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**HOW CAN MULTI- CHANNEL RETAILING FURTHER
EXPAND THEIR PRODUCT RANGE WHILST SUSTAINING
CUSTOMER EXPERIENCE AND SATISFACTION FOR
BOOTS.COM?**

*An Individual Project
Taking A Risk Management Perspective*

By

Mohd Nizaruddin Azlan Mohd Ramli

2008

**A Management Project (Dissertation) presented in part consideration for
the degree and award of Masters of Business Administration**

Abstract

Albert Einstein (1923) once said “You believe in a God who plays dice, and I am in complete law and order in a world which objectively exists. God does not play with dice in nature, the outcomes of *most of the risks* we create; depend on the decisions of other human being especially in business”. This landmark speech charts the extraordinary advances that mankind has made to control destiny. Thus, in risk management, controlling risk goes beyond understanding it, measuring it, and weighing its consequences, but taking it on a journey.

Boots.com has delivered many customer led initiatives designed to build a base for the future, including extending range (e.g. Beauty Beautique), adding Expertise & Advice (e.g. BMJ), improving website experience (e.g. new look & feel), building our infrastructure (100% warehouse, new IT architecture, out-sourcing fraud), building a strong team, supported by industry experts (increased +10 FTE's).

As one of the 20 transformation initiatives for Boots.com, it launched a new web platform on 27th August 2008, which will enable them to move towards a multi channel business model. This platform provides a base from which to build a multi-channel business model. Boots.com believes that the markets in which we operate will fundamentally change over the next 10 years. Thus, Boots.com must create a multi-channel business model in order to thrive and meet the key challenges we face, as well as exploit opportunities

This paper is the Individual Project by taking a Risk Management perspective from the Main Theme: How can multi-channel retailing further expand their product range whilst sustaining customer experience and satisfaction for Boots.com?

In the course of the writing, the author has dealt heavily with the literature reviews surrounding Risk Management, Risk Assessment, Risk Analysis, Risk Identification, Risk Mitigation and also its practical applications.

The author further focuses on exploiting opportunities for Boots.com by considering, insight and interest into risk management aspects of online product range extension, risk management challenges and outcomes for moving into the new market and sustaining competitive advantage, enterprise Risk Management at Boots.com, Inventory, Supply Chain Risk Management for Online Product Range Extension, Financial, legal, and emerging issues in risk, Probabilities, NPVR, Value At Risk and Impact on the Financial Statement; and Real Options and Balance Scorecard. Finally, the author draws conclusion therein and provides recommendation for Boots.com

Table of Content	Page
List of Diagrams	ii
List of Graphs	ii
List of Tables	ii
Acknowledgement	iii
Chapter 1: Introduction	1
1.1 Background to the Management Project	1
1.2 Introduction to Boots.com	5
1.3 Interest and Insights into Risk Management	6
1.4 Enterprise Wide Risk Management	8
Chapter 2: Literature Review	9
2.1 Risk Management Framework	9
2.1.1 Risk Assessment	12
2.1.2 Risk Management Process	14
2.1.3 Risk Analysis	17
2.1.4 Risk Evaluation	18
2.1.5 Risk Mitigation and Reduction	20
2.2 Enterprise Risk Management	22
2.2.1 Risk Maturity Model	25
2.3 Corporate Governance	26
2.3.1 Hampel and the Broadening of Control	26
2.3.2 Role of Board of Directors	26
2.3.3 Stakeholder Analysis	27
2.3.4 Sarbanes Oxley Act Requirements	27
2.3.5 Implication of Sarbanes Oxley Act	28
Chapter 3: Boots.com	29
3.1 Risk Overview	29
3.2 Multi-Channel Retailing	30
3.3 Enterprise Risk at Boots.com	33
3.4 Supply Chain Risk Management.	36
3.5 Risk in Product line Extension	39
Chapter 4: Methodology	43
Chapter 5: Strategic Risk Analysis	45
5.1 Net Present Value Weighted	45
5.2 Risk Weighting By Development Category	45
5.3 Financial Risk	49
5.4 Legal Risk	50
5.5 Emerging Issues in Risk	52
Chapter 6: Probability and Value at Risk (VaR)	54
6.1 Probability Risk Assessment	54
6.2 Value at Risk(VaR)	
Chapter 7: Impact on Financial Statement.	42
7.1 Impact on Financial Statement	
7.2 Balanced Scorecard	
7.3 Real Option	
Chapter 8: Conclusion	43
Chapter 9: Recommendations	44
References and Bibliography	67-71

Appendices		Page
Appendix 1	Internal versus External Risk	62
Appendix 2	Sources of Risk	63
Appendix 3	Risk Management Framework	64
Appendix 4	Supply Chain Risk	65
Appendix 5	Turnbull Report	66
Appendix 6	Calculation for Probability Of Safety Stock	67

List of Diagrams

Diagram 1	Risk Drivers	7
Diagram 2	Enterprise Wide Risk Management	8
Diagram 3	Practice Integrated Risk Management	12
Diagram 4	Risk Management Process	14
Diagram 5	The Risk Management Process	15
Diagram 6	Measuring the Impact and likelihood of Risk	16
Diagram 7	Risk Evaluation Principles	18
Diagram 8	Risk Management Process Redesign	23
Diagram 9	Risk Maturity Model	25
Diagram 10	Multi-Channel Oppurtunity for Boots.com	31
Diagram 11	NPV to Real Option	39
Diagram 12	NPV, Cost and Value Analysis	40
Diagram 13	Product Portfolio Categories	41
Diagram 14	Product Portfolio Risk Categories	42
Diagram 15	Norton and Kaplan Balanced Scorecard	56
Diagram 16	New Risk Management Strategy	60

List of Graphs

Graph 1	Damage Vector Index in Risk	11
Graph 2	Financial Risk Analysis	17
Graph 3	Increasing Cost Of Risk Reduction	20
Graph 4	Pooling Forecast Risk	20
Graph 5	Pooling Growth With The Level of Risk Covered	20
Graph 6	Key Risk Reward In Supply Chain Relationship	20
Graph 7	Risk Map for Boots.com	29
Graph 8	Supply Chain Risk Reward Trade-off	36
Graph 9	Portfolio Risk	49
Graph 10	Efficiency Frontier Curve	49

List of Tables

Table 1	Risk Management Action	16
Table 2	Risk Log	19
Table 3	Risk Profile Matrix	19
Table 4	Enterprise Risk Management	22
Table 5	ERM Framework	23
Table 6	Stakeholder Analysis	27
Table 7a	Drivers of Risk	36
Table 7b	Drivers of Risk	37
Table 8	Risk Mitigation Strategy	38
Table 9	Risk Benefits Of Extension	40
Table 10	Risk Weighting	44
Table 11	Market Risk Evaluation	45
Table 12	Technical Risk Evaluation	45
Table 13	User Risk Evaluation	46
Table 14	Probability	54
Table 15	Illustrative Real Options	58

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I would like to extend my sincerest appreciation to Marc Sbardella, David Robinson, Stephen Boothroyd, Daniel Lewin, and Elaine Parker of Boot.com for their unceasing co-operation and support in ensuring the viability of the project. A special debt of gratitude also goes to Kevin Gibbons of Boots.com for assisting me in data gathering and providing the platform for interviews with key personnel of Boots throughout the internship. It was indeed, a gratifying pleasure to have had jointly collaborated with them and I will cherish each moment of it in my lifetime.

Introduction

1.0 Background to the Management Project

This paper is the Individual Project arising from the main Management Project (Dissertation) on behalf of Boots.com in Beeston, Nottingham, undertaken by the Project Team presented in part consideration for the award of the MBA degree.

Professor Keith Harrison, the Supervisor had assigned the project based on Alliance Boots's proposal of online product extension encompassing marketing strategy, supply chain management and financial perspectives. However, this individual project takes the perspectives of *risk management* with critical reviews of the main theme; How Can Multi-Channel Retailing further expands their products range whilst sustaining customer experience and satisfaction for Boots.com? Particular focus is made on exploiting opportunities for Boots.com by considering the following risk management perspectives:-

- a) Insight and interest into risk management aspects of online product range extension:
- b) Risk management challenges and outcomes for moving into the new market and sustaining competitive advantage?
- c) Enterprise Risk Management at Boots.com?
- d) Inventory, Supply Chain Risk Management for Online Product Range Extension
- e) Financial, legal, and emerging issues in risk.
- f) Probabilities, NPVR, Value At Risk and Impact on the Financial Statement; and
- g) Real Options and Balance Scorecard.

This dissertation uses primary research data from Boots.com to examine the proposal. In addition, industry reports are used to benchmark the performances of Boots.com products and to substantiate the arguments and recommendation put forth in the dissertation.

1.1.1 The Purpose of the Research Area

The purpose of this research paper is to address risk management from the main theme of the group project 'How can Multi-Channel Retailers further expand product range whilst sustaining customer experience and satisfaction Boots.com?' Like most e-retailers, Boots.com is not insulated from risk internally generated or externally exposed.

From the risk management perspective, this research look at risk management processes, risk analysis, risk reporting, enterprise risk management and probabilities. The author will study the risk implication surrounding the prospects of online products expansion for Boots.com via Multi-Channel Retailing whilst sustaining customer experience and satisfaction.

In so doing, focus is channelled on the risk implications of the enterprise, market risk, product launch risk, and supply chain risk. Analysis is made on the implications of leveraging brand value and brand asset of Boots.com which forms the platform for product expansion in e-retailing.

It also looks into probabilities, Value at Risk (VaR), RAROC, Real Options and Balanced Scorecard as well as the financial impact on product expansion for Boots.com.

1.1.2 Objectives and Selection of Topics

(a) Objectives

Elucidating the objectives of the dissertation is crucial, amongst many include:-

- (i) To review the academic literature for each of the aforementioned ten topics and also that which relates to how they are integrated;
- (ii) To undertake a risk management review of Boots.com in so far as opportunities for new product expansion in e-retailing whilst sustaining customer experience and satisfaction;
- (iii) To construct vehement matrix and concise model within Boots.com;
- (iv) To construct hypotheses and proceed to verify or falsify these statements and
- (v) To provide recommendations for Boots.com.

(b) Selection of Topics

The criteria used for the selection of theories, concepts and models are the coherent risk management strategy for Boots.com to embark on online product expansion and on-line shopping, whilst sustaining customer experience and satisfaction. In addressing Boots.com's risk management analysis to expand online product in e-retailing; key areas such as (i) the power of Multi-Channel Retailing; Market- and Enterprise Risk, Supply Chain Management risk and (v) financial Implication are dealt with in *punctilious* details.

(c) Rationale for selecting these topics

The risk management addresses key risk issues surrounds perspectives of supply chain, new product development, finance, inventory for Boots.com in respect of online product extension or brand extension. The chapters provide a comprehensive analysis surrounding concepts and applications of risk management.

(d) Interrelationship of Topics

Chapter one is the opening emblem for risk management at Boots.com. Chapter Two provides detail discussions and reviews of literature surrounding risk management and topics of risk assessment, risk identification, risk analysis, risk mitigation, likelihood of risk and risk transfer. Chapter Three provides the application tools and takes a more detailed look at the theory behind risk management. Chapter 6 deals with probability, Value at Risk and RAROC as risk management tools. The impact on financial statement is discussed in Chapter 7. Chapter 8 concludes the analysis. Chapter 9 provides recommendation for Boots.com.

1.1.3 Hypothesis

Although the research offers a plethora of questions, it uses the following hypotheses to be examined and clinically tested:

- a. Risk analysis and risk management framework are a power tool to assess risk and its implication for a successful implementation of online product expansion and brand extension for Boots.com.
- b. In supply chain and inventory management, managing risk to avoid breakdown is a fundamental platform for understanding the variety and interconnectedness of supply chain risk and effective risk reduction strategies for Boots.com.
- c. Risk and benefit analysis plays a critical role in brand development and new product development.
- d. Balanced scorecard and Real Option are powerful alternatives to effecting successful implementation of product line and brand extension for Boots.com.

1.1.4 Dissertation Structure

In addressing the central tenet of the dissertation, the following layout is drawn:

Chapter One has provided a general introduction to the topic and outlines. It highlights the purpose of the research area, objective and selection of topics for the dissertation. It also establishes the hypotheses to be investigated and to address questions raised by the topic.

Chapter Two is a comprehensive review of the literature surrounding the eleven areas under investigation. The dissertation literature review is to put the empirical research into context and as such it is an essential part of any dissertation. A thorough and clear review of the research topics studied provides both an introduction to the subject and a framework for the research. This literature review also provides a synopsis of the key research that has been undertaken by other academics and a critical appraisal of this by the author.

Chapter Three provides background information on Boots.com that has been chosen for the case studies. Here the analysis and application of risk management for Boots.com surrounding product line or brand extension is addressed in sufficient detail.

Chapter Four is concerned with the methods used to gather and interpret the primary data. The methodology describes the way in which the data for analysis was gathered and analysed and also outlines the limitations of the research techniques employed.

Chapter Five addresses risk issues surrounding finance, operation and net present value framework. It also considers each hypothesis in relation to the evidence gathered and provides a cogent argument to the research question.

Chapter Six: In this Chapter the application tools of probability, Value at Risk, RAROC are used to analyse risk implication underpinning inventory and supply chain management and product extension for Boots.com.

Chapter Seven: Chapter 7 draws the impact of risk assessment, assignment of probabilities on the financial statements and Real Options and Balanced Scorecard of Boots.com.

Chapter Eight: Chapter Eight summarises all the chapters and draws conclusion therein.

Chapter Nine: Chapter Nine provides recommendation for Boots.com.

The bibliography uses the Harvard convention and is situated at the back of this dissertation along with all appendices.

1.2 Introduction to Boots.com

1.2.1 Overview

Boots.com exists in cyberspace and is principally a specialist in Health and Beauty business via the Internet. As an established e-retailer in the market, it has a distinct advantage against other Internet only retailer which acquires customers' places at high costs. Further, the opportunities for cross marketing between physical and virtual channels helps to minimise this cost. Many of the competencies developed in its traditional stores operation are transferable to online retailing such as expertise and experience in order fulfilment and a distribution infrastructure. (Leslie Willcocks, Christopher Sauer and Associates, (2000).

For Boots.com, leveraging on a trusted brand and its long standing market position as a specialist in Health and Beauty provides it with opportunities to reach a larger established customer base. Merging the power of the Internet with the knowledge and experience of traditional business processes are vehement drivers for higher market base.

1.2.2 Internet Penetration

The online penetration of retail markets continues to grow at rapid pace. In third quarter of 2007, overall high street like for like sales decreased by 0.4% and yet retail Internet sales increased by about 40% and 50%. However, the pace at which on line penetration occurs by category is significantly different. Health and Beauty market continues to have the lowest penetration at about 1.8% but in the next 5 years, spending in Health & Beauty on line is expected to rise by 133% to £615 million. (Boots.com, 2008)

1.2.3 Multi-Channel Retailing

Often Multi-Channel Retailing affords e-retailer with above average sales, high frequency purchases and increasing customer loyalty. In order to exploit these opportunities, Boots.com will have to integrate various channels in order to reap immeasurable rewards and benefits such as having a seamless and consistent identity in all channels. The launch of the new website (Phoenix Project, a transformation strategy) on 27th August 2008 is a platform that provides the vehement driver from which to build a multi-channel business model.

Notably, a true Multi-Channel retailer is capable of focussing on the lifetime value and delivers a consistent brand experience through each and every customer interaction, regardless of how the customer chooses the right channel for the right products at the right time based on each and every shopping mission (Boots.com, 2008).

1.3 Interest and Insights into Risk Management

Drivers of Risk

The root causes of risk are *optimism bias*¹ and *strategic misrepresentation*². These occur when there are uncertainties, where some of the possibilities involve a loss, catastrophe, or other undesirable outcome (John Nash, 1960). In the seminal work of Doug Hubbard (2007); “How to Measure anything; Finding the Value of Intangibles in Business” in response to Frank Night’s (1921) break through work on *Risk, Uncertainty and Profit*, Hubbard argued that risk is a measurement of uncertainty and it only refers to the probabilities assigned to outcomes, while the measure of risk requires both probabilities for outcomes and losses quantified for outcomes. In a sense, Hubbard uses the terms so that one may have uncertainty without risk but not risk without uncertainty. The same argument was put forth by John Nash, Noble Laureate in *Game Theory*; in that “we can be uncertain about the winner of a contest but unless we have some personal stake or exposure in it, we have no risk.

Risk is quintessentially an integral part of any business. Like many other companies, Boots.com is not operating in isolation and therefore is not insulated from risk exposure either internally generated or externally influenced. Properly managed, risk can be drivers of growth and opportunity.

