An Analysis of the Viability and Volatility of Cryptocurrency

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Contents

About this project

Abstract   A brief description of what the project is, in about two-hundred and fifty words.

What it is, analytics part and applied project part, volatility, viability, predicting prices etc.

Authors   Will get everyone to write their own?

Chapter 1

Introduction

Two main parts to dissertation - the theoretical "are cryptos a bubble" aspect and the applied project itself.

- High level conceptual stuff - explaining CCs, comparing to TCs, influences on prices etc.

- Applied project related stuff - methodology, design, evaluation etc.

- 3-5 pages / 3-4000 words. Make sure you use references.

- What is it about? Is it at the right level (8)? Is the scope correct? Do not assume that the reader knows anything about the domain.

- Why should a reader care or be interested?

- Set out the objectives of the project clearly. You will have to address each of these in the evaluation / conclusion.

- Briefly list each chapter / section and provide a brief description of what each section contains.

- The metrics by which success or failure is measured.

- List the resource URL (GitHub address) for the project and provide a brief list and description of the main elements at the URL.

- After reading the introduction, a reader should be 100% certain of what the project is all about and why it is relevant

1.1 Project Overview

What Is It About / Why Should the Reader Care

Throughout our first three years of Software Development at Galway-Mayo Institute of Technology, we have continuously been encouraged to maintain a comprehensive knowledge of the trends within the technology industry, and to embrace its ever-changing nature. In these short years, we have witnessed the birth, growth and sometimes failure of various technologies, approaches and trends.

When we began our journeys on this path in 2014, cryptocurrency was a relatively unheard of phrase to the average individual. In the years since, the likes of Bitcoin and Ethereum have become almost household terms, with many more people investing in various cryptocurrencies and following their repeating rise and decline. While cryptocurrencies were initially a mystery to the average individual, they have now become an almost common asset, seen regularly in the news and no doubt discussed over many water coolers.

Although cryptocurrency is no longer seen as an unobtainable investment, meant only for those with a vast knowledge of how to keep their currency stored safely and properly, there still exists a mystery surrounding how to get involved, or when to buy or sell.

1.2 Objectives for the Project

1.2.1 Metrics for Success/Failure

1.3 Description of Each Chapter

ALL NEEDS TO BE RE-WRITTEN AT LEAST SLIGHTLY.

1.3.1 Understanding Cryptocurrency

In chapter 2, *Understanding Cryptocurrency*, we explain what exactly a cryptocurrency is, and how it differs in various ways from a traditional currency, before briefly examining some of the most popular and well-known cryptocurrencies such as Bitcoin, Ethereum, Litecoin, and more. We also delve into some of the technologies behind cryptocurrency, such as blockchain technology.

1.3.2 Predicting the Prices of Cryptocurrency

Chapter 3 - will need to tidy this explanation up - is where the theoretical analytics and applied elements of this project meet. We discuss the influencing topic for the project, the main driving force behind the project, something like that. Explain the volatility of cryptocurrency, influencing factors on prices such as hype, news, hacks, maybe even the whole "are the South Koreans awake" thing.

1.3.3 Applied Project Chapter (tbrn)

To be renamed. This is where the applied "Currency Analyser" aspect of our project is explained. We examine the methodologies and planning used throughout our project, also dealing with any aspects which could have been done/planned/managed/organised better. This chapter also explains in detail the technologies used for the applied project, their reasons for being chosen, and any problems that occurred related to the technologies. We then discuss the design of our system including reasoning, followed finally by an overall evaluation of the system.

1.3.4 Conclusion

The concluding chapter of this dissertation will summarise our initial goals and objectives, reflecting on the theoretical and applied aspects of this project, both conceptually and in practice. We will discuss any aspects of the process which could have been done differently, and lastly highlight any findings and any relevant, tangential or even unrelated insights gained during the project life cycle.

