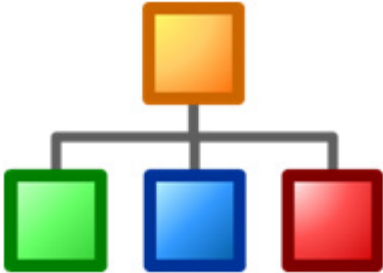# ADM Decision Report

Evaluation Report for:
ALH Company

Created by
Abdullah
Website: www.decisionexpert.co.uk

ADM **Decision** *Expert*	Project Name	Best Car	Project Version	v1
	User Name	Abdullah	Date	15 Sep 2914

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Introduction

This report is generated by Auto Decision Maker (ADM) system. ADM is a multi-criteria decision-support system based on the world's most popular decision-making methodology: the Analytic Hierarchy Process (AHP). AHP is a powerful and comprehensive Multi Criteria Decision Making (MCDM) method developed in 1977 by Dr Thomas Saaty. It provides groups and individuals with the ability to incorporate both qualitative and quantitative factors in the decision making process. The AHP uses a hierarchical model comprised of a goal, criteria, perhaps several levels of sub criteria and alternatives for each problem or decision.

The AHP is a decision support tool which can be used to solve complex decision problems. It uses a multi-level hierarchical structure of objectives, criteria, subcriteria, and alternatives. The pertinent data are derived by using a set of pairwise comparisons. These comparisons are used to obtain the weights of importance of the decision criteria, and the relative performance measures of the alternatives in terms of each individual decision criterion. If the comparisons are not perfectly consistent, then it provides a mechanism for improving consistency.

ADM is a scientific way to make decisions that is practical, user friendly and correct. It helps you define the objectives, goals, criteria and alternatives and then organise them into a hierarchical structure. It allows you to compare and prioritise the relative importance of the decision variables. ADM then synthesizes your judgments to arrive at a conclusion and allows you to examine how changing the weighting of your criteria affects your outcome. The process is outlined below:

Define the Main Goal ▶ Define Criteria ▶ Define Alternatives ▶ Your Pair Comparison Judgements ▶ Perform Sensitivity Analysis ▶ Your Decision

ADM provides many results displays designed to give you insights and to make you feel comfortable making a final choice. The structured visual approach to decision making simplifies the process, helping you tackle larger, more complex decision opportunities and select the best choice.

The report documents the following aspects of your decision project:

Project Definition · Hierarchy Structure · Criteria weight · Comparison Chart · Sensitivity Analysis · Decision Matrix

Project Definition

MULTI CRITERIA DECISION ANALYSIS

ALH Company

Project: Best Car

Project Definition

Objective	Best Car

Levels	3	No of Criteria	3	No of Alternatives	4

Criteria	Sub Criteria	Alternative
Price	No Sub Criteria	Toyota
Comfort	No Sub Criteria	Mercedes
Reliability	No Sub Criteria	BMW
		Volvo

December, 28 Dec 2017

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Hierarchy
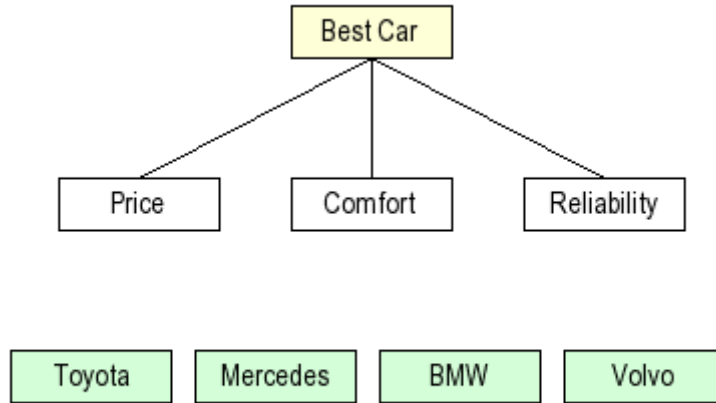
Decision Scores

