

# CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

## Evaluation of the Diploma Thesis by Opponent

Thesis Title **Models for Decision Support Systems**

Name of the student **SHEIKH SAMSUZZHAN ALAM, MS**

Thesis supervisor **doc. RNDr. Helena Brožová, CSc.**

Department **Department of Systems Engineering**

Opponent **Ing. Martin Flégl, Ph.D.**

Thesis topic and thesis significance (relevance)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Formulation of objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choice of appropriate methods and methodology used	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work with data and information	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evidence of a logical process being used	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Theoretical background of an author	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The structure of paragraphs and chapters	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work with scientific literature (quotations, norms)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comprehensibility of the text and level of language	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarity and professionalism of expression in the thesis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Formal presentation of the work, the overall impression	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fulfillment of objectives	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Formulation of conclusions	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional contribution of the work and its practical usage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Summary and key-words comply with the content of thesis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evaluation of the work by grade (1, 2, 3, 4)				<b>2</b>

Evaluation: 1 = the best

Date 05/08/2017

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Signature of Opponent

### Other comments or suggestions:

The thesis deals with a description of building a Data mining based Decision support system in a retail industry in Australia. The author of the thesis correctly states the aim of the thesis, which is "The main objective of this study is to ingrate Data mining, Decision support and Visualization through one model and build a user friendly and interactive Decision Support System."

The thesis is relatively well structured regarding the technical requirements. The author devotes quite a lot of space to the theoretical part of the thesis, which, from my point of view, should be a bit shorter to improve the readability of the thesis. In some cases, the description of Decision Support Systems (DSS) and Data mining is too long without a clear link to the main aim of the thesis.

Further, as the main aim of the thesis is to build a DSS for decision-making, the results should also include the part regarding the DSS construction. However, the author only deals there with statistical analysis and decision-making. The recommendation "after considering all insightful analysis we strongly recommend to choose Victoria for next company expansion" is based only on the presented statistical analysis. However, we should keep in mind that the problem might be more complex involving more variables than net profit margin.

The biggest drawback of the thesis are references. The author does not know how to cite other resources. For example, "Moore and Chang defined the Decision Support System as "an extensible system, capable of ad-hoc analysis and decision modeling, reporting, focused on future planning and used at unplanned and irregular time stamp" (Watson et al., 1991). So, why the author refers to Moore and Chang, when referring to Watson et al. (1991) at the end?

What is more, Murray Turoff's (1970), Huber (1982) and Turoff and Hiltz (1982), Dickson et al. (1992), DeSanctis and Gallup (1987), Bui and Jarke (1986), Kraemer and King (1988), Alter (1980), Dhar and Stein (1997), Pendse (1997), Nylund (1999), Holsapple and Whinston (1996), Swanson and Culnan (1978), Ferguson and Jones (1969), Bonczek et al. (1981), Saaty (1982), Power (2000), Crossland et al. (1995), (Klein and Methlie (1995), Goul et al. (1992), Buchanan and Shortliffe (1984), Bonczek et al. (1981), National Research Council (1999), Simon (1960), Anthony (1965), Courtney (2001), CRISP-DM (2009), Holt (1957) all are not listed in the references. Most of them from part 3.1.2 Decision Support System Classification and 3.2 Data Mining (DM) in Decision Support System. It is obvious that the author uses parts of texts from different sources without proper referencing. Therefore, the theoretical part seems as a bibliographical description of DSS rewritten from another source.

The author states (page 21) that one of the key characteristics of DSS is "Improvement or effectiveness of decision making.". In which meaning or direction can be improved an effectiveness of decision-making? However, it is not clear how the author understands the term of effectiveness

Some more shortcomings:

- The student uses old faculty logo.
- "Enterprises deals with" (page 4)
- "all most all of the computing" (page 4)
- "We user several different" (page 4)
- "but with out loosing valuable" (page 10)
- The author in some cases uses DDS instead of DSS (Decision Support System) (page 10)
- "Now a days" should be Nowadays (page 13)
- Figure 3.3 (page 31) has wrong title, as this title is the same as in case of Figure 3.2. In this case, it should be, for example, Components of Decision Support System
- Management Information Systems (MIS) and Management Information Systems (DSS) are two abbreviations (page 35)
- "Finally as the Company will be ruing for longer" (page 54)
- The authors should refer to Australian Bureau of Statistics as a reference (page 55).
- The author in page 57 uses different referencing style "The ETL process became a popular concept in the 1970s.[1]" It seems as a part of an another text.
- "structured form except except Net Profit Margin" (page 59)
- "Equation 4.10 adjusts Lt", "Equation 4.11 then updates the trend," and "Finally, equation 4.12 is used to forecast ahead.", which should be "equation 4.1., 4.3. and 4.5" (page 64)
- "population should have a good good impact" (page 70)

- “the trend of turnover is upward.” (page 71)
- “not possible to see each each and every value” (page 76)

As a result, the thesis includes many minor and major mistakes, which should have been revised before finishing the thesis. However, there is a visible link towards the main objective of the thesis, which was achieved.

**Questions for thesis defence:**

- 1) Some of the key characteristics of DSS is a support for a decision maker. As decision-making is affected by decision maker’s subjective judgement, up to which point can DSS help in the decision-making process?
- 2) Can be CRISP-DM Mining Process compared to Simon’s model of decision process? What is the main difference between these two approaches (besides different fields).



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