

**Data Mining II Final Paper**  
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Lujie Chen/MISM

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## Prologue: my dream two years ago...

“My career goal ...In short term, I want to have more exposure in decision support system... in long run, I want to be a strategist versed in both business and technology...” This is an exact extraction from my personal statement for applying admission into the prestigious MISM program two years ago. It was just making sense because I was at that time in the deep involvement of a non-trivial business intelligence system project for Coke China, I wrote down that paragraph as I see my future in “decision support” and my strength in “business and technology”.

## A journey toward the dream so far...

The past one year for me has been the immersion into the technology. I tried to be as “geek” as possible, as I was told that this is the place for “geeks”. I learned programming and database, I became to be versed in distributed technology, I was taught to think like “computer scientist”, and, happily, I take both data mining I and data mining II so that once in a while, I imagine I might become a successful data mining analyst....

Back to my dream, how the data mining learning experience change the landscape of my dream picture?

1. Data mining complete the picture of “decision support system” which was in my mind two years ago. Before this program, my idea of decision support is equivalent to the current buzz understanding of “business intelligence”, it’s no fancier than the slice and dice, multi-dimension, OLAP. Now, I would disregard those people who talk about DSS without a decent understanding of data mining.
2. Data mining reignite my interest in statistics which was once my most disliked subject in my undergraduate. My literacy in statistics has been significantly improved through this class.
3. Data mining gave me the access to the high end computer science knowledge which I might never has the chance to learn if I were not study in CMU. I began to be able to appreciate the beauty and elegance of an algorithm and developed great interest in knowing about the most advanced data mining techniques which are obviously satisfied by taking the class and interacting freely with the instructor and guest speakers, for example.
4. Data mining provide me with insight into this confusing and uncertain area. This is of two aspects: one one hand, I know where data mining can excel, for example, in those area that there is huge collection of data, data mining helps to detect pattern that could never be detected by human who are even aided by good computational tool. Good algorithm comes into play because it helps to make the data mining task realistic and efficient. On the other hand, I know what data mining can’t do. Data mining can never replace human judgment, in the decision support context, at most, it “support” decision, but never can replace the decision.
5. Data mining (in particular, at this program) show me one way to leverage my assets/strength in both business and technology. This was stated in my personal statement in two years ago, but it has never been solidified until I had some deep involvement in the data mining projects. (more to expand on this point in the next section)

## A reflection: Strength and limitation

As stated, my strength is the well balanced experience in both business and technology. This balance is not only the result from my many years of professional experience with big organization and my recent education at CMU but it's from my cultivated capability or motivation to apply the technology to solve business problem.

Specifically, my strength in business and technology are illustrated in the followed table:

Table1: my strength

Business	Technology	Business and Technology
<ul style="list-style-type: none"> <li>▪ Good understanding of the context and nature of business problem (a.k.a domain expertise, in particular finance and accounting, marketing and operation)</li> <li>▪ Business minded (a.k.a be able to think like a business, business value driven)</li> <li>▪ Aware of obstacles of technology implementation which are related to company politics and senior management's technical literacy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Extensive exposure to data mining techniques, gained understanding as far as how it works and where it might be useful, it's limitation and strength</li> <li>▪ Data management/ manipulation techniques such as database technology, data warehousing etc.</li> <li>▪ System analysis and design</li> <li>▪ Other technology that's related to decision support implementation, such as system architecture, user interface.</li> <li>▪ Knowledge foundation in algorithm and statistics</li> </ul>	<ul style="list-style-type: none"> <li>▪ The motivation and interest to empower business analysis with applicable technology</li> <li>▪ The evolving capability to get inspiration from the technology (e.g. find possible application for a new data mining approach) as well as to formulate a realistic business problem within a proper framework so that it can be solved.</li> <li>▪ The capability or talent to make technical content accessible to people with not much technical background</li> </ul>

Table 2: my limitation

Business	Technology	Business and technology
<ul style="list-style-type: none"> <li>▪ Need more exposure to different type of industry such as healthcare, insurance etc.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Comparatively weak foundation in statistics and algorithm</li> <li>▪ Little experience in full life cycle of system implementation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Need to accumulate more experience in data mining business application</li> </ul>

## **A plan for tomorrow**

- Find a job that really(hopefully) match my career aspiration, i.e. have the opportunity to apply the technology to business problem;
- Accumulate experience and share it with others (for example, through application oriented conference);
- Continuous learning through reading of data mining/DSS related literature and/or involvement in professional association/community;
- Solidify my foundation in statistics, algorithm, operation research etc.
- Always keep a mindset to be surprised and interested by innovation and inspiration.
- Always have a big picture of the industry trend

## **Epilogue: a revised dream picture after two years**

I am not sure whether I get the crust of “decision support”, but still it’s going to be the theme for my next five years. I am also not sure whether I am become more realistic or more ambitious. In the best case, it can be both. So this come my revised version of personal statement after two years:

“In the short term, I want to back to the business and try to use a refreshed mind and refreshed skill set to analyze and solve business problem. I want to continuously gain experience and update my knowledge and skills, keep abreast to the recent development and look out for the industry trend. In the long run, I hope to be an expert who is versed at application of data mining and other decision support techniques and will be able to share my learning and lesson with people around the world.”

Thank you. This has been great experience in learning data mining.