Final Results
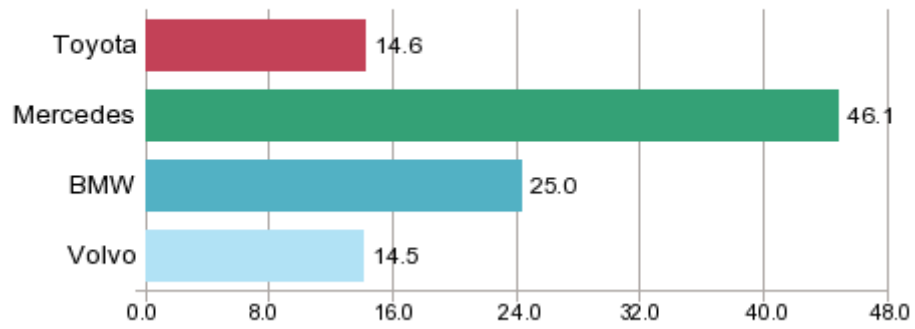
Car	Score
Toyota	14.6
Mercedes	46.1
BMW	25.0
Volvo	14.5

Criteria weight

Criteria Weight

Criteria	Weight
Price	14.3
Comfort	42.9
Reliability	42.9
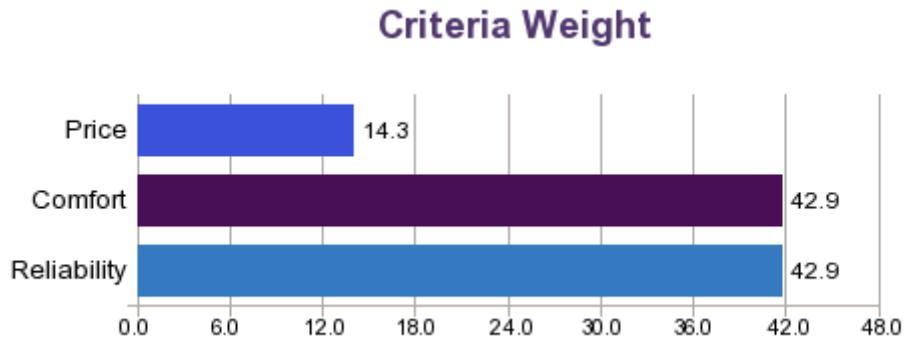
Contribution Chart