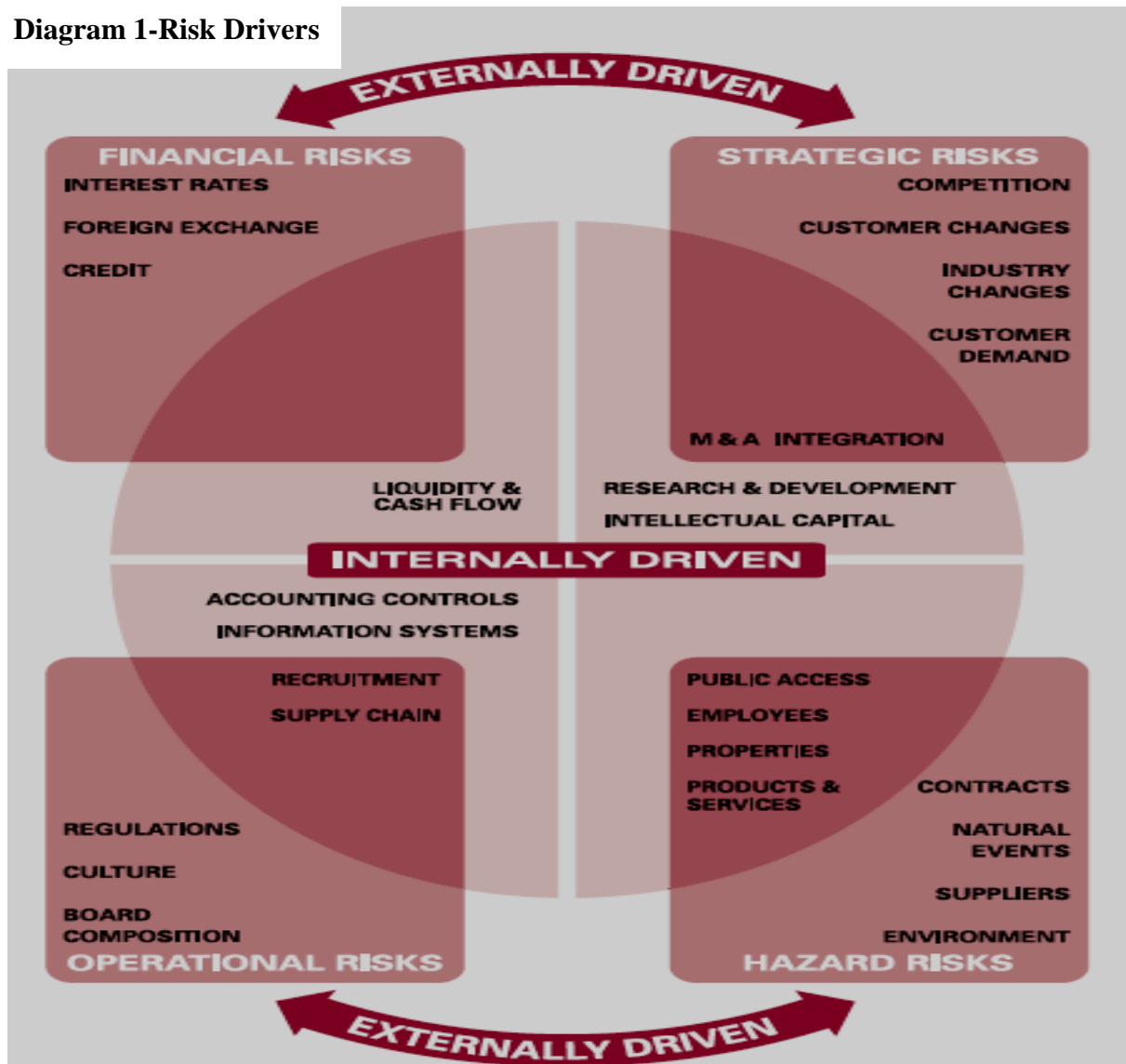
In the seminal paper of Bernanke, the United States Federal Reserve Chairman, “Bernanke on Lessons in Risk Management”, “successful management of risks start with an identification process, where all necessarily available information about the company are assessed, all information of the market in which the firm operates and every information of the business environment predominantly competitiveness of the market, legal and social requirements, political and cultural issues”.

Today, Executives indefatigably battle with business pressures that may be partly or completely beyond their immediate control, such as distressed financial markets, mergers, acquisitions and restructurings, disruptive technology change; geopolitical instabilities and rising price of fuel and energy.

¹ *Optimism bias* is the demonstrated systematic tendency for people to be over-optimistic about the outcome of planned actions for example over-estimating the likelihood of positive events and under-estimating the likelihood of negative events.

² *Strategic misrepresentations* is the planned, systematic distortion or misstatement of fact—lying—in response to incentives in business process.

Diagram 1-Risk Drivers



Source: AIRMIC, ALARM, IRM 2007

The Institute of Risk Management (IRM), the Association of Insurance and Risk Managers (AIRMIC) and the National Forum for Risk Management in the Public Sector (ALARM) argued that it is necessary to understand the key drivers of risks to provide a base for the process as a whole. Organisations face risk in operations arising from both external and internal factors. (Details are explained in Appendix 1, pp 62)

Diagram 1 illustrates the *key risks* in these areas and shows that some specific risks can have both external and internal drivers such as strategic risk, financial risk, operational, hazard, etc

Financial risk – Risk that affects the financial performance of the company e.g. economic risk, market risk, credit risk, liquidity risk, inventory obsolescence or write-off, financial implication of product launch failure etc.

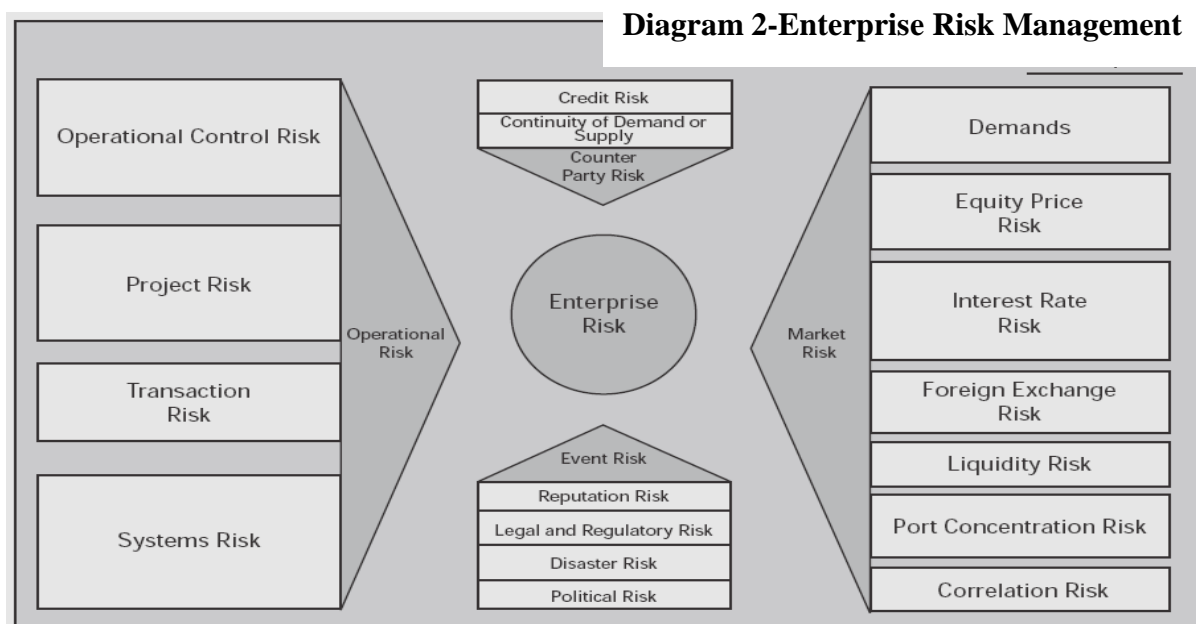
Strategic risk – Risk that affect the business in the long-term e.g., customer risk, competitor risk, business risk, product risk, brand risk mergers and acquisitions, supplier risk, legal risk, political risk, image risk, opportunity cost, new opportunity risk, changes in demand, etc.

Operational risk - The risk of direct or indirect loss resulting from inadequate or failed internal, processes, people and systems or from external events e.g. process risk, loss of key staff, risk of Information Technology system failure, image problems, health and safety issues and compliance.

Hazard risk - e.g. environmental pollution, product liability issues, natural disasters, stress claims, property and intellectual rights risk.

1.4 Enterprise Wide Risk Management

In Enterprise Wide Risk Management, Clarke and Varma (1999) however, argued that enterprise risk as a combination of different risk from outside. Diagram 2 below illustrates that the enterprise risk as a whole in a combination of different risks which are existent for the company and influencing the company.



Source: Clarke And Varma (1999)

For Boots.com, this categorization of risks is also similar to the IRM model introduced in Section 1.3 but there is no differentiation between external and internal risks. This categorisation is important because many internal risks are controllable from the company and external risks tend to be driven by uncontrollable factors. Therefore it seems to be reasonable to work with the IRM model for Boots.com as it a practical approach.

2.0 Literature Review

Overview

The philosophical roots of subjective interpretation of risk can be traced back to David Hume (1748), a great English Economist and thinker who defined risk and probability as: “Though there be no such thing as *Chance* in the world: our ignorance of the real cause of any event has the same influence on the understanding, and begets a like species of belief or opinion”

In 1749, Swiss Mathematicians, Jacob and Daniel Bernoulli introduced the idea of utility and risk; decisions relating to risk involve not only calculations of probability but the value of the consequence to the risk taker. Later, in modern development, contemporaneous new researchers’ namely English economist, John Maynard Keynes (1921), and Richard Von Mises (1928) explained risk and probabilities as objective interpretations and subjective interpretations respectively. Objective interpretation of probability are “real” whilst subjective interpretation of probability are merely “human beliefs and not intrinsic to nature”

Nevertheless, the most famous description of risk was provided by Frank Knight (1923), who was instrumental in laying the foundations of risk assessment and probability. According to him, “to preserve the distinction between the measurable uncertainty and an unmeasured one, we may use the term “*risk*”¹ designating the former and the term uncertainty for the latter”

In 1952, prominent United States economist and Nobel Prize laureate, Harry Markowitz demonstrated mathematically that risk and expected return are directly related, but investors can reduce the variance of return on their investments by diversification without loss of expected return. This innovative discovery led to the birth of new portfolio risk management.

Following that, in 1970, Nobel Prize laureates, Fischer Black and Myron Scholes published the most famous mathematical model for calculating the *Value of Options* that revolutionised the world of *risk*, probability, hedging, derivatives, Options and other financial instruments.

Definitions of Risk

The Institute of Risk Management (“IRM”), the Association of Insurance and Risk Managers (AIRMIC) and ALARM, the National Forum for Risk Management in the Public Sector defined risk as “the combination of the probability of an event and its consequences” (ISO/IEC, Guide 73). In all types of undertakings, there is the potential for events and consequences that constitute opportunities for benefit/upside or threats to success (downside).

¹ Often described by theorist and practitioners as the chance of hazard, loss, negative consequences

The Australian/New Zealand Standards (4360) defines risk as “the chance of something that will have an impact on objectives”. According to the Orange Book on Risk Management, Her Majesty Treasury (2008), risk is defined as “this uncertainty of outcome, whether positive opportunities or negative threats, of actions and events”

The Institute of Chartered Institute of Accountancy in England and Wales (ICAEW) blue print of Risk Management for Small Medium Enterprise, 2008 defined risk as “the probability or likelihood that (*for pure risk*) a specified hazard will result in a specified undesired event or course of action will result in a specified gain or enhancement and/or specified loss or detriment”. For pure risks, the product of the potential severity of hazard consequences and the probability that the undesired event will occur. Accordingly, risk is “now a core business process and should always be planned so as to reduce risk, *volatility* and improve “*returns*”

Often risk has pejorative implications, such as having an undesirable “*outcome*”. This is referred as “*downside risk*”. In financial economics, this has far reaching implications. Risk is regarded as a combination of the “*expected magnitude*” of loss or gain and the variability of that expected outcome. Risk arises from missed opportunities as it does for possible “*threats*”

Critically, risk is a combination of an event and its consequences. Darlington, Grant and Whitworth (2001) defined risk as “the threat that an event that will adversely affect an organisation’s ability to maximise stakeholder value and achieve its business objectives and strategies or the “*potential variation² of outcomes*”.

Mathematical and Probabilistic Definitions

John Garrick and Kaplan (1997) published a *seminal* paper entitled; *the words of risk* essentially defining risk as quantitatively and mathematically expressed as (1) What can happen? (2) How likely is that? (3) What are the consequences? He conjectures

An Answer as $\langle S_i, l_i, X_I \rangle$, it follows that a Set of answers as $\{ \langle S_i, l_i, X_I \rangle \}$

and thus a complete set of answers $\{ \langle S_i, l_i, X_I \rangle \} c$

$R = \{ \langle S_i, l_i, X_I \rangle \} c$

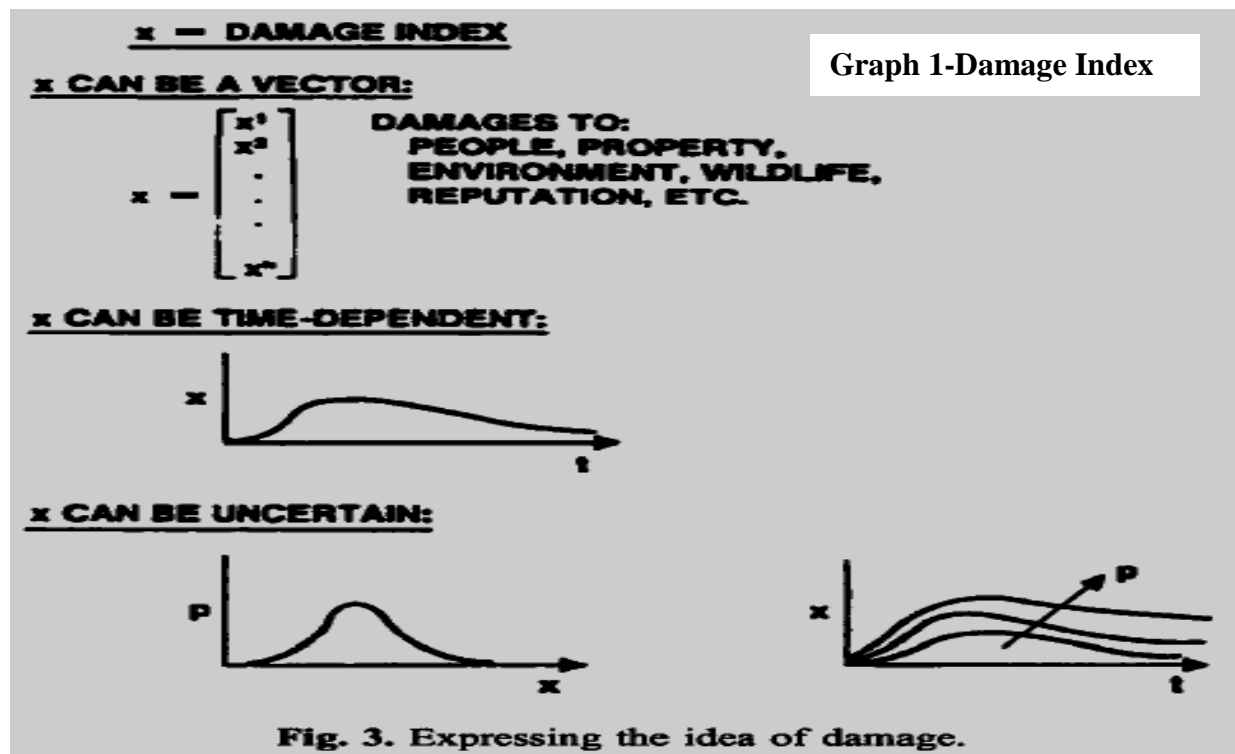
where S_i denotes Scenario, l_i likelihood and X_I denotes consequences of the i th scenario.

Accordingly, risk is defined as the complete set of triplets. Risk is the set of triplets, depicted in the risk scenarios. S_0 to denote the “as planned” or “success” scenario.

² The difference or divergence in unexpected outcome arising from volatility of events.

In Graph 1, the damage index x below shows that, this could be a vector or multi-component quantity that it could be time dependent, which it could be uncertain, and if so, one should

express this uncertainty by giving a probability curve against the possible magnitudes of x . (John Garrick and Kaplan, 1997)



Source: John Garrick and Kaplan (1997)

Turning to the likelihood term, it can be seen that there are three formats with which to capture and quantify the intuitive idea of “likelihood.” and hence risk. Qualitatively, risk is proportional to both the expected losses which may be caused by an event and to the probability of this event. Greater loss and greater event likelihood results in a greater overall risk. Mathematically, risk is also expressed as:-

$$\text{Risk} = (\text{probability of an accident}) \times (\text{losses per accident})$$

In other words, risk is described as an indicator of threat, or depends on threats, vulnerability impact and uncertainty. Risk is probability of risk occurring amplified by the impact of risk occurring. Also in economics, risk surrounding a project or business such as price hike in raw materials, disruptions in a production process, failure of new product launch, the emergence of superior competitor, loss of key personnel, change in political parties, etc.

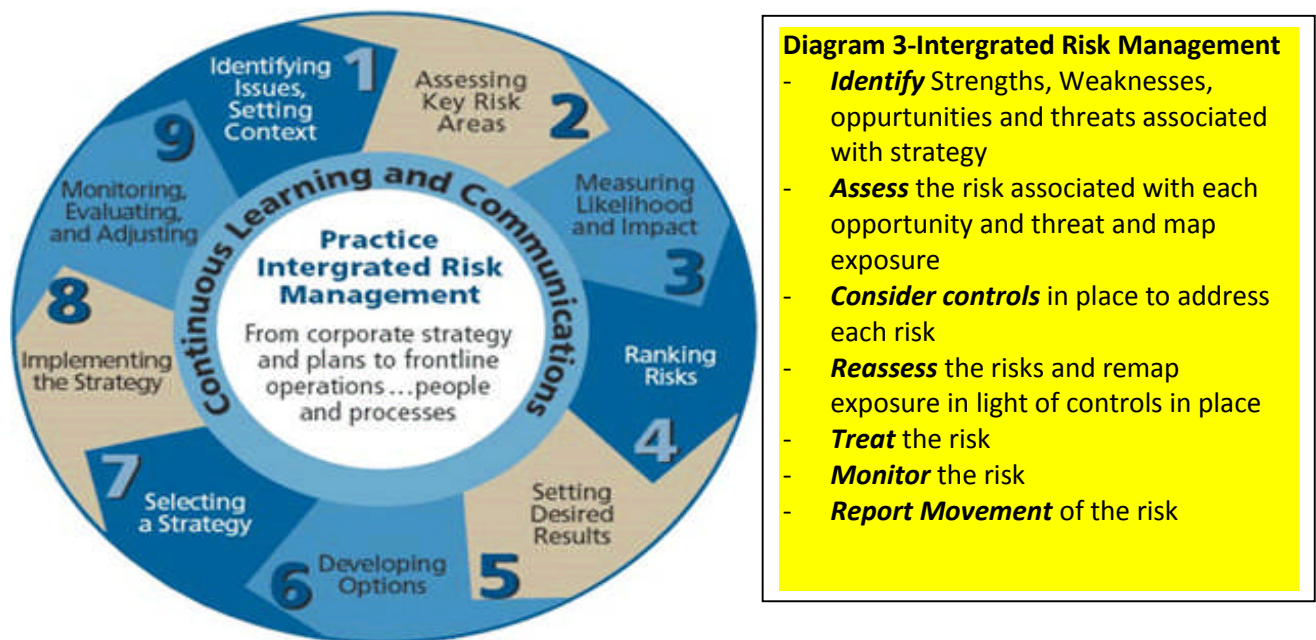
Conceptually, economic risks are “actual positive” conventional cash flows functions (income,) inflows turns out to be less than expected and/or actual negative conventional cash flows (expenditure, outflows)

2.1 Risk Management Framework

2.1.1 Risk Assessment

a) Risk Identification

Risk Identification is the process of determining what, where and how will happen according to the Australian/New Zealand Standard of Risk Management. To identify and analyze risk to which a particular business is (i) include its technical processes, know-how and financial management activities and (ii) specialist knowledge and experiences in the various risk disciplines. Risks are about events that, when triggered, cause problems. Hence, risk identification starts with the source of problems within, or with the problem itself (CIMA).



