Copy of main decision model from Excel
    - Clear, legible display of interface and key components
5. **Scenario Analysis Results**
    - Screenshots of scenario summary worksheet
    - Clear, legible presentation of results
    - Key findings for each scenario
    - Implications and insights drawn from analysis
    - Recommendations based on scenario outcomes
6. **Stochastic Modelling Approach**
    - Rationale for selecting specific probability distributions
    - Justification for each stochastic variable
    - Supporting data or research
    - Distribution parameters and assumptions
7. **Risk Analysis Report**
    - Comprehensive findings from simulation modeling

    - Visualisations of simulated output distributions
    - Risk metrics and probability assessments
    - Implications for business decision-making
    - Risk mitigation recommendations
8. **Conclusions & Recommendations**
    - Key insights and takeaways
    - Strategic recommendations for the Sales Manager
    - Suggested implementation approach
    - Next steps

Presentation Standards:

- Professional design and formatting
- Clear, business-appropriate language
- Effective use of charts, graphs, and visualisations
- Standalone document (understandable without the Excel file)
- Concise, focused content

8. SUCCESS CRITERIA

What "Good" Looks Like:

For Excel Decision Model: ✓ Intuitive, user-friendly interface requiring minimal training
✓ Accurate formulas and calculations across all scenarios
✓ Appropriate treatment of uncertain inputs with justified distributions
✓ Comprehensive scenario analysis capabilities
✓ Robust simulation and risk analysis functionality
✓ Clear documentation and user guidance
✓ Professional formatting and error-free operation

For Executive Presentation: ✓ Clear, compelling communication of model value and insights
✓ Well-structured logical flow from problem to solution
✓ Effective visualisations that support decision-making
✓ Actionable recommendations grounded in analysis
✓ Appropriate level of technical detail for executive audience
✓ Professional design and presentation quality

Overall Business Value: ✓ Model directly addresses our stated business challenges
✓ Provides actionable insights for daily operational decisions
✓ Enables quantitative risk assessment and management
✓ Supports both tactical and strategic decision-making
✓ Scalable approach adaptable to changing market conditions
✓ Clear ROI potential through improved revenue optimisation

9. TIMELINE & PROJECT MILESTONES

Project Duration: 6 weeks
Final Deliverables Due: Wednesday, May 21, 2025, by 8:00 PM Melbourne time

Suggested Milestone Structure:

- **Week 1-2**: Model design, requirements validation, initial development
- **Week 3-4**: Scenario analysis and stochastic modelling implementation
- **Week 4-5**: Simulation and risk analysis development
- **Week 5-6**: Presentation development, testing, refinement, and finalisation

Deliverable Submission:

Please submit both deliverables together:

1. Excel decision model file
2. PowerPoint presentation file

10. WORKING WITH COASTAL NEST

Key Stakeholder:

Sales Manager - Primary user of the decision model, responsible for daily pricing and booking decisions. Non-technical background; values practical, easy-to-use tools.

Communication & Support:

- We are available for consultations throughout the project
- Can provide market data and operational insights as needed
- Flexible approach - we value your expertise and creative problem-solving

Industry Data & Benchmarks:

For model development, you may reference:

- Industry benchmarks for Melbourne beachside SME accommodation sector
- Published research on hospitality revenue management
- Standard practices in boutique property operations
- Market data for the coastal tourism market

We expect the model to reflect realistic operational dynamics while being grounded in industry-standard practices.

11. EVALUATION CONSIDERATIONS

While we won't provide a formal rubric, your work will be evaluated based on:

Model Quality & Functionality (approximately 35% of overall assessment):

- Completeness and accuracy of the Excel model
- Appropriate scenario analysis implementation
- Sound stochastic modelling with justified distributions
- Comprehensive simulation and risk analysis
- Technical execution quality

Business Communication & Insights (approximately 65% of overall assessment):

- Quality and clarity of executive presentation
- Strength of business recommendations
- Effective communication of technical concepts
- Actionable insights derived from analysis
- Professional presentation standards

Overall Integration:

- Alignment between model capabilities and business needs
- Practical applicability for our Sales Manager
- Innovation and thoughtfulness in approach
- Professional quality of deliverables

12. IMPORTANT NOTES

Analytical Approach:

You have discretion over the level of model complexity. However, please note that:

- Overly simplistic models may lack practical relevance for our business environment
- The model should balance sophistication with usability
- We value models that provide genuine decision support over purely academic exercises

Data & Assumptions:

- Use industry-standard benchmarks for the Melbourne beachside accommodation sector, where specific Coastal Nest data is needed
- Clearly document all assumptions and data sources
- Ensure assumptions reflect realistic operational dynamics
- Support modelling choices with research or industry knowledge

Presentation as Standalone Document:

The PowerPoint presentation must be completely standalone - meaning it should be fully understandable without access to the Excel model. This is critical for executive review and decision-making.

13. QUESTIONS & NEXT STEPS

We're excited to work with you on this important strategic initiative. A well-designed decision model will significantly enhance our operational effectiveness and profitability during the critical holiday season and beyond.

For questions about:

- **Business operations and requirements**: Contact Sales Manager
- **Technical specifications**: We're flexible and trust your analytical expertise
- **Industry context**: We can provide additional market insights as needed

We look forward to seeing your innovative approach to solving our revenue optimisation and booking management challenges.

Coastal Nest Motel
Boutique beachside accommodation on Melbourne's coastal route
Where personalised service meets modern hospitality