Organisation: ALH Company
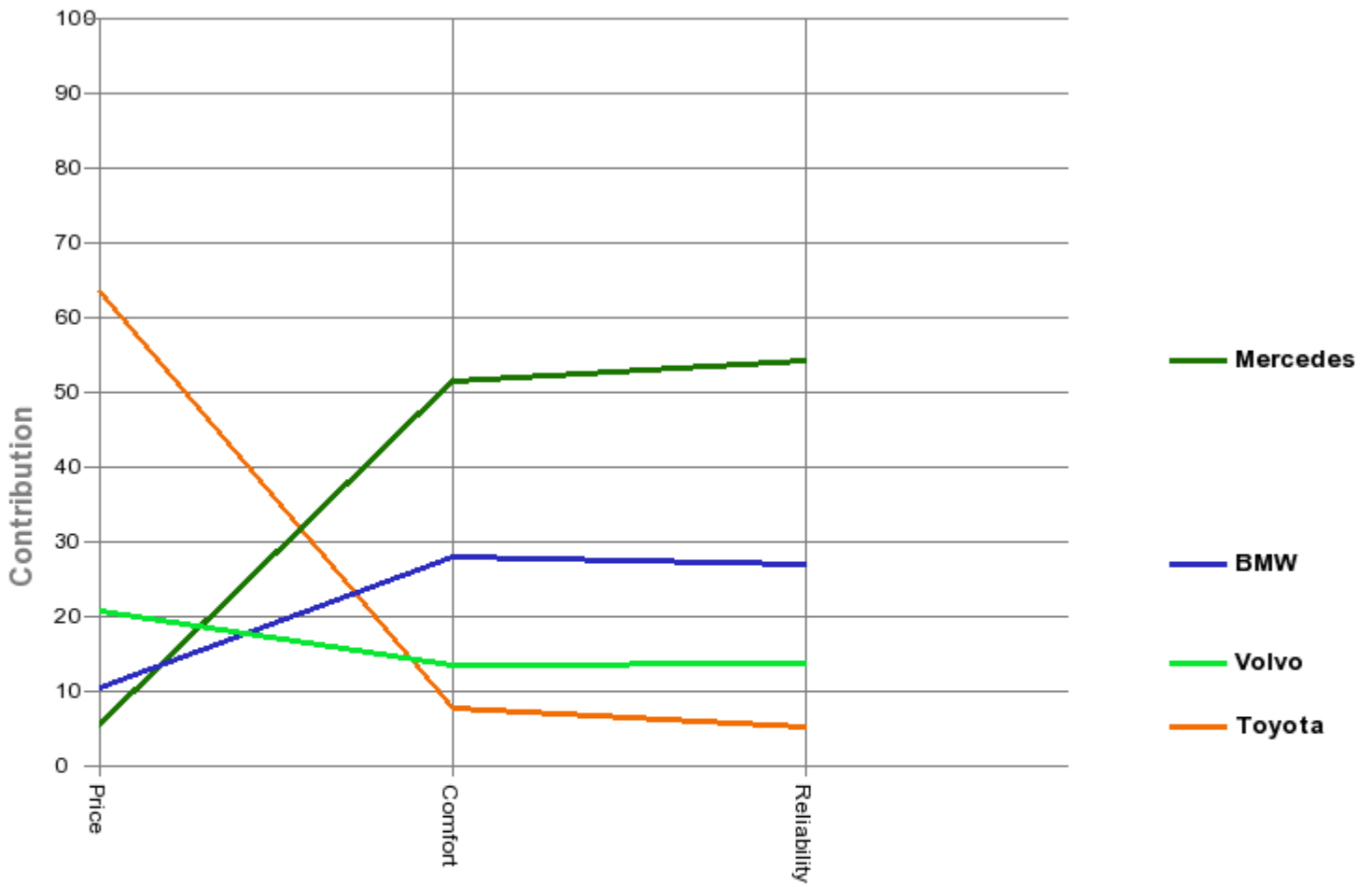
Decision Matrix

		Toyota	Mercedes	BMW	Volvo	Consistency
Price	**14.300**	63.40	5.50	10.50	20.60	91.7%
Comfort	**42.900**	7.60	51.40	27.80	13.30	94.8%
Reliability	**42.900**	5.20	54.20	26.90	13.70	93.6%
	Overall	**14.56**	**46.09**	**24.97**	**14.53**	

Judgement Matrices

Pair Comparison of Attributes with respect to: Best Car

Best Car	Price	Comfort	Reliability	Priorities
Price	1	1/3	1/3	0.143
Comfort	3/1	1	1	0.429
Reliability	3/1	1	1	0.429

Consistency: 100%

Pair Comparison of Choices with respect to: Price

Price	Toyota	Mercedes	BMW	Volvo	Priorities
Toyota	1	7/1	6/1	5/1	0.634
Mercedes	1/7	1	1/3	1/4	0.055
BMW	1/6	3/1	1	1/3	0.105
Volvo	1/5	4/1	3/1	1	0.206

Consistency: 91.7%

Pair Comparison of Choices with respect to: Reliability

Reliability	Toyota	Mercedes	BMW	Volvo	Priorities
Toyota	1	1/7	1/5	1/4	0.052
Mercedes	7/1	1	3/1	4/1	0.542
BMW	5/1	1/3	1	3/1	0.269
Volvo	4/1	1/4	1/3	1	0.137

Consistency: 93.6%

Pair Comparison of Choices with respect to: Comfort

Comfort	Toyota	Mercedes	BMW	Volvo	Priorities
Toyota	1	1/5	1/4	1/2	0.076
Mercedes	5/1	1	3/1	3/1	0.514
BMW	4/1	1/3	1	3/1	0.278
Volvo	2/1	1/3	1/3	1	0.133

Consistency: 94.8%