Source: Integrated Risk Management Framework, Treasury Board of Canada 2007

Diagram 3 shows that the practice of integrated risk is an integral part of corporate strategy and risk assessment³ of people and processes. The process involves identifying risk, assessing key risk, measuring likelihood and impact of risks, ranking risks, setting targets, developing options, formulating strategy and implementing them, and monitoring, and evaluating risk.

According to the Institute of Risk Management, for many organizations, risk identifications may be drawn from (1) source analysis (2) problem analysis (3) objectives-based risk (4) scenario-based risk (5) taxonomy-based risk (6) risk checking and (7) risk charting.

³ Risk assessment as the overall of risk identification, risk analysis and risk evaluation. It is the process of estimating and evaluating a risk in order to determine whether current risk strategies are appropriate and adequate (Institute of Risk Management)

In category (1) as illustrated in Section 1.3 pp 6, *risk sources* may be internal or external to the system that is the target of risk management for example stakeholders of the project, employees of a company or market attractiveness of environmental condition.

In category (2), *problem analysis*- risks are related to identified threats for example the threat of making business loss, the threat of unsuccessful new product launch. These threats exist and are important to shareholders, customers, supplier, and the future survival of the firm.

In category (3) *objectives-based* risk identification Organizations and project teams have objectives for example launching a new website for Boots.com. Any event that may endanger achieving an objective partly or completely is identified as risk.

In category (4) *scenario-based* risk identification are analyses using different scenarios. The scenarios may be the alternative ways to achieve an objective, or an analysis of the interaction of forces in, for example, a market launch or new product categories or line extension. Any event that triggers an undesired scenario alternative is identified as risk.

In category (5) *taxonomy-based* risk identification are risk identification breakdown of possible risk sources. Based on the taxonomy and knowledge of best practices, a questionnaire is compiled. The answers to the questions reveal risks.

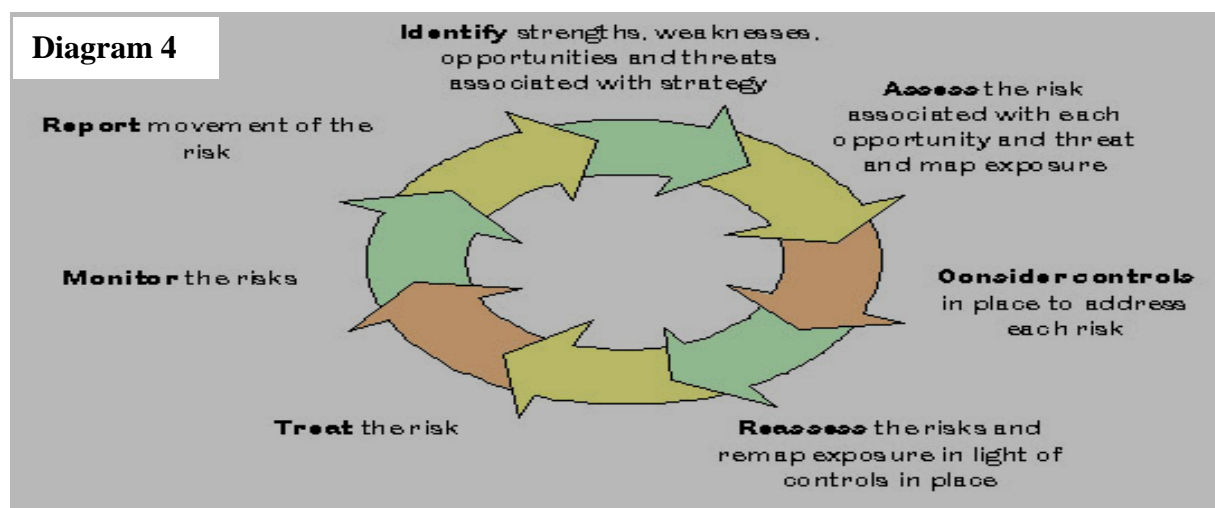
In category (6) *common-risk* checking lists with known risks are available. Each risk in the list can be checked for application to a particular situation. Examples of known risks in the product obsolesce in inventory, capacity constraints in supply chain, inaccuracy of forecast.

In category (7) *risk charting*-this method combines the above approaches by *listing resources* at risk, threats to those resources Modifying Factors which may increase or reduce the risk and consequences it is wished to avoid. Creating a matrix under these headings enables one to analyze resources and consider the threats they are exposed to and the consequences of each.

2.1.2 Risk Management Process

According to AS/New Zealand Standards for Risk Management 4360: 2001, risk management involves managing to achieve an appropriate balance between realizing opportunity for gains whilst minimising losses. The Chartered Institute of Management Accountants (“CIMA”) argued that risk management “as a specialist management technique to enable organisations to control ever-increasing exposures resulting from developments such as automation, computerisation, concentrations of values and the use of sophisticated and complex products”.

The American Institute of Insurance and Underwriters (2008) described risk management process as “the systematic application of management policies, procedures practices to the tasks of communicating establishing the context of identifying analysis”. Jardine Insurance Brokers Ltd and CIMA further identified risk management as “the management of pure or non-speculative risk to which the assets, personnel and income of a business are exposed”.



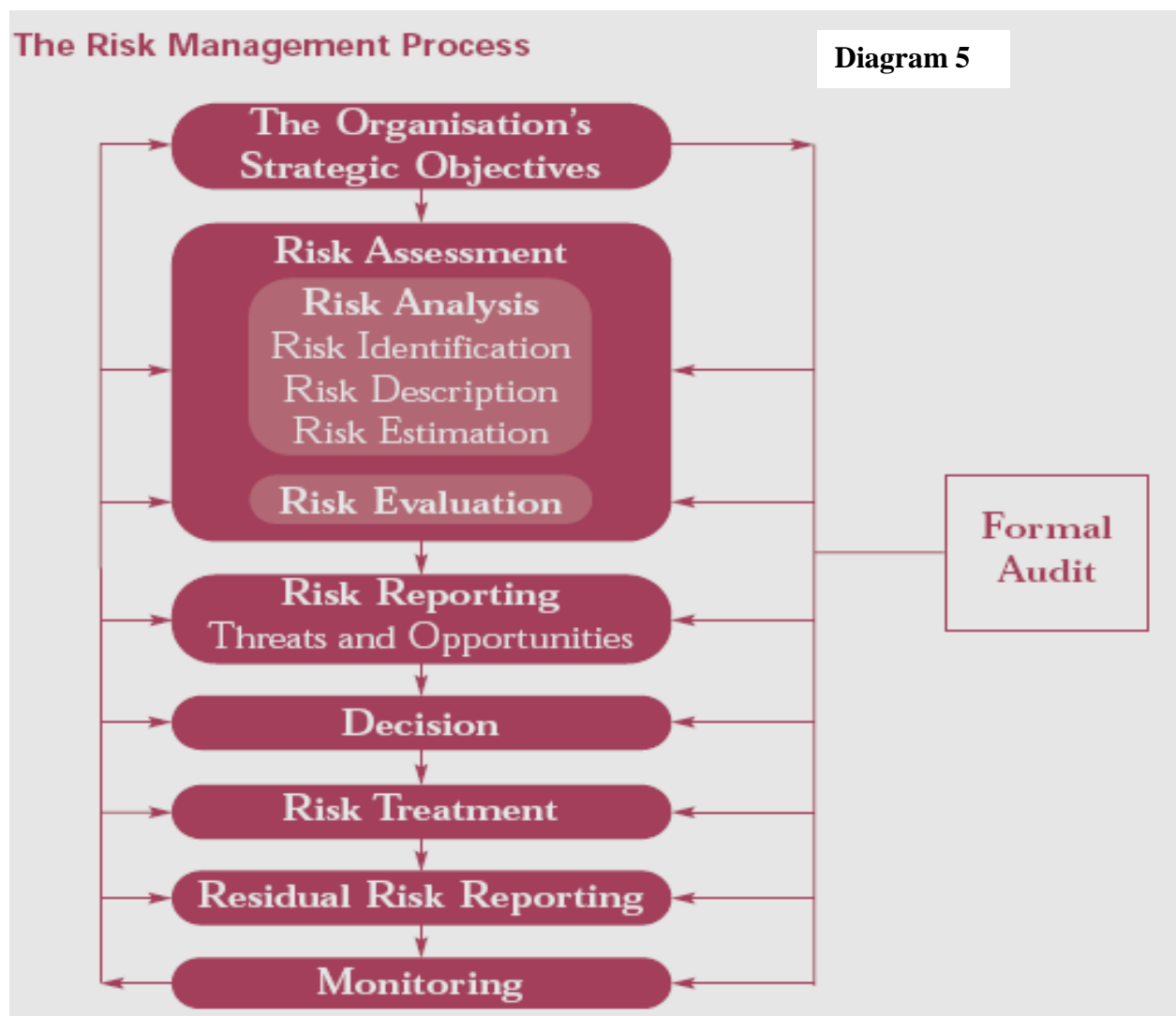
Source: Institute of Chartered Accountancy in England and Wales 2008

Diagram 4 above depicts the parameters of effective practical risk management such as identifying risk⁴, assessing risk, controlling risk, reassessing risk and remapping exposure, treating the risk, monitoring the risk and reporting risk movement are crucial for any organisation. These parameters are *inextricably linked* to each other and form the consequential path in risk management process (ICAEW, 2008).

As illustrated in diagram 4 & 5, the Institute of Chartered Accountancy in England and Wales in collaboration with the Bank of England, cogently describes “*risk management* is a process of making and carrying out decisions that will minimise the adverse effects of losses upon an organisation”. This process is the very *embodiment* of risk management framework.

⁴ In risk management strategy, identifying strengths, weaknesses, opportunities and threats are strongly correlated. Risks driven by internal factors are examined in the external environmental context.

In diagram 5 depicted below, risk management assessments requires 5 steps of process as a sequences namely (1) identifying exposures to accidental loss which may interfere with the organisation's basic objectives (2) examining feasible alternative risk management techniques for dealing with these exposures (3) selecting the best risk management techniques (4) implementing the chosen techniques and (5) monitoring the results of the chosen techniques to assure that the risk management programs remain attractive. Carrying out these decisions requires the risk management professional to perform the functions of planning, organising, leading controlling and reporting.



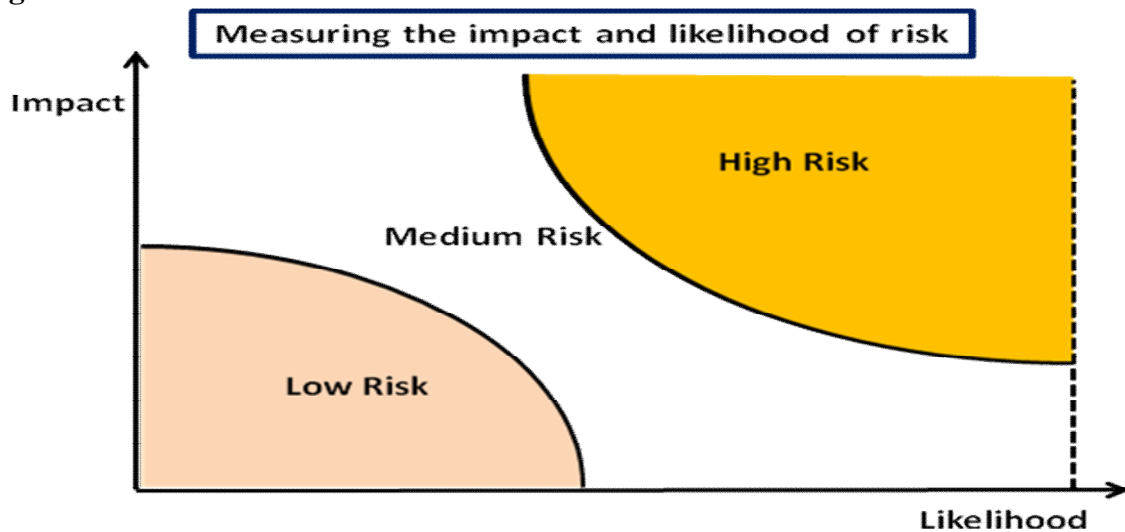
Source: Institute of Chartered Accountancy in England and Wales 2008

Refer Appendix 2 for details, page 63

b) Impact on likelihood of risk

Having identified risk, evaluating risk in terms of their likelihood of occurrence and their severity of occurrence is vital. As shown in diagram 6, risk mapping measure, plots the likelihood of the risk occurring on one axis and the severity or impact of the risk on the other. The higher the likelihood of risk occurring, the higher the risk and the larger the impact and vice versa. The territories are at both extremes; low risk and high risk are possibility frontiers.

Diagram 6



Source: Institute of Chartered Accountancy in England and Wales 2007

In Table 1 below, the impact can be measured often using a series of levels to signify the magnitude and gravity of the impact against the likelihood of occurrence (IRM). The Risk Management Actions Matrix below further assesses the appropriate remedial actions at each level from minor to moderate and to significant.

Impact	Risk Management Actions		
Significant	Considerable management required	Must manage and monitor risks	Extensive management essential
Moderate	Risks may be worth accepting with monitoring	Management effort worthwhile	Management effort required
Minor	Accept risks	Accept, but monitor risks	Manage and monitor risks
Table 1	Low	Medium	High
	Likelihood		

Source: The Institute of Risk Management (2007)

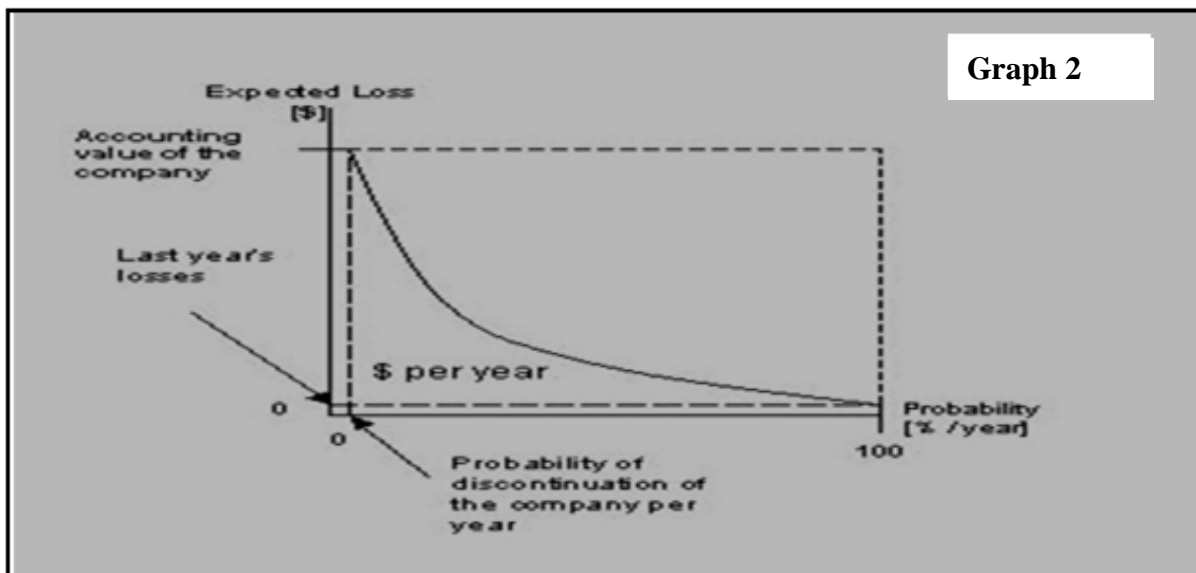
2.1.3 Risk Analysis

Risk analysis is the assessment of an outcome or the expected determination of quantitative or qualitative value of risk to a concrete situation and a recognised threat (Library of Congress, Science, Research and Technology, Washington D.C) Quantitative risk assessment requires calculations of two components of risk R , the magnitude of the potential loss L , and the probability p that the loss will occur. Mathematically shown;

$$R_i = L_i p(L_i)$$

$$R_{total} = \sum_i L_i p(L_i)$$

In graph 2, a risk with a large potential loss and a low probability of occurring is often treated differently from one with a low potential loss and a high likelihood of occurring.



Source: Hallenbeck, William H (1986)

In theory, both are of nearly equal priority in dealing with first, but in practice it can be very difficult to manage when faced with the scarcity of resources, especially time, in which to conduct the risk management process.

Financial decisions, such as insurance, express loss in terms of dollar amounts. When risk assessment is used for public health or environmental decisions, loss can be quantified in a common metric, such as a country's currency, or some numerical measure of a location's quality of life.