Chapter 2

Understanding Cryptocurrency

Since the first signs of digital finance arrived in the 1970s, the financial services industry has relied more and more on new technologies and advancements in existing technologies. With the advent of the internet in the 1990s, becoming popular and more accessible in the 2000s, online banking became a commonplace financial service. As the internet grew and became faster, we witnessed an increase in both companies and individuals taking advantage of digital finance, with respect to buying and selling goods and services, and even trading stock.

Need to discuss digital currency from 1990s, DigiCash - form of early electronic payment, aimed to be anonymous, keys and all that.

One of the most notable developments in financial technology in recent times is that of decentralised cryptocurrency, a concept first introduced in 2009 with the development of Bitcoin, the first of its kind. Much like traditional currency, any cryptocurrency is an asset, designed to be traded in exchange for goods and services.

Herein lies the inspiration for our project - cryptocurrencies are seen to be a complicated concept, almost unreachable, to anyone without a good working knowledge of both the technologies behind the idea (as well as knowledge of how currencies fluctuate?).

Security features, bitcoin wallet complicated etc, fluctuations in TCs due to war/government etc vs flucs in CCs down to sheer hype/demand etc.

2.1 An Explanation of Cryptocurrency

2.1.1 Comparing Traditional Currency and Cryptocurrency

2.2 Blockchain Technology

2.3 The Viability of Cryptocurrency

Viability - all the pros like security, blockchain etc. Section will maybe touch on volatility, but will lead to Ch3 which will mainly discuss the volatiliy.

Chapter 3

Predicting The Prices of Cryptocurrencies

Tie concept of diss with concept of proj.

3.1 The Volatility of Cryptocurrency

3.1.1 Influencing Factors in the Price of Cryptocurrency

Start with explaining what influences traditional currencies, lead into main body of CC influencing factors.

3.2 Segway into applied proj

"Deciding to Analyze the Volatiliy of Cryptos"...?

Chapter 4

Applied Project Chapter

4.1 Context

- Provide a context for your project.

- Set out the objectives of the project

- Briefly list each chapter / section and provide a 1-2 line description of what each section contains.

- List the resource URL (GitHub address) for the project and provide a brief list of the main elements at the URL.

4.2 Methodology

3-5 pages (2-3000 words) Describe the way you went about your project, Was your approach to the problem valid?

- Software development v/s Research methodology. Agile / incremental and iterative approach to development.

- Planning. Did you storyboard? How did you determine the requirements for the project?

- Meetings. Frequency, structure, checks and balances, feedback.

- What about validation and testing? Junit or some other framework.

- If team based, did you use GitHub during the development process.

- Selection criteria for algorithms, languages, platforms and technologies. Was an empirical approach used? How were problems solved? Was any research undertaken first?

4.3   Technologies / Tech Review

About seven to ten pages.

- The "literature review" part of the dissertation. Should be tightly coupled to the context and objective from the introduction. Proves that you researched what you were doing!

- Describe each of the technologies you used at a conceptual level. Standards, Database Model (e.g. MongoDB, CouchDB), XMl, WSDL, JSON, JAXP. Use references (IEEE format, e.g. [1]), Books, Papers, URLs (timestamp) Sources should be authoritative!

- A technology review that includes a lot of de facto or de jure standards supports the methodology! Each chapter buttresses some other aspect of the dissertation.

4.4   System Design

As many pages as needed.

- Architecture, UML etc. An overview of the different components of the system. Diagrams etc... Screen shots etc.

Column 1	Column 2
Rows 2.1	Row 2.2

Table 4.1: A table.

4.5   System Evaluation

As many pages as needed.

- Prove that your software is robust. How? Testing etc.

- Use performance benchmarks (space and time) if algorithmic.

- Measure the outcomes / outputs of your system / software against the objectives from the Introduction.

- Highlight any limitations or opportunities in your approach or technologies used.

Chapter 5

Conclusion

About three pages.

- Briefly summarise your context and ob-jectives (a few lines).

- Highlight your findings from the evalua-tion section / chapter and any opportuni-ties identified.

5.1   Context/Objectives

5.2   Findings