2.1.4 Risk Evaluation

Just like risk assessment, risk evaluation is concerned with assessing probability and impact of individual risks, taking into account any interdependencies or other factors outside the immediate scope under investigation: Probability is the evaluated likelihood of a particular outcome actually happening (and the frequency with which the outcome may arise). For example, major disruption in supply chain is relatively unlikely to happen, but would have enormous impact on business continuity. Conversely, occasional stock-out in production is fairly likely to happen, but would not usually have a major impact on the business

a) Risk Principles

Risk evaluation addresses probability assessment and its impact of individual risks, taking into account any interdependencies or other factors outside the immediate scope under investigation: In diagram 7, probability is the evaluated likelihood of a particular outcome actually happening (including the frequency with which the outcome may arise). For example, a major failure of a new product launch is relatively unlikely to happen, but would have enormous impact on business continuity. Conversely, occasional write off stock obsolescence is fairly likely to happen, but would not usually have a major impact on the business. Thus;

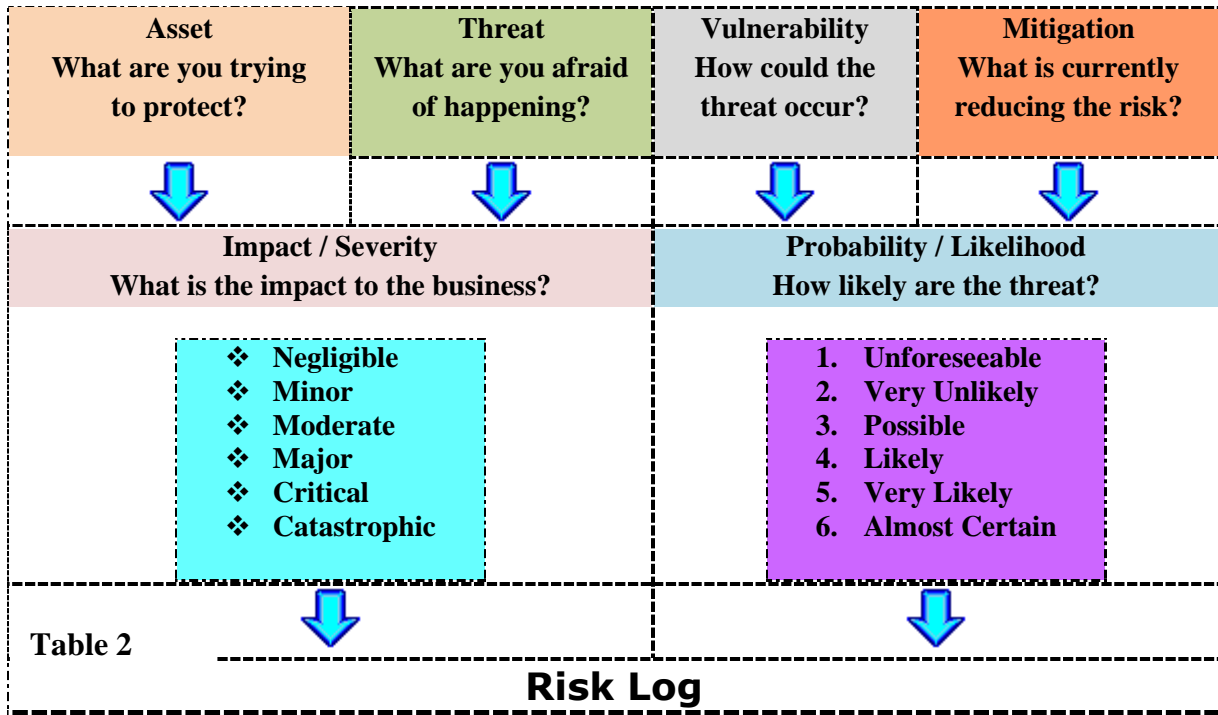
Diagram 7



At top management, the Board of Directors needs to support and promote risk management, understand and accept the time and resource implications of any countermeasures. Risk management policies and the benefits of effective risk management must be clearly communicated to all staff. In addition, a consistent approach to risk management should be fully embedded in the project management processes. Thus, management of risks is an essential contribution to the achievement of business objectives.

b) Risk Log

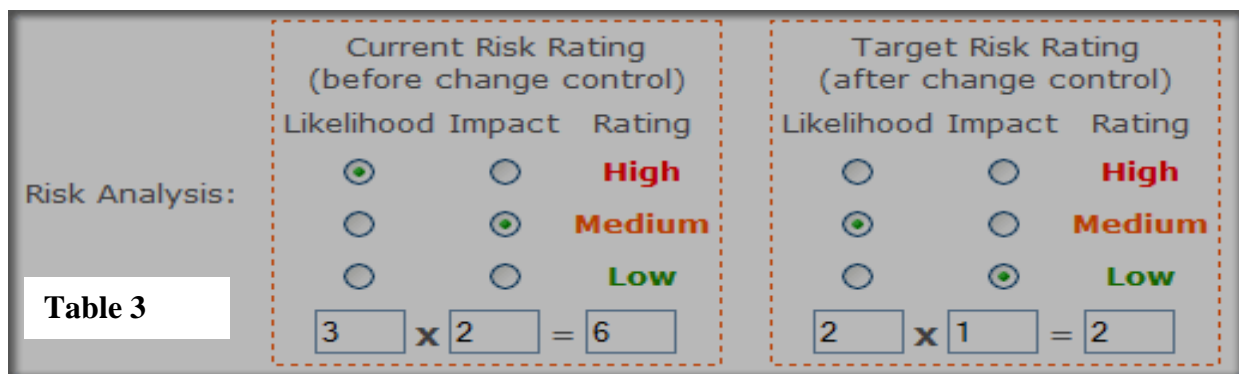
In Table 2, Risk log is a powerful tool for risk assessment, risk ranking, understanding risk characteristics, and comparative risk assessment, setting risk-based priorities, risk-reward analysis and cost-benefit analysis.



Source: Institute of Risk Management (2007)

c) Risk Profile Matrix

Using Risk log in Table 2 above, a simple mechanism to increase visibility of risks and assist management decision making can be graphically represented. As illustrated in Table 3, Risk Rating can be used to assess the degree of likelihood and severity of impact. Impact is the evaluated effect or result of a particular outcome actually happening.



Source: Institute of Risk Management (2007)

2.1.5 Risk Mitigation and Reduction

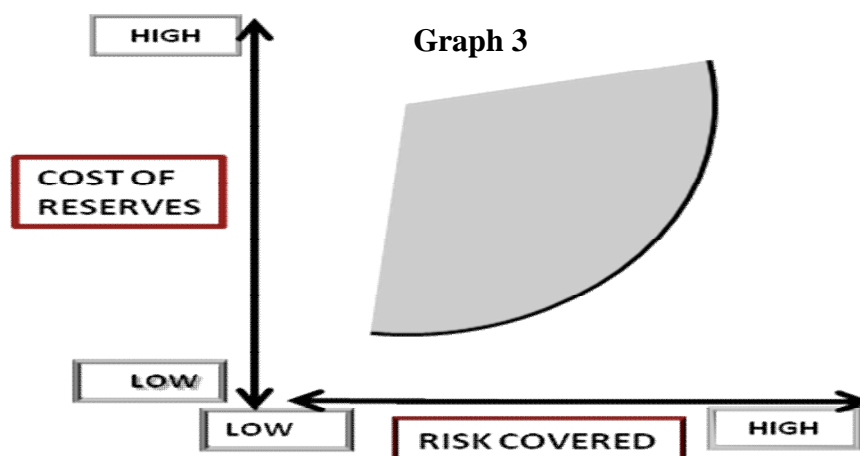
a) Risk Mitigation

Risk mitigation is a process of minimising the exposure to risk hazard which are not acceptable to the business, by taking some action to counter them and making it less serious such as (1) reduce the probability of the problem occurring and (2) limit the impact of the problem if it does occur. Most firms would like to do both. However, ideally it is a good idea to work on making risk less likely to happen.

Risk avoidance is the simplest approach to reducing problems and to reduce the probability of a problem occurring. It generally means not doing the things that could lead to the problem occurring. For example by not launching a new product line extension or not embarking on a particular new product brand extension, because it carries risks. However, risk avoidance may negate the benefit fully from business opportunities as it avoids venturing new endeavours.

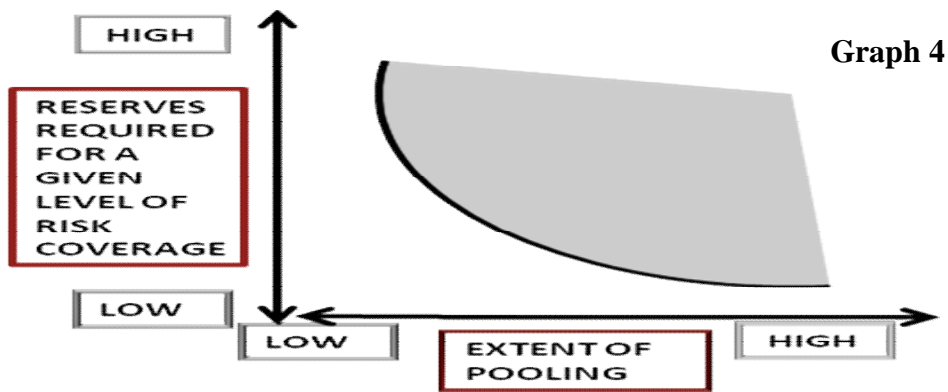
b) Risk Reduction

Risk reduction is primarily a method that dexterously reduces the severity of the loss or the likelihood of the loss from occurring. For example, managers working to optimize the cost of building a supply-chain reserve against the level risk protection must adroitly balance the relationship between (1) the increasing cost of risk reduction i.e. using inventory to cover a high level of demand risk proportionately costs more than the low demand risk (Graph 3)



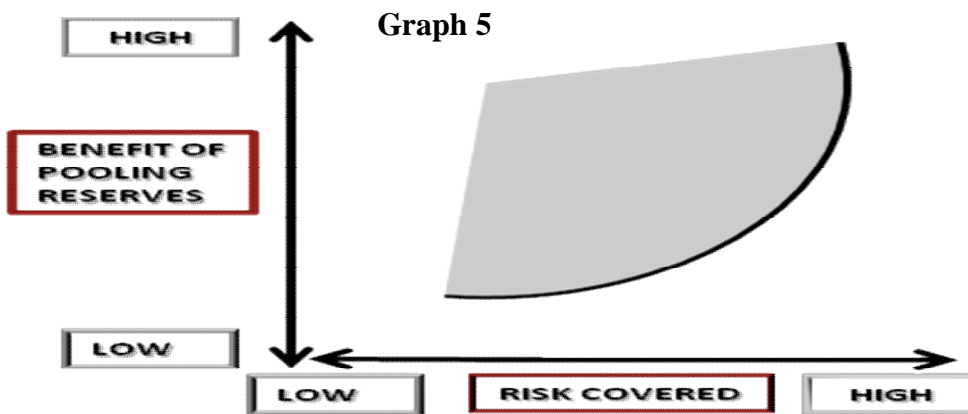
Source: Sunil Chopra, 2004

(2) Pooling forecast risk, receivables risk or other risk reduces the amount of reserves required for a given level of risk coverage (Graph 4 below) and



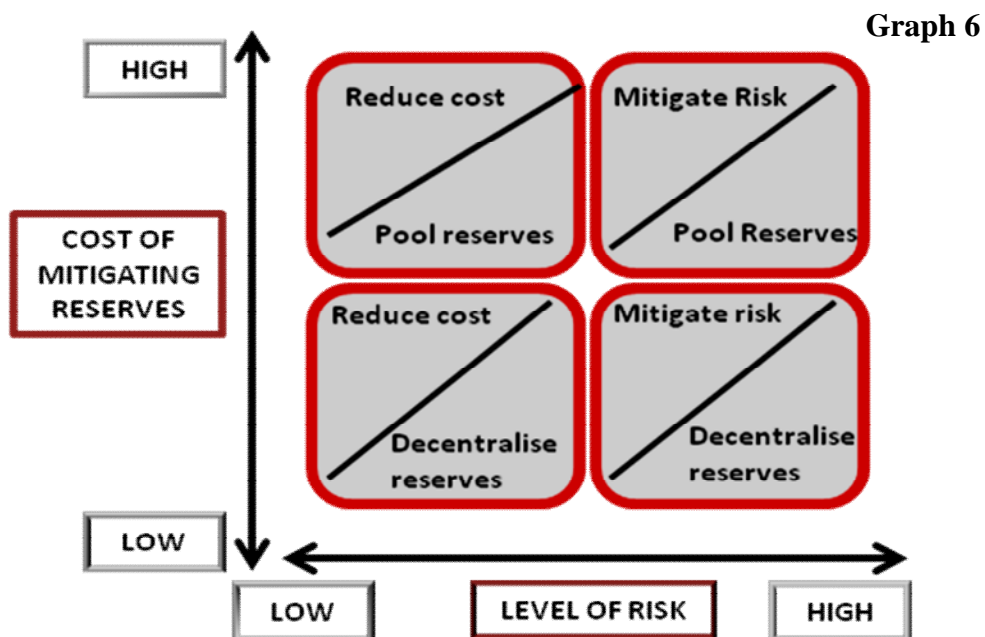
Source: Sunil Chopra, 2004

(3) Pooling grows with the level of risk covered i.e. pooling inventory produces significant benefits only for products with high forecast or inventory risk. (Graph 5)



Source: Sunil Chopra, 2004

Thus, in Graph 6, in risk reduction, the three key risk/reward relationships in supply chain are four general strategic approaches, based on relative level of risk and the cost of mitigating it.



Source: Sunil Chopra, 2004

2.2 Enterprise Risk Management

Definition

Organisations make continuous decisions on the effective use of resources to yield optimal business results. Due to the dynamism of risk management, measuring its risk is undeniably an uphill challenge. The focus today is on operational risk and integrating risk. This led to the birth of new-fangled Enterprise Risk Management (ERM), thus providing a holistic view of risk. ERM deals with risks and opportunities affecting value creation or preservation. The Institute of Chartered Accountants in England and Wales 2007, lucidly defined ERM as:

“Enterprise Risk Management is a process, effected by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide strong assurance regarding the achievement of entity objectives.”

Table 4 and diagram 8 below illustrate the process and description of ERM. It is the process of systematically and comprehensively identifying critical risks, quantifying their impacts, and implementing integrated risk management strategies to maximise enterprise value.

Table 4- Enterprise Risk Management

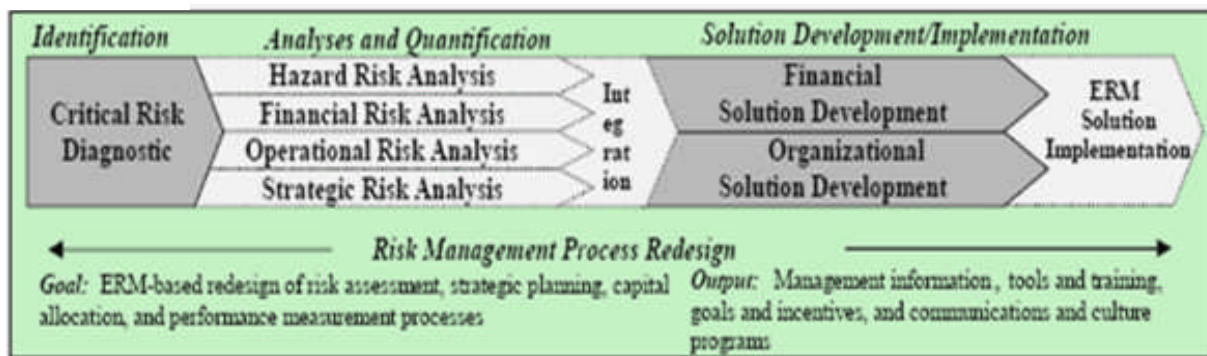
Process	Description
<i>Systematic</i>	The approach is a regular process, not a one-off analysis.
<i>Comprehensive</i>	Risks are considered on an enterprise-wide basis and include strategic, financial, and operational and hazard risks.
<i>Critical</i>	Not all risks are material - it depends on their potential impact on the value of the enterprise
<i>Risks</i>	Uncertainties where actual outcomes may differ from expected outcomes.
<i>Quantifying their impacts</i>	Individual risks and their impacts are evaluated on a portfolio basis to understand and appreciate correlations
<i>Maximise Enterprise Value</i>	Optimise the balance between risk and return

(Financial Services Act, Consultation Papers and Policy Statements)

ERM considers the correlations between risks throughout the organisation and the risk strategies adopted are necessarily correlated. As illustrated in Diagram8 and Table 5, pp 23, the process could be used to an Enterprise Risk Management approach to an organisation:

Refer Appendix 3 for details, page 64

Diagram 8



Source: The Actuarial Inn Society

ERM process is the high-level critical risk identification, where the process is devoted to identifying and prioritising the critical risks that affect enterprise value. The process include analysis and documentation of the current risk management practices, interviews with senior management to generate high level risk maps and development of an understanding of the organisation's risk and reward requirements. (The Actuarial Inn Society)

The critical underlying premise of Enterprise Risk Management is that every entity exists to provide value for its stakeholders. All entities face uncertainty and the challenge for management is to determine how much uncertainty to accept as it strives to grow stakeholder value. Uncertainty presents both risk and opportunity, with the potential to erode or enhance value. Table 5 below cogently depicts ERM Framework, its lucid goals and objectives.

Table 5-ERM Framework

Goal	<ul style="list-style-type: none"> High-level Critical risk assessment 	<ul style="list-style-type: none"> In-depth measurement and modelling of critical risk 	<ul style="list-style-type: none"> Perspective on integrated effects of risks 	<ul style="list-style-type: none"> In-depth design and implementation of solutions to mitigate/finance risks
Output	<ul style="list-style-type: none"> Overview of risk management philosophy and practices Enterprise-wide risk maps Risk prioritization 	<ul style="list-style-type: none"> Detailed analysis and quantification of critical risks Analysis of risk using a common risk template Analysis of independent volatility Impact of risk on strategic objectives including finance and cash flows 	<ul style="list-style-type: none"> Qualitative and quantitative analysis of correlations Integrated model portfolio volatility Marginal risk contribution analysis 	<ul style="list-style-type: none"> Design and placement of financial solutions-structured finance/funding derivatives, risk transfer products risk aggregation indexes, risk banks Design and implementation of organisational solutions- changes in organisation structure, process, systems, culture and business designs to address risks.

. Source: The Actuarial Inn Society, 2008

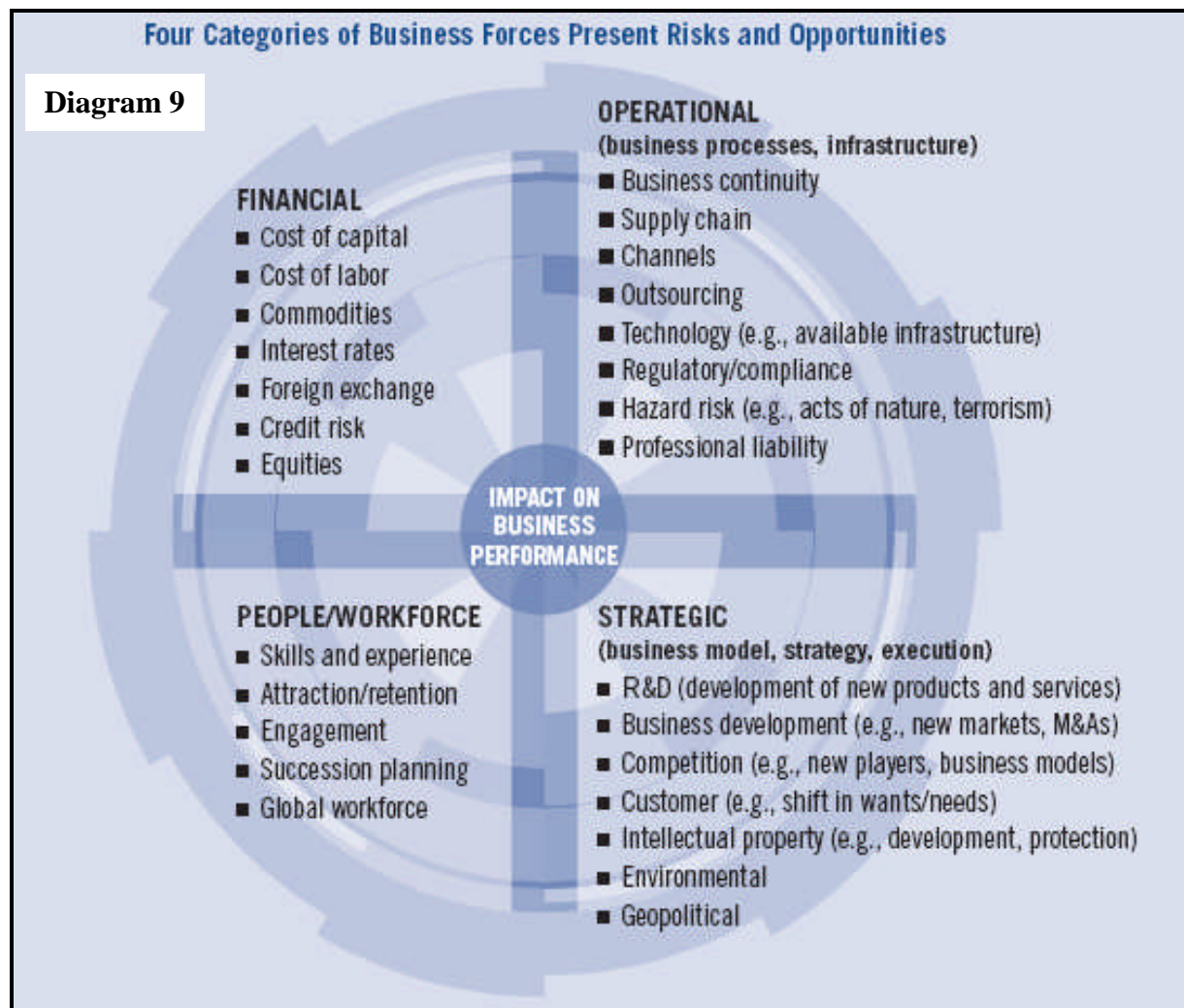
According to the Actuarial Inn Society, ERM enables management to effectively deal with uncertainty and associated risk and opportunity, enhancing the capacity to build value. Value is maximized when management sets strategy and objectives to strike an optimal balance between growth and return goals and related risks, and efficiently and effectively deploys resources in pursuit of the entity's objectives. (Actuarial Inn Society)

ERM encompasses (1) *Aligning risk appetite and strategy* – by setting related objectives, and developing mechanisms to manage related risks. (2) *Enhancing risk response decisions* – provides the rigor to identify and select among alternative risk responses – risk avoidance, reduction, sharing, and acceptance. (3) *Reducing operational surprises and losses* – Entities gain enhanced capability to identify potential events and establish responses, reducing surprises and associated costs or losses. (4) *Identifying and managing multiple and cross-enterprise risks* – enterprise risk management facilitates effective response to the interrelated impacts, and integrated responses to multiple risks (5) *Seizing opportunities*—by considering the range of potential events, management is positioned to identify and proactively realize opportunities. (Actuarial Inn Society)

ERM also seeks to *Improving deployment of capital* – Obtaining robust risk information allows management to effectively assess overall capital needs and enhance capital allocation. These capabilities inherent in enterprise risk management help management achieve the entity's performance and profitability targets and prevent loss of resources.

Enterprise Risk Management assists in ensuring effective reporting and compliance with laws and regulations, and seeks to avoid damage to the entity's reputation and associated consequences. In a nutshell, Enterprise Risk Management drives an entity get to where it wants to go and avoid pitfalls and surprises along the way (Actuarial Inn Society).

2.2.1 Risk Maturity Model



Source: Tower Perrins 2007

In Diagram 9 above, Tower Perrin Risk/Opportunities Study in 2007 on business risk and opportunities encompassing business forces from strategic to financial to operation; found that Executives increasingly see risk as something that can be managed to add value and not merely a threat to operations and physical assets. Executives believe that workforce skills and experience present opportunities for companies and leaders must pay attention to these opportunities at all times. In short, effective management of opportunities and risk demands, a dynamic, long-term and tailored approach and seeks the “right balance”

2.3 Corporate Governance

Following Cadbury Report (and AIRMIC), Board of Directors are now required to have a formal schedule of matters specifically related risk management policies. Further AIRMIC's guide requires directors to maintain a system of internal control, with procedures designed to minimise the risk of fraud and that Board of director's responsibilities extend to the full spectrum of legal requirements and regulations of the organisation, encompassing health and safety and environmental regulations, consumer protection laws and a wide variety of industry-specific requirements (Cadbury Report and AIRMIC).

2.3.1 Hampel and the Broadening of 'Control'

The Hampel's Committee on Corporate Governance (1998) widened the concept of internal control to address 'business risk assessment and response, financial management, compliance with laws and regulations and the safeguarding of assets, including the minimising of fraud'. Further, Hampel argued that in risk management, directors should have responsibility for all aspects of internal control and a duty to establish a robust system of risk management, designed to identify and evaluate potential risks in every aspect of the business operation.

Alongside, the Turnbull Report takes effect a more rigorous corporate risk management system as indicative of effective internal control. The Institute of Chartered Accountancy in England and Wales, 1999, p.4, para10 also recommended a sound system of internal control, which contributes to safeguarding the shareholders' investment and company's assets'.

2.3.2 Role of Board of Directors

The Board of Directors provides important oversight to enterprise risk management, and is aware of and concurs with the entity's risk appetite. The Board has responsibility for determining the strategic direction of the organisation and for creating the environment and the structures for risk management to operate effectively. This may be through an executive group, a non-executive committee, an audit committee or such other function that suits the organisation's way of operating and is capable of acting as a 'sponsor' for risk management.

Today, Directors must evaluate internal control system, the nature and extent of downside risks acceptable for the company to bear within its particular business. Further, the Directors must evaluate (1) the likelihood of such risks becoming a reality (2) how unacceptable risks must be managed (3) the company's ability to minimise the probability and impact on the business (4) the costs and benefits of the risk and control activity undertaken (5) the effectiveness of the risk management process (6) the risk implications of Directors decisions.

2.3.3 Stakeholder Analysis

A stakeholder is a person who has something to gain or lose through the outcomes of a planning process or project and can have a powerful bearing on the outcomes of political processes. It is often beneficial for research projects to identify and analyse the needs and concerns of different stakeholders, particularly when these projects aim to influence policy.

As depicted in Table 6 below, in bridging research and policy, stakeholder analysis can be used to identify all parties engaged in conducting the research, those who make or implement policy, and the intermediaries between them. It is a fortuitous mechanism to define ways to engage stakeholders so that the impact of research on policy can be maximised.

Table 6- Stakeholder Analysis

Private Sector	Public Sector Stakeholders	Civil Society Stakeholders
<ul style="list-style-type: none"> • <i>Corporations and business</i> • <i>Business association</i> • <i>Professional bodies</i> • <i>Individual business leader</i> • <i>Financial institutions</i> 	<ul style="list-style-type: none"> • <i>Ministers and advisors (executive)</i> • <i>Civil servants and departments (bureaucracy)</i> • <i>Elected representatives (legislature)</i> • <i>Courts (judiciary)</i> • <i>Political parties</i> • <i>Local government/councils</i> • <i>Military</i> • <i>Quangos and commissions</i> • <i>International bodies (World Bank, UN)</i> 	<ul style="list-style-type: none"> • <i>Media</i> • <i>Churches/religions</i> • <i>Schools and Universities</i> • <i>Social movements and advocacy groups</i> • <i>Trade unions</i> • <i>Nation NGOs</i> • <i>International NGOs</i>

2.3.4 Sarbanes Oxley Act Requirements

Sarbanes Oxley Act (a United States Federal law enacted on July 30, 2002) is risk management legislation in response to numerous major corporate and accounting scandals including Enron, Tyco International, Adelphia, Peregrine Systems and WorldCom. The legislation establishes new or augmented standards for all U.S. public company boards, management, and public accounting firms containing 11 titles, or sections, ranging from additional Corporate Board responsibilities to criminal penalties, and requires the Securities and Exchange Commission (SEC) to implement rulings requirements to comply with the Act.

2.3.5 Implication of Sarbanes Oxley Act on Risk Management

Section 404 of Sarbanes Oxley Act on assessments of internal control, requires management and the external auditor to report on the adequacy of the company's Internal Control over Financial Reporting (ICFR). This requires testing, documenting the legislation for companies.

The *vociferous implications* of Sarbanes Oxley Act to risk management are that both management and the external auditor are responsible for performing their assessment in the context of a top-down risk assessment, which requires management to base both the scope of its assessment and evidence gathered on risk.

Directors must be held responsible for assessing both the design and operating effectiveness of selected internal controls related to significant accounts and relevant assertions, in the context of material misstatement risks. Directors now must understand the flow of transactions, including Information Technology aspects, sufficient enough to identify points at which a misstatement could arise. Furthermore, Directors now take responsibility to evaluate company-level (entity-level) controls risk management. (Turnball and Cadbury Report, 2007)

Details are in Appendix 5, page 66

3.0 Boots.com

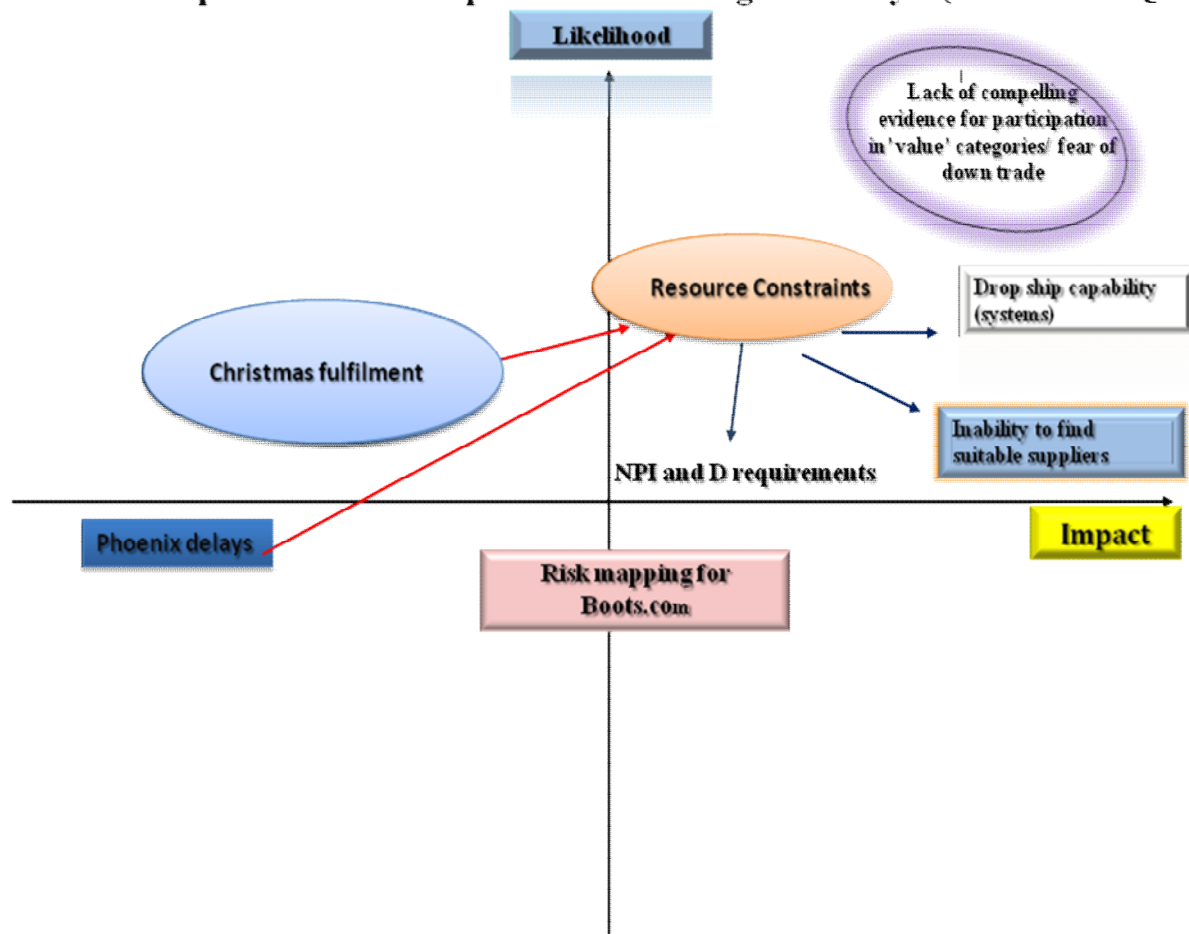
3.1 Risk Overview

Boots.com is a specialist in Health and Beauty and is well on board to becoming the world's best Pharmacy led Multi-Channel Health and Beauty e-retailer. Naturally, this can only be achieved by forming strategic alliances and partnership with multinationals or conglomerates deploying resources in globally linked transnational frontiers. However, with global business risk exposures, risk management becomes a systematic, comprehensive need for Boots.com.

Many companies like Boots.com have focused on value creation as a prime objective. However, without adequate procedures in place to manage both the upside and downside of risk, it would not be possible to create real sustainable value. For Boots.com, good risk management identifies and treats risk as well as adds maximum sustainable value to all the activities of the organisation. In addition, it can mitigate potential upside and downside risk which can affect the organisation. Further, it increases the probability of success, reduces the probability of failure/uncertainty of achieving Boots.com overall objectives (De Buno, 2007).

Graph 7

Risk Map - What Will Impact On New Range Delivery ? (Time /Cost/Quality)



Source: Boots.com, 2008

Inevitably, risk is inherent in many businesses, so for Boots.com, it is essential to harness skills in risk management in order to steer the organisation effectively. As depicted above in Graph 7 pp 29, risk mapping is fundamental to Boots.com and will impact on new range delivery. Resource constraints, Phoenix launch delays, “drop-ship” incapacities, the inability to source for suitable suppliers and the heavy traffic during Christmas are potent risk in itself.

Thus, risk is an integral part of management and it necessitates Boots.com to have a risk management plan. For Boots.com, all its businesses are built on elements of risk. Many aspect of its corporate strategy carry risk. Effective risk management will assist in measuring risk, assess the possible outcomes and develop management strategies to minimise risk and its effects where possible. For instance, there are risks in supply chain, systems failure, inventory stock out and even launch of new products. Thus, Boots.com must weigh up the risks involved in all decisions they make and address business risk management in its entirety. Striking a balance between taking too many risks or being over exposed and being too risk-averse can be an uphill challenge for Boots.com particularly in a dot.com environment.

For Boots.com, being a Click and Collect Health and Beauty specialist, risk management plays an exceeding crucial role in all territories. The Internet is a vehement platform in which it can leverage on its technology infrastructures, in order to gain expeditious distribution channel. However, a systems failure can easily cripple the online business. Being a net-based business, any disruptions in infrastructure could potentially hinder Boots.com’s ability to satisfy customers, propitiate sales and amplify market capitalization. (Boots.com, 2008)

3.2 Multi-Channel Retailing

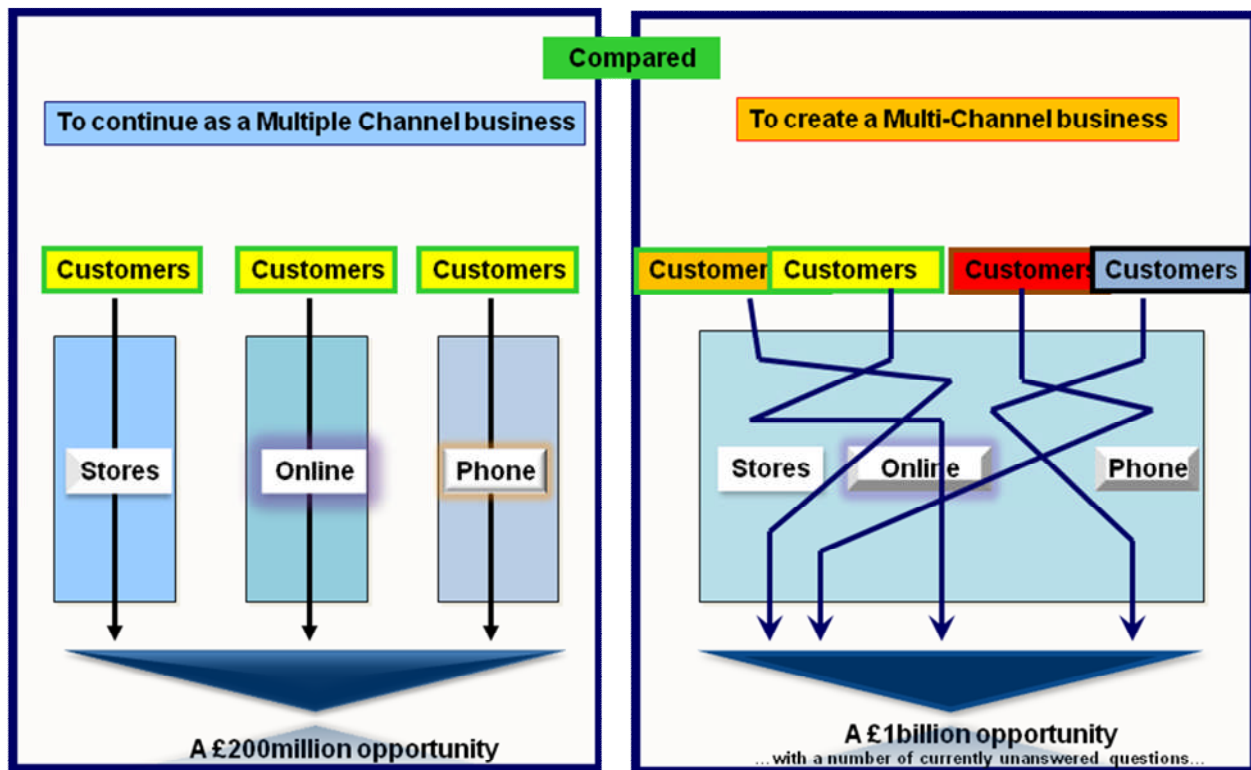
Oppurtunities Today

Historically, Boots.com has delivered many customer led initiatives designed to build a base for the future, including (1) Extending range (e.g. Beauty Beautique) (2) Adding Expertise & Advice (e.g. BMJ) (3) Improving website experience (e.g. new look & feel) (4) Building infrastructure (100% warehouse, new IT architecture, out-sourcing fraud), (5) Building a strong team, supported by industry experts (increased +10 FTE’s) - (Boots.com, 2008)

The launch of the Phoenix new website is a catalyst and a platform to move towards a multi channel business model. The markets in which Boots.com operate will fundamentally change over the next 10 years and therefore Boots.com must create a multi-channel business model in order to thrive and meet the key challenges, as well as exploit opportunities. By establishing a sound platform in 2008, Boots.com’s approach to multi-channel pharmacy will be “market making” to create the “*i-tunes of health– integrated, multi channel, and pharmacy led health.*

The Multi Channel Opportunity for Boots.com

Diagram 10



(Source: Boots.com, 2008)

Diagram 10 above illustrates that, Boots.com is moving speedily towards becoming a Multi-Channel like virtually all major retailers are now, with access to their customers through their stores, catalogues and websites. A multi channel retailing for Boots.com will create vast business opportunities in stores, online and catalogues and a multiplicity of other businesses. Further, by forming strategic partnerships with other pure internet players like Amazon.com, Boots.com can accentuate its provision of customer service and operational efficiencies.

There are a number of pervading factors that are increasingly driving retailers to adopt a multi channel business model including: customer expectations of seamless purchase and delivery options and increasing cross channel shopping behaviour. Most importantly, the multi channel customer is significantly more valuable to a retailer than a single channel consumer.

Challenges Today

The low cost structure for e-retailer owing to its existence in the cyberspace, offers tremendous merchandise and services through an electronic channel to their customers with a fraction of the overhead required in a brick-and mortar store (Yesil, 1997). Due to the intensity of competition and the ease of entry, can Boots.com survive in its current stage?

Although, e-retailing has competitive advantage in lower overheads, no intermediaries, provides convenience and the ability to price compare, internet shopping does not ensure consumers with physical access to product before purchase. Low entry barriers enable competitors to easily imitate ideas at virtually no cost. With no sales personnel, no face-to-face or in-store interactions and poorer logistical operations unsatisfactory customer returns services poses inherent risk to Boots.com and could potential inveigh the business.

Internally, Boots.com has a very long way to go in terms of practicalities and common understanding in order to create a multi-channel business model. Despite, the fact that Boots.com operated a “multiple” channel business for a long time now, it faces many challenges to overcome including the lack of integrated systems for articles (SAP), Inventory management (Epsom) and customer data (Bliss and Shared Centre) (Boots.com, 2008)

Further, Boots.com may run the risk of implementing the project if budget constraints and isolated thinking hampers progress. Without wholehearted-Executive support, and the explicit backed up by actions and decision making in the context of a multi channel model (e.g. shared centre and centralised Advantage card details and points), the project may fail.

Despite this, there are several key avenues to overcome these challenges including: (1) prioritising integrated multi channel data management projects (2) organising to ensure multi channel becomes the way we approach business (3) creating resource by illustrating the Return on Investment – to enable Boots.com to go faster e.g. Republic of Ireland roll out, increased e-marketing spend. The most important factor being in risk management for Boots.com is its continuous implementation as a procedure and a binding company policy.

3.3 Enterprise Risk at Boots.com

3.3.1 Risk Factors

a) Decline in averaging selling prices

The most visible challenge for e-retailing today is whether it can maintain double digit sales growth? Will online sites be consistently profitable in a period of price deflation and higher marketing costs? Will sales growth stall if state taxes are imposed on web sales? A risk taking entrepreneur like Boots.com will have to assess the repercussions of these risks.

Boots brand is a highly differentiated owing to its uniqueness, quality, perception and trust as a Health and Beauty specialist such as No.7 skin care, Soltan, etc. The element of differentiation is a valiant standpoint to command premium pricing. However, other e-retailers that promulgate their sales based upon cost leadership (being the lowest cost producer in the industry) may bring about a decline in average selling prices ("ASPs") in Health and Beauty products. Thus, Boots.com may run the risk of eroding market share which in turn adversely affects its market position.

b) Shift to Smart Pricing

Other players such as Asda, Sainsbury, Tesco, and Superdrug now operate a click and mortar system in the grocer and Health and Beauty market and have shifted significantly towards smarter priced systems. Grocers have widened Health and Beauty product ranges to cater for teenagers, working and domestic mother, professionals and the elderly. If Boots.com cannot offer a competitively priced Health and Beauty products against the low-cost competitor retail market, they risk eroding market share which will harm their operating results.

The intensity of competition can drive competitors to lower prices as a result of their ability to restructure their cost base or to absorb excess capacity, liquidate excess inventories, restructure or attempt to gain market share and this may pose serious threat to Boots.com.

c) Market Risk

Owing to keen competition and price cutting by grocers such as Asda, Sainsbury's, Tesco, Boots.com may run the risk of declining prices and margins due to shifting demand for Health and Beauty products. To survive in an intensely competitive e-retailing environment, a low cost structure is critical to Boots.com's operating results and any increases in costs may adversely affect its operating margin. Shortages of production materials for example oil palm or organic materials used in Health and Beauty may result in stock out risks for Boots.com.

d) Innovation risks

Currently, e-retailing are in growth stage and changes in product life cycles could adversely affect the financial results of Boots.com, particularly in Health and Beauty. Challenges in technology can have a deep-seated bearing on Boots.com. If Boots.com fails to make the continuous and expeditious technical innovations necessary to survive in the Health and Beauty industry, it may fail to remain competitive.

A fundamental change in innovation and technology can result in significant increases in the operating expenses of Boots.com and could put it at a competitive disadvantage. The risk of introducing new product development with higher levels of features, usability and the challenges of reducing production costs may impact its ability to achieve cost reduction.

e) Integrating Multi Channel Risk

If Boots.com fails to successfully continue to integrate its multi channel business into its operations in the expected time frame, if at all, it may adversely affect its future results. Failure to integrate channel and internet technology in Boots.com hinders opportunities to leverage integration, quickly and effectively. In addition, there can be certain additional capital expenditure costs and asset utilization risks to the business associated with Boots.com strategy to vertically integrate its operations.

f) Product Development Risk

The operating results of Boots.com will be adversely affected if Boots.com fails to maintain quality new products launch. Boots.com may run the risk if they produce insufficient quantities of products at the capacities for customers demand whilst not sustaining customer experience. If Boots.com fails to optimize the overall quality, time-to-market and time-to-volume of new and established products, this will adversely affect its operating results.

For Boots.com, to develop and qualify new Health and Beauty products that have changes in overall features may affect business needs. Another aspect of risk faced by Boots.com is to obtain acceptance of new products design on a timely basis. Meeting all customers' needs for performance, quality and features is also an uphill challenge for Boots.com.

Boots.com needs to maintain the response to changes in customers' product demands and failure by certain suppliers to effectively and efficiently supply Health and Beauty products may adversely affect its operations. In product development, Boots.com may suffer quality problems or other defects in the early stages of new product introduction and this may disrupt the continuity of the extension or product development.

g) Competition risk

The Health and Beauty industry is highly competitive and are characterized by significant shifts in market share among the major competitors. Competitors in Health and Beauty like Superdrug, Debenhams, Marks and Spencer have diversified business units outside the Health and Beauty industry periodically selling products at prices that Boots.com cannot match.

Expansion into new Health and Beauty industry markets may result in higher capital expenditures if Boots.com is not successful. If Boots.com fails to manage their new product development or product expansion, or fail to anticipate issues inherent to product development or market expansion risk, the business may suffer.

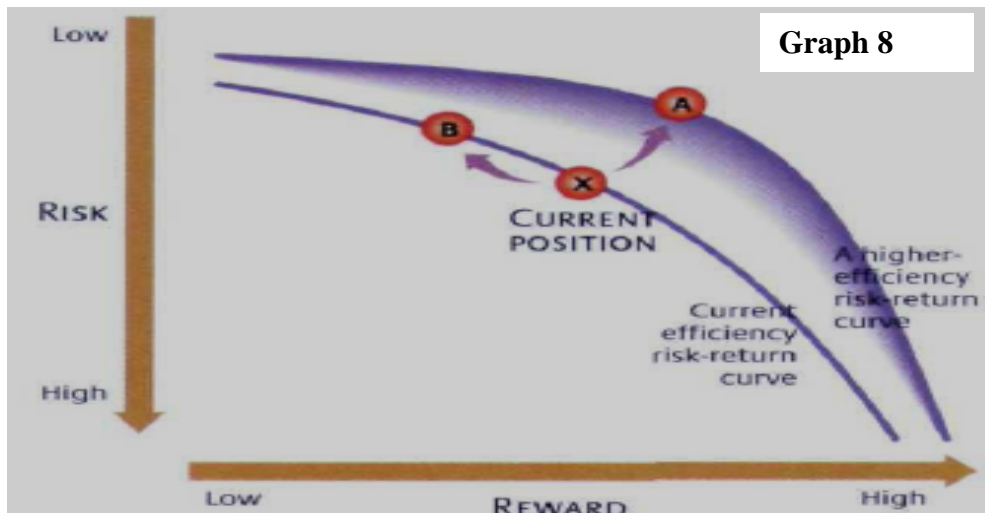
For example, Boots.com product line or brand extension may not gain market acceptance. Thus, Boots.com needs to identify how the Health and Beauty market into which they are expanding may have different characteristics from the markets in which they currently exist and properly address these differences. These characteristics may include (1) Demand volume growth rates; (2) demand seasonality; (3) Product generation development rates; (4) customer concentrations; (5) warranty expectations and product return policies; and (6) cost, performance and compatibility requirements

Thus, Health and Beauty branded products such as No7 Skin care, Soltan, etc for segments of society such as Teen, Bob, Tina are designed to attach a wide variety of tastes and preferences and hence their functionality is reliant on the dynamics of fashion and needs. Thus, Boots.com needs to quickly and efficiently adapt the market dynamics to address these compatibility issues, in order to ensure success.

3.4 Supply Chain Management Risk

Inevitably, supply chain may affect the operational effectiveness of Boots.com. In the face of supply chain risk, it may pose an uphill challenge of mitigating risks without eroding profits.

3.4.1 The Supply-Chain Risk Reward Trade Offs



Source: Sunil Chopra, 2008

In Graph 8, along the efficiency frontier, achieving the highest possible profits for varying levels of risks and doing so efficiently. For Boots.com, this entails either (A) moving to a higher level of efficiency by reducing risk while remaining at the current level of efficiency by accepting reduced risk and reduced rewards.

Table 7A below illustrates the profligate drivers of risk. Managing risk for Boots.com is not only an imperative but by understanding the variety and interconnectedness of supply chain risks, managers can tailor balanced, effective risk reduction strategies for Boots.com.

Table 7A-Drivers of Risk

Risk category	Drivers of Risk
<i>Disruptions</i>	<ul style="list-style-type: none"> ❖ i-Force computer systems failure ❖ Supplier bankruptcy ❖ Dependency on a single source of supply as well as the capacity and responsiveness of alternative suppliers
<i>Delays</i>	<ul style="list-style-type: none"> ❖ High capacity utilization at supply source ❖ Inflexibility of supply source ❖ Poor quality or yield at supply source ❖ Excessive handling due to border crossings/change in transportation modes
<i>Systems</i>	<ul style="list-style-type: none"> ❖ Information infrastructure breakdown, only 1.5M for i-Force ❖ System integration or extensive system networking ❖ E-commerce fraud
<i>Forecast</i>	<ul style="list-style-type: none"> ❖ Inaccurate forecast due to long lead-times, seasonality, product variety, short life cycle and small customer base

Source: (Boots.com, 2008)

As an e-retailer, Boots.com may suffer internet disruptions risk in computer system arising from information infrastructure breakdown. With a click and collect distribution system, it relies heavily on supply from i-force in Birmingham. Thus any disruptions in key supplier or a key part of the production cycle shutting down is risky to Boots.com. The implications are that internally shelf capacity at *i-force* is underutilised and in high seasonal demand during Christmas, unexpected demand may exceed supply for Health and beauty products.

The inevitable delays arising from distribution (smart W system) and general pick up order of key supply may result from the high capacity utilisation at supply source, inflexibility of supply source, poor quality or excessive handling. (Boots.com)

If Boots.com fails to maintain effective relationships with major component suppliers, its supply of critical components may be at risk and our profitability could suffer. Boots.com may face risk that the process of deliveries to stores is disrupted and inefficient. Boots.com may risk poor KPI for i-force such as mis-pick, damages, number of order drops, and delays.

Table 7B-Drivers of Risk

Risk category	Drivers of Risk
<i>Intellectual property</i>	<ul style="list-style-type: none"> ❖ Vertical integration of supply chain ❖ Global outsourcing and markets
<i>Procurement</i>	<ul style="list-style-type: none"> ❖ Exchange rate risk ❖ Percentage of a key component or raw material procured from a single source ❖ Industry wide capacity utilization ❖ Long-term versus short-term contracts
<i>Receivables</i>	<ul style="list-style-type: none"> ❖ Number of customers ❖ Financial strength of customers
<i>Inventory</i>	<ul style="list-style-type: none"> ❖ Rate of product obsolescence ❖ Inventory holding costs ❖ Product value ❖ Demand and supply uncertainty
<i>Capacity</i>	<ul style="list-style-type: none"> ❖ Costs of capacity ❖ Capacity flexibility

Source: (Sunil Chopra, 2008)

Inaccurate forecast due to long lead-times, seasonality, product variety, short life cycle and small customer base may also disrupt the operation of Boots.com. Forecast risk in demand may arise from a mismatch between Boots.com’s projections and actual demand, resulting in either the inability to sell or excess inventories, and price markdowns. Inaccurate projections of demand for our product can cause large fluctuations in operating results. Refer Appendix 4 for details, page 65.

Boots.com may run the risk of the treats of substitutes for example organically merchandised products or low cost products may lower the prices our customers are willing to pay for new products. As shown in Table 7B, other risks include intellectual property risk, exchange rate risk, and poor inventory management levels, product demand volatility and capacity risk.

Having established the potential risk which Boots.com may face, assessing the Impact of Various Mitigation Strategies is a means to protecting the organisations supply chain.

Table 8 –Risk Mitigation Strategy

Mitigation Strategy	Disruptions	Delays	Forecast risk	Capacity risk	Inventory risk	Receivables risk
Add capacity		↓		↑	↑	
Add inventory		↓		↓	↓	
Have redundant suppliers	↓				↓	
Increase responsiveness		↓	↓			
Increased Flexibility	↓		↓		↓	
Aggregate or pool demand			↓	↓	↓	
Increase capability	↓				↓	
Have more Customer account						↓

Source: (Boots.com, 2008)

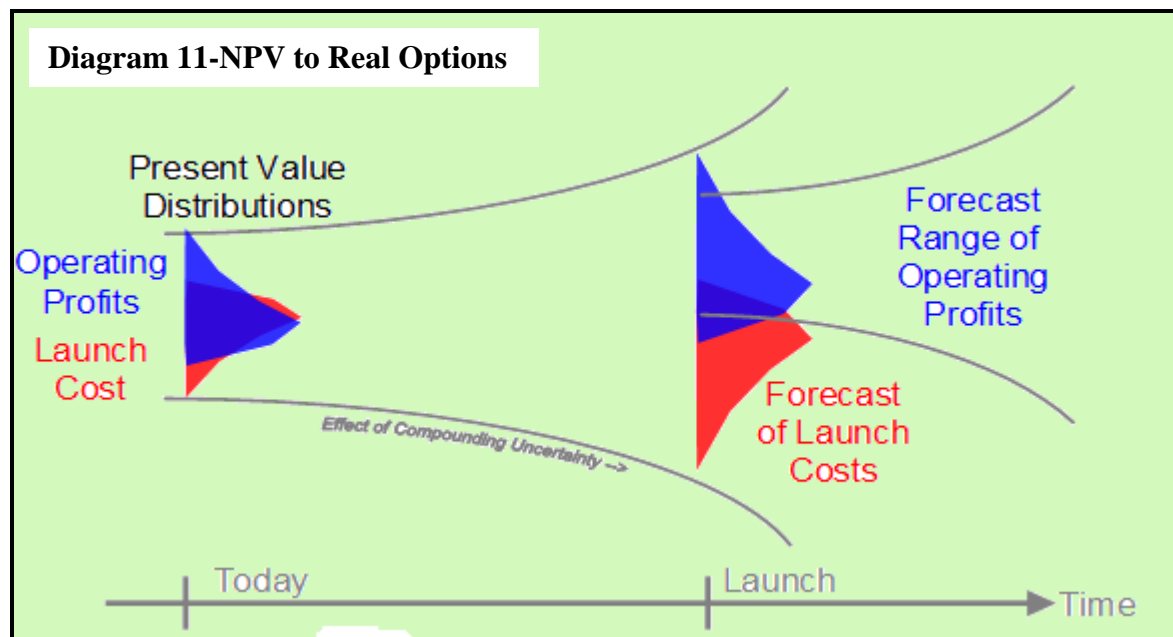
Table 8 depicted above attest the gravity of risk inherent in the business of Boots.com ranging from a disruptions, delays, forecast risk, capacity risk, inventory risk and receivables risk. However, placing an apt mitigation strategy can significantly reduce risk exposure. For example Boots.com pays *i-force* in Birmingham a certain charge per order. This creates efficacy and more visibility.

Moving from batch pick to individual order pick improves efficiency. After order is picked, it is sorted by parcel size and weight and delivered by different carriers. By integrating a tracking system, deliveries to stores can be tracked. Automatic replenishment system would extend the inventory by providing more visibility in the supply chain and this ensures smooth process.

3.5 Risks in Product Line Extension

3.5.1 Net Present Value Adjusted for Risk

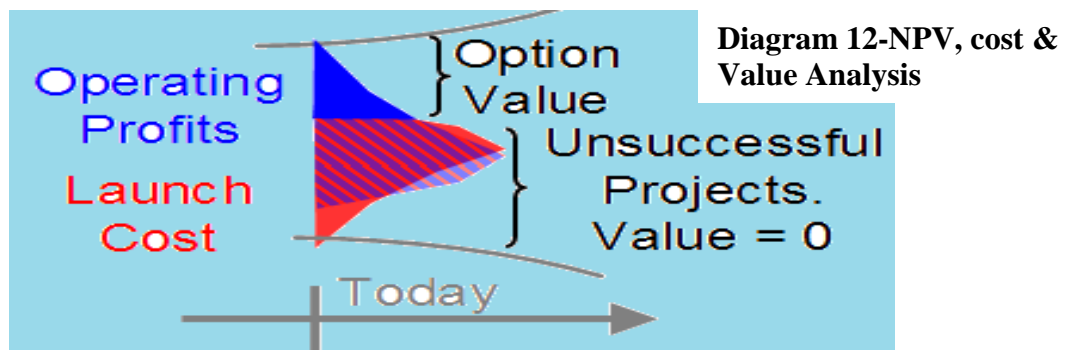
As illustrated in Chapter 10 in the main group report, Net Present Value is the most commonly used decision-making tools in product development but does not properly account for uncertainty and proper flexibility (multi-stage development funding and abandonment options). However, Decision Trees or Real Options more accurately capture the multi-stage nature of development (using probability-based expected monetary value but this also can be time-consuming and complex to construct).



Source: Boots.com, 2008,

As depicted in Diagram 11, Real Options techniques apply financial options theory to non-financial assets and encourage managers to consider the value of strategic investments in terms of risk hedged, held or transferred and time horizon. For Boots.com, accepting unpredictable performance based on Net Present Value analysis without assigning probabilities runs the risk of business failure. Therefore, what is needed is a robust product development process that can make the inherent risk understandable and controllable.

Net Present Value enhances the stage gate decision process (product development processes in which ideas are evaluated incrementally at successful stage of substitution) by explicitly addressing critical risk factors in traditional Return on Investment models.



Source: Boots.com, 2008

As depicted above, if projects are expected to become zero or negative, risk can be minimised by keeping investments small. Thus, the Net Present Value framework will incorporate risk-adjustments in order to bridge the “judgement gap” in which decision making can determine whether the results of a formal model can be expected to produce real world success.

3.5.2 Risk-Benefit Analysis

Table 9 below analyses the risks and benefits of product extensions and its implications. Quintessentially, efficiency benefits will drive product extension to lower cost by building up awareness. Lower cost will result in communication efficiencies due to brand enhancement.

Table 9 – Risk/Benefit of Extension

Risk/benefit analysis of extensions	
Factors affected by benefit/risk	Benefits/risks
Efficiency benefits	<ul style="list-style-type: none"> Lower cost to build-up awareness Lower cost to achieve target trial levels Communication efficiencies as profile of whole brand lifted
Effectiveness benefits	<ul style="list-style-type: none"> Higher acceptance of extension from established brand associations e.g. quality Brand positioning can be strengthened Creation of “mega-brand” (increased bargaining power with retailers) Effective defence against rivals
Risks to the extension	<ul style="list-style-type: none"> Lack of funds allocated to launch (benefits overestimated) Over-estimation of benefits Poor “fit” with existing brand
Risks to the brand	<ul style="list-style-type: none"> Brand dilution Cannibalization of existing lines Intertwined reputations of various lines Logistics/manufacturing inefficiencies

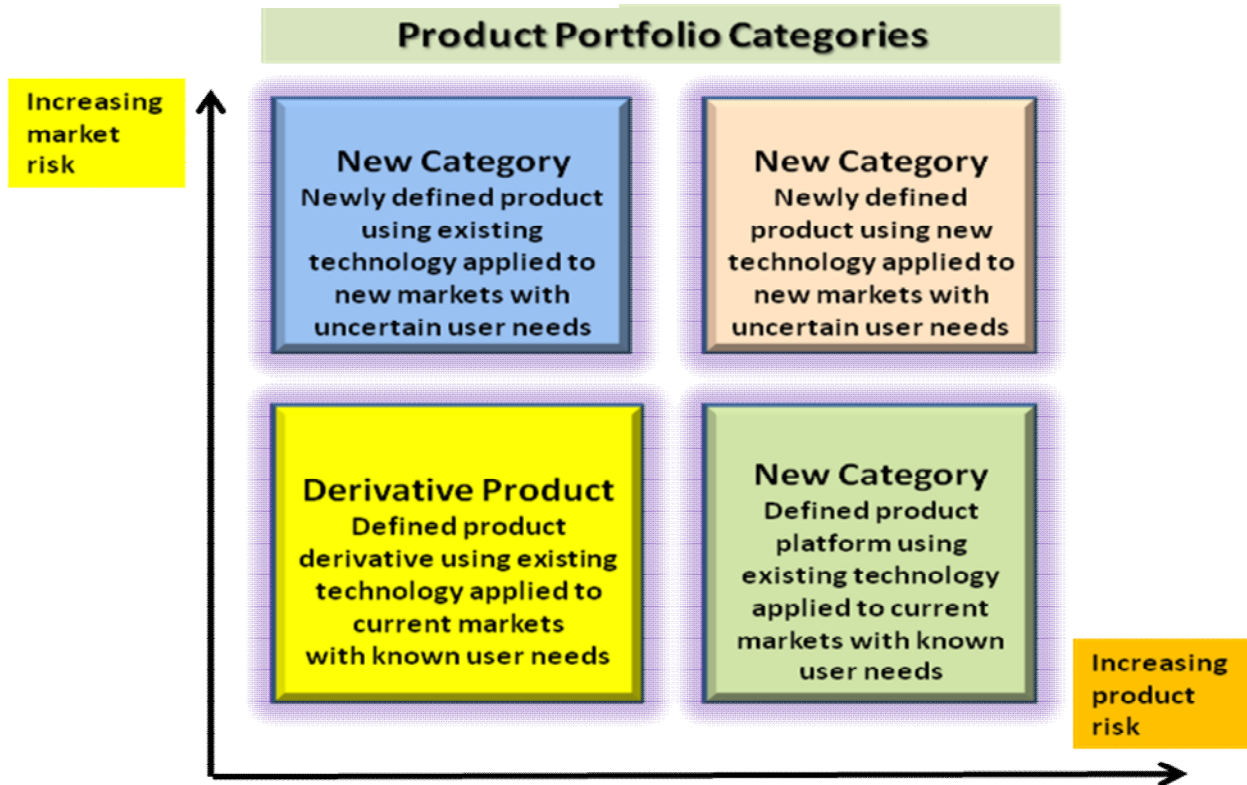
Source: MIT Sloan Management Review

The effectiveness benefits are predominantly higher acceptance from established brand associations for example quality. Risk to product extension and brand extension lack of funding, poor “fit” with existing brand or even brand dilution could potentially harm operating results of Boots.com. With multi-channel retailing cannibalisation of sales revenue may permeate within business lines.

3.5.3 Product Development Portfolios

Product Development Portfolio consist as a function of market and product risk and expected return, which can be used to better assess the risk that determine the chances for success in each category (see Diagram 13 below)

Diagram 13-Product Portfolio Categories



(MIT Sloan Management Review, 2002)

a) New Categories

These are new products to the new company and include new product lines like organic baby food, bio-degradable nappies, gardening products and pet foods that target the young female (Tina) and perfumes and toiletries for young male (Bob) and Charlotte. Mobility Scooter will be more suitable for the elderly (Betty). These products include repositioning of products.

b) New Platform

Often additions to new product lines- platform create the basis for future derivative products when new technology improved market knowledge and manufacturing know-how becomes available. For example the new Fangled premium Xbox 360 Entertainment Bundle, Nourkrin extra strength or even Botanic Golden Glow body lotion.

c) New Products

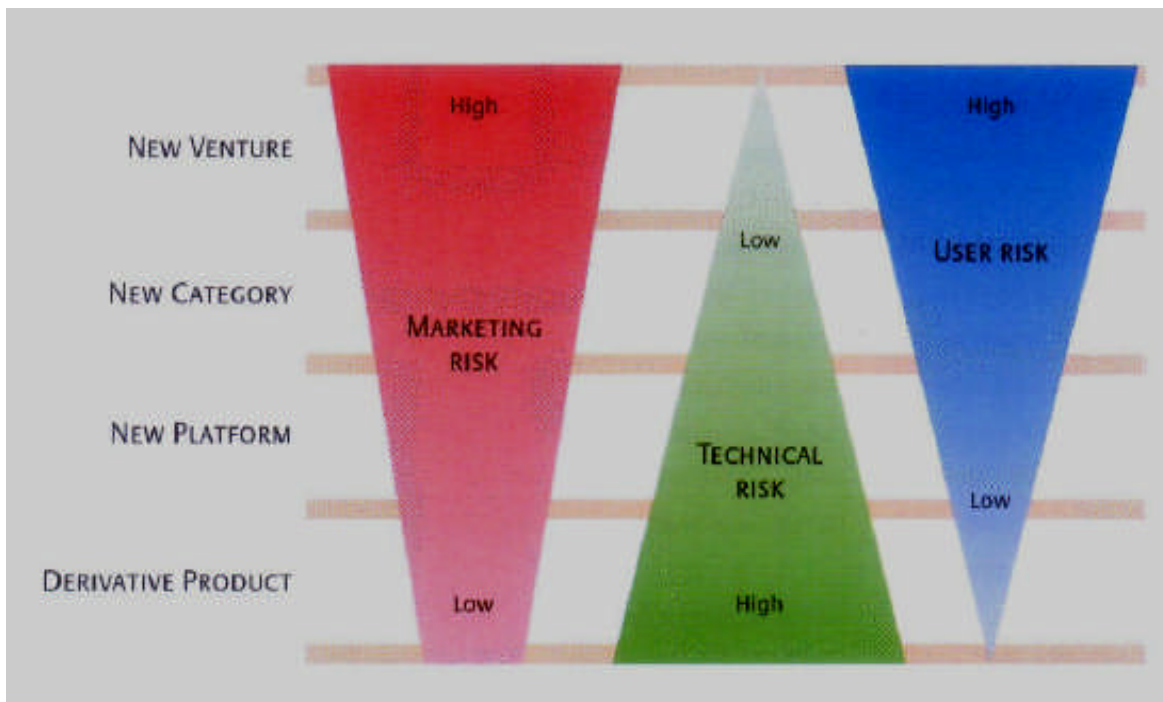
Are derivative improvements and revisions to existing products, including cost reductions- For example, the many evolutions of Neurofens headache Tablets. Organic baby food, organic clothing, Canon MVX460 Megapixel Camcorder, etc are examples.

3.5.4 Risk Assessment in Product Portfolios

The most powerful framework to indicate salient risks are market risk, technical risk or user risk and these are especially fitting into the four product portfolio categories “ risk weighting by portfolio categories. Marketing risk factors such as Boots.com’s current position in the target market and the factors required to successfully bring a new product to market.

Technical Risk Factors are related to Boots.com’s understanding of the technology and its ability to assemble an effective development team. User risk factors are usually related to the consumer’s and the company understanding of needs. However, these risks are most likely to impact future commercial success. For example, there are significant technical risks in new ventures and the lack of marketing can cause a product to fail.

Diagram 14-Product Portfolio Risk Categories



Source: MIT Sloan Management Review, 2002

By contrast, a commercial success for derivative products is primarily driven by technical development. Diagram 14 indicates the most salient risks-market risk, technical risk or user risk in each of the four product portfolio categories. User needs and market strategy are well understood and the greatest influence on success becomes the ability to achieve cost reduction or feature enhancements on time and within budget.

4.0 Methods and Methodology

4.1 Questionnaire

Having discussed online customer experience and satisfaction as a product expansion growth strategy, the decision to launch brand or line extension rest upon sound risk and benefit analysis. Factors affected by benefits or risks include efficiency benefits, effectiveness benefits, risks to the extension and risk to brand. Tauber (1981) and Mc William (1993) argued that extending an existing brand is more cost efficient and lowers risk of launching new products. Arguably research found that because an extension has a well established brand positioning to draw on, its chance of success is increased (Aaker & Keller, 1990)

The purpose of this study is to address the risk management issues surrounding the question of “How can Multi-retail Channelling further expands their product range whilst sustaining customer experience and satisfaction? The *Risk Management* Framework was primarily intended to explore the possibilities of online product expansion for Boots.com and that financially profit forecast had to meet pre-defined criteria, paybacks or NPV. These financial criteria were generally the last “hurdle” for extension before approval to launch.

P1: Successful extensions are implicitly decided on the basis of brand equity.

P2: Successful extensions are explicitly decided against financial return?

P3: Risk management considerations are a strong collorary in the decision process.

4.1.1 Hypothesis

In further consideration of the above, four (4) hypotheses required explanation in the study.

- a. Risk analysis and risk management framework are a power tool to assess risk and its implication for a successful implementation of online product expansion and brand extension for Boots.com.
- b. In supply chain and inventory management, managing risk to avoid breakdown is a fundamental platform for understanding the variety and interconnectedness of supply chain risk and effective risk reduction strategies for Boots.com.
- c. Risk and benefit analysis plays a critical role in brand development and new product development.
- d. Balanced Scorecard and Real Option are powerful alternatives to effecting successful implementation of product line and brand extension for Boots.com.

5.0 Strategic Risk Analysis

5.1 Net Present Value Risk Weighted

As depict in Chapter 3, assessing technology and product risk is a central tenet for researchers and practitioners alike. However, a risk weighting framework is needed specifically to product-development risks, that offers quantitative tools designed to increase Return on Investment in product extension by increasing the probability of commercial success.

Boots.com must not evaluate new-product development investments using accounting-based metrics that rarely reveal inherent risks. The Net Present Value Risk Framework creates a net present value that considers the impacts of product portfolio, user needs and technical and marketing risks. Craig R. Davis (2002)

5.2 Risk Weighting By Development Category

With Net Present Value Risk Adjusted (“NPVR”) model, risk can be assessed relative to one or more well-defined extreme situations, for example guaranteed success or failure. The model assesses the strength of a business in areas of technicality, market and user needs risks. The NPVR Model uses a risk scoring vocabulary that is common across portfolio categories and mitigates the significant errors and the subjective numerical estimates underlying NPV assumptions. Table 10 below quantifies the relative weights of each risk in the product-development framework. **Table 10-Risk Weighting**

	Market Risk Weight <i>M</i>	Technical risk Weight <i>T</i>	User Risk Weight <i>U</i>	Total
New Venture	0.35	0.30	0.35	=1.0
New Category	0.40	0.30	0.30	=1.0
New Platform	0.35	0.35	0.30	=1.0
New Derivative Product	0.30	0.60	0.10	=1.0

Source: Craig Davis, 2002

Rather than estimating probabilities, the NPVR model scores risks as having a high, medium and low ranking of success. In the NPVR model, qualitative assessments are converted to numerical values by assigning the most positive ranking (high chance of success) a value of 5, and the most negative ranking (low chance of success) a value of 1, on a 1-to-5 scale.

The implication of this framework is that decision makers can compare a risk-adjusted NPV to a traditional NPV and gives an understanding of what part of the business NPV is at risk by focusing on factors important to commercialisation of research.

a) Market Risk Evaluation

In market risk factors such as sales force capabilities, distribution channels, manufacturing capabilities and customer support. The scoring criteria for market risk are summarised below:

Table 11-Market Risk Evaluation

Success Scoring	Value Chain Assessment	Market Segment Assessment
<i>High</i>	All value chain requirements exist internally in the company	Company is a market leader in the target market segment(s)
<i>Medium</i>	All value chain requirements present, some using partners	Company sells other products to customers in the target market segment
<i>Low</i>	Some or all value chain requirements are not present inside the company or with existing partners	New market segment, or the company has no presence in target market segment

Source: Craig Davis, 2002

A high region assures that the product launch can reach its potential customers. If Boots.com falls in the region of medium, this signifies that the assumptions questionable, whilst a low scores suggest that a strategy is needed to increase success probability.

b) Technical Risk Evaluation

Technical risks focus on the innovation associated with the product as well as the development capabilities of the company.

Table 12-Technical Risk Evaluation

Success Scoring	Innovation Assessment	Capabilities Assessment
<i>High</i>	Incremental use of well understood technology	Established development team with experience in similar projects
<i>Medium</i>	New technology, working prototypes developed and tested	New team of experienced in similar projects
<i>Low</i>	New technology, proof-of-concept stage with limited testing	Incomplete team and limited experience in similar projects

Source: Craig Davis, 2002

Innovation risk is evaluated in terms of the technology and the degree to which the technology is integrated with Boots.com's existing product-development processes and manufacturing. A high score suggest that the company has experience with wireless technology and is working on a prototype. If Boots.com falls in the medium region, the company is merely adapting to an existing technology.

c) User Risk Evaluation

User risk determines the likelihood that Boots.com is developing the right products. User risk assessment focuses on the degree to which the attributes of user interaction with the product are known and the degree to which the design and performance specifications are known.

Table 13-User Risk Evaluation

Success Scoring	Interaction Assessment	Specification Assessment
<i>High</i>	Primary user product research performed or planned prior to development	Extension of existing product design and performance specifications
<i>Medium</i>	User research not performed, but secondary product research performed	New design and performance specification in existing market segment
<i>Low</i>	No user research performed, user attributes determined by internal staff	New design and performance specification in new market segment

Source: Craig Davis, 2002

If Boots.com does not truly understand the product's requirements, it will fall in the region of low success scoring and thus it must develop a strategy to address the lack of user research.

d) NPVR Calculation

The formula is as follows:-

$$\text{NPVR} = \frac{aM + bM + cT + dT + eU + fU}{10} \times \text{Net Present Value,}$$

where a, b, c, d, e and f are the value chain, market segment, innovation, capabilities, interaction and specification assessments respectively, each of which has been ranked on a 1-to-5 scale.

The values for the risk weighting, M (Market), T (Technical) and U (User) are determined by the Boots.com business data, and then assigning the proposal to a portfolio category.

In the case of Boots.com the "New Category classification will it fall into based on the "Risk Weighting by development category" where M= 0.40, T=0.30 and U= 0.30. The Net Present Value for the proposed product line extension investment is of £10 million.

Using these factors, the NPVR for Boots.co is

$$= \frac{a(0.40) + b(0.40) + c(0.30) + d(0.30) + e(0.30) + f(0.30)}{10} \times \text{Net Present Value,}$$

Thus, it can be seen that NPVR of Boots.com is only 46% of the original NPV, indicating that 54% of the sponsor's projected NPV Value is at risk.

$$\text{NPVR} = \frac{3(0.40) + 1(0.40) + 5(0.30) + 3(0.30) + 1(0.30) + 1(0.30)}{10} \times \text{£10 million Value}$$

$$= \text{£4.6million}$$

e) Enhancing Product Development Success Using NPVR

Without understanding risk exposure, Boots.com can be at high risk. The NPVR model provides insight into how additional user research might affect the success estimates for the proposal. For example, conducting user research early in the development cycle could improve the assessment of interaction risk i.e., changing the possibility of success in that area from low to high.

Substituting the new value in the calculation improves the NPVR to (5.0 divide 10 X original NPV of £10million) or \$8.4 million, a significant improvement over the \$5.0 million originally presented.

$$\text{NPVR} = \frac{3(0.60) + 1(0.60) + 5(0.30) + 3(0.30) + 1(0.10) + 1(0.10)}{10} \times \text{£10 million Value}$$

$$= \text{£5.0million}$$

Thus, the company should consider investing in primary user research to reduce the at-risk portion of the product's expected ROI.

5.3 Financial Risk

Financially, for Boots.com, investment into product line extension or launch of new product will inevitably expose it to risk. High risks investments have greater potential rewards, but have the upside potential to lose money instead by taking less calculated risk.

Boots.com obtains capital from both shareholders (equity) and lenders (debt), but at a cost. Shareholders require a return to reflect the opportunity cost associated with committing their money over a time period and therefore, cost of equity is the return on investment that shareholders expect to receive. The cost of debt, however, is the rate of interest that lenders charge Boots.com presently with an Internal Rate of Return of 8% to reflect the level of risk involved. Nevertheless, cost of capital increases with risk, the riskier an investment, the higher the reward needed to incentivise investors and vice versa. (Boots.com, 2008)

a) Rate of Returns

Boots.com is assumed to be risk averse and maintains a well diversified portfolio of investment. Return on investment is either a gain or loss from the investment. The rate of return on an investment/security over a single period from $t-1$ to t is

$$R_{i,t} = \frac{P_{i,t} + C_{i,t} - P_{i,t-1}}{P_{i,t-1}}$$

Where $P_{i,t}$ = Price/value of security i at t
 $C_{i,t}$ = any cash payment (cash dividend or coupon) from security i
 over $t-1$ to t
 $P_{i,t-1}$ = price of security i at $t-1$, adjusted to the same basis as $P_{i,t}$

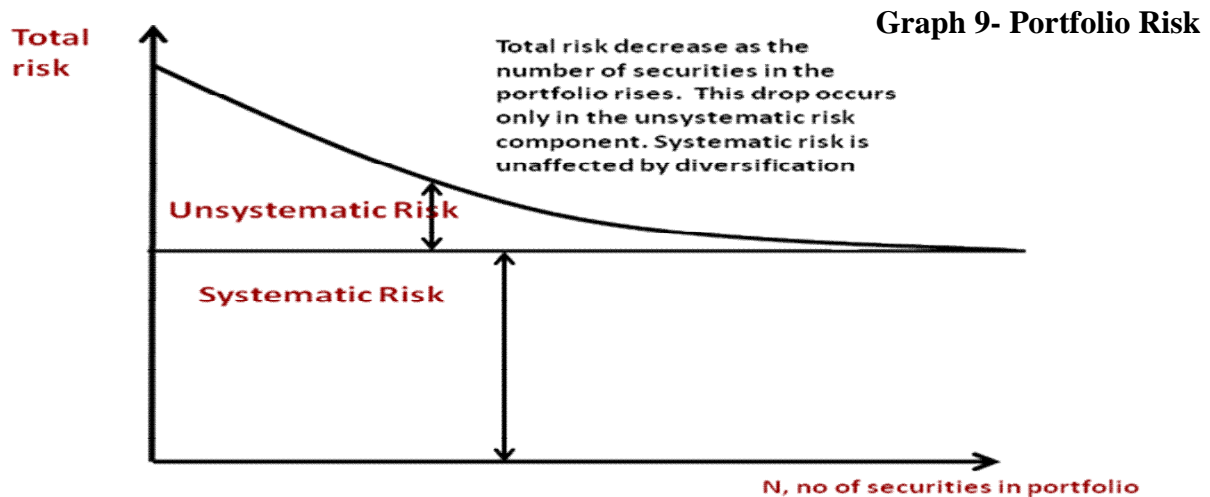
Source: (F. Modigliani and M. Miller (1963))

b) Risks and Its Implications

Systematic risk correlated with the market as a whole is the only risk relevant to investors of Boots.com. Risks specific to the investment that **do not** affect the cost of capital such as launch of a new website cheaper than expected, disruption in supply, increasing competition, product withdrawal, etc can be eliminated by holding a well-diversified portfolio of different investments. Examples of systematic risk are growth in gross domestic product faster than expected, interest rate volatility, currency and inflation fluctuation or oil price rises. Thus, total risk (u_{\sim}) is the total of systematic risk (s_{\sim}) and unsystematic risk (ϵ_{\sim}) (F. Modigliani and M. Miller (1963))

If Boots.com were considering new product line extension, the major concern would be the substantial capital commitment and the potential demand for new product at a reasonable return. The risk would be either a failure of product launch or strike a top fashion hit. Hence, Boots.com must assess the risk involved and returns on investment on the venture.

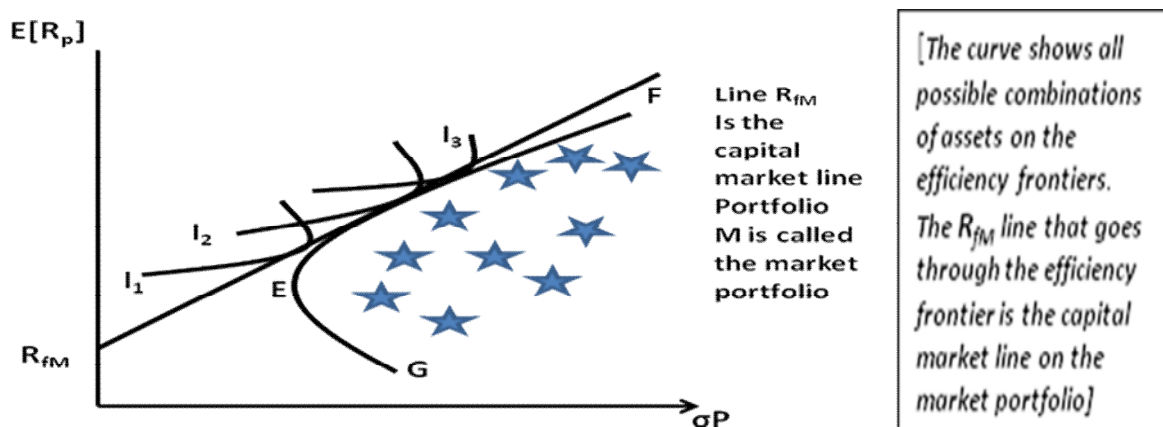
c) **Portfolio Diversification** –Harry Markowitz, 1952 explored the implications of portfolio diversification for risk and return. Markowitz pointed out that “*individuals can reduce the variability of the returns on the investments they make simply by investing in a number of different companies*” or those associated with the market as a whole; risk specific to a particular stock or investment are not relevant. Therefore, for Boots.com, portfolio diversification eliminates unsystematic risk leaving only systematic risk as illustrated below:-



Source: Harry Markowitz (1958)

Portfolio diversification eliminates diversifiable risk, leaving only systematic risk. The mean-variance portfolio theory says that investors should hold their portfolios along SML. The systematic risk principle says that securities with higher systematic risk promise higher $E[\text{returns}]$

The efficiency frontiers of all possible combination of assets in portfolio diversification are illustrated below:- **Graph 10- Efficiency Frontier Curve**



Source: Harry Markowitz (1958)

Thus, for Boots.com moving along the efficiency frontiers will ensure that it is maximises its portfolio diversification and achieve reasonable rate of investment returns.

5.4 Legal Risk

a) Overview

The internet is not a wild and lawless territory where a buccaneering spirit is an important quality to business (J.Randall and B.Treacy). E-commerce has yet to spawn its own legal precedents on any scale. As a result of too many laws governing the internet, e-commerce is a risk in itself. Internet business may run the risk of inadvertently infringing established laws of countries in which it trades. This may bring up unfamiliar, legal issues for example internet trading across the European Union or when a United Kingdom company advertises (via its United Kingdom based websites), its products in a transatlantic territory unknowingly of the local legal requirement.

b) Online dot.com risk

E-business strategies play an important role for business to adapt more specialities in an era of internet revolution. It is imperative for any company like Boots.com to undertake appropriate steps to manage legal risks. Early assessment of risk would avoid disaster. Legal advice will be required particularly software development and/or web development contracts.

Boots.com will have to consider legal risk such as contractual risks, jurisdictional risk intellectual property rights and internal or content-related risks. In contractual risks, Boots.com not only needs to agree the terms on which parties do business over the internet but carry out transactions in accordance with the terms and conditions.

Boots.com may face contractual risk and difficulties if for example the terms of the contract are not clearly stated and readily accessible to users. Thus, Boots.com needs to ensure that if they are offering goods and services over the internet, it needs to control the contractual process by inviting customers to make contractual “offer”

c) Jurisdiction risk

If Boots.com is operating on international frontiers, it has to ensure that its legal system applies to transaction. In general, transactions entered into via the internet will be governed by the same rules as private international law as other cross-border transaction. From a risk management perspective, Boots.com will have to specify jurisdiction and governing law in their contracts.

d) Intellectual Property Rights Risks

As an e-retailer, Boots.com must also be cognisant of securing trademarks in all other jurisdictions. However, since Boots.com must also be cognisant of securing trademarks in all other jurisdictions. Nevertheless, registering a trademark in merely key jurisdictions can put Boots.com at risk of infringing another's right to use the same trademark. It is thus important to secure intellectual property rights in key jurisdictions.

e) Internet Assistance

The launch of Boots.com's new website aims to provide multi-channel retailing where customer can seamlessly navigate from one channel to another. It also provides room for e-dialogues, chat and feedback forum. However, this can place business under significant risk such as posting or publishing materials by others on their website, defamatory or incisive remarks, which can undermine the business reputation or tarnish Boots.com brand.

5.5 Emerging Issues in Risk

Michael Porter (2001) argued that competitive strategy has been about deploying economic resources, searching for a desired outcome in the presence of uncertainty and hostile competition. The dynamism of e-commerce has resulted in risk changing alongside. This has necessitated risk to be reviewed from a fresh perspective. The most pertinent risks which are intrinsically associated with risks such as structural risk, channel risk, sourcing risk and general risk of strategic uncertainty.

a) Structural Risk

Boots.com like many e-retailers design business strategy such that industry structure makes them inherently unprofitable. For example, can Boots.com ensure long-term profitability if selling Health and Beauty products cannot cover its overhead or acquisition costs? Boots.com like many web-based retailers is in growth stage and still paying to acquire consumers and market share. Will consumers remain loyal to sites, allowing retailers like Boots.com to harvest profits and can the web's empowerment of consumer choice mean that customers migrate to low cost online Health and Beauty players like Superdrug, Body Shop etc?

b) Channel Risk

Branding and customer loyalty plays an important role in channel distribution. For example, in the grocer market for packaged consumer goods, traditional stores such as Sainsbury or Tesco in the United Kingdom, Carrefour in France or Wal Mart in the United States carry multiple brands of the same products to avoid losing sales to brand loyal consumers. Via the internet, e-retailer like Boots.com can "reconfigure" the stores for each customer to the liking and preference. Brand-loyalty online customer will always continue shopping online with Boots.com. However, Boots.com may run the risk of a bidding war, as suppliers are free to cut prices that they charge the store operator, or offer discounts.

c) Sourcing Risk

Sourcing risk are essentially the risk of strategic dependence (small number of alternative suppliers and the resulting loss of bargaining power) and the risk of loss of critical expertise (an intellectual assets or loss of competitive advantage). If Boots.com is dependent on one or more critical suppliers, how will this affect the price changes and the profits that it is able to retain. The danger is even more aggravated if it transfers critical information resources to a strategic supplier which then competes directly with Boots.com.

The solution to sourcing risk for Boots.com are close assessment of supplied monitoring of contractual information, maintaining “small numbers” bargaining, poaching and theft of intellectual assets.

d) Risk of Strategic Uncertainty

E-Commerce is characterised by changing technology and uncertainty in consumer behaviour and rapid changes in the competitive environment of Boots.com. Managers must make and take actions to solve these uncertainties. By understanding scenario analysis, managers can identify strategic drivers for future development in Health and Beauty industry. Each scenario enables Boots.com to plan in detail the company’s industry specific expertise and specify the deployment of critical economic resources to obtain the desired economic outcomes.

6.0 Probability and Value at Risk (VaR)

a) Probabilistic Risk Assessment

Probabilistic Risk Assessment (“PRA”) is the analysis strategy and a systematic and comprehensive methodology to evaluate risks associated with a complex engineered technological entity. Risk in a PRA is defined as a feasible detrimental outcome of an activity or action. In a PRA, risk is characterised by two quantities:

- ❖ The magnitude (severity) of the possible adverse consequence(s), and
- ❖ The likelihood (probability) of occurrence of each consequence.

b) Probability Measurement

As described in Literature Review of the Group Report, the Economic Order Quantity decision model calculates the optimal quantity of stocks to order. Managing goods for sale i.e. how much of a given product to order are major decisions. In the light of costs associated with goods for sale, purchasing costs, ordering costs, carrying costs, quality, running risk of stock out can be potentially dangerous.

With drop ship model, there will be virtual elimination of intermediaries. The *i-force* in Birmingham plays an important role in ensuring the smooth flow of production and delivery to stores and home. The scenario below illustrates the probabilistic computation of safety stock for Boots.com when reorder point is say **500 units**. **Table 14 –Probability risk-safety stocks**

Safety Stock Level in unit (1)	Demand realisation resulting in stock out(2)	Stock out in unit (3) = (2)-(500-(1))	Probability of stock Out (4)	Relevant Stock Out cost(5)= (3)x £2	No of Order Per Year (6)	Expected Stock out(7)= (4)x(5)x (6)	Relevant Carrying Cost (8)= (1) x £5.00	Total Relevant Cost(9)= (7)+(8)
0	600	100	0.20	£200	14	560	£0	£1,568
	700	200	0.09	£400	14	504		
	800	300	0.06	£600	14	504		
						1,568		
100	700	100	0.09	£200	14	£252	£500	£1,108
	800	200	0.06	£400	14	£336		
						£588		
200	800	100	0.06	£200	14	£168	£1,000	£1,208
	300	-	-	-	-	-	£1,500	£1,500

Source: Boots.com

Refer Appendix 6, page for details 67

d) Value at Risk (“VaR”)

In the last 10 years, banking industry regulators have a risk based approach to regulation based on Basel Capital Accord. Extending this risk based approach gave rise to Value at Risk (VaR). A theoretical definition of (VaR) would be: "VaR measures the worst expected loss over a given time interval under normal market conditions at a given confidence level." The Staple in Actuarial Society, (2001)

Extending this risk based approach to Boots.com, if it is based on adequate data and analysis; VaR provides a useful summary measure of risk. For instance, say that the **daily** VaR of its portfolio sales is **£2 million** at the **99%** confidence level. In other words, there is only a one in a hundred chance, under normal market conditions, of a loss greater than £2 million occurring on any particular day.

e) The advantages of VaR:

VaR is a single number which summarises the exposure to risk in a way which nontechnical decision makers find relatively easy to understand i.e. the monetary risk to the bottom line. This allows the VaR of alternative courses of action to be compared easily. It enables decision makers to decide whether they feel comfortable with the level of risk. If the answer is no, the process that led to the computation of the VaR can be used to decide where to amend the risk.

It also enables decision makers to decide whether they feel that adequate returns are available from a particular activity to justify the level of risk. If the answer is no, then the VaR for other opportunities can be used to aid decision making.

The main disadvantage of VaR is that, for complex risks, it can be difficult to calculate and therefore approximations are often made. Approximations should be used carefully as an inappropriate VaR model can lead to flawed decision-making. This is illustrated by the following problems with the original Basel Capital Accord.

7.0 Impact on Financial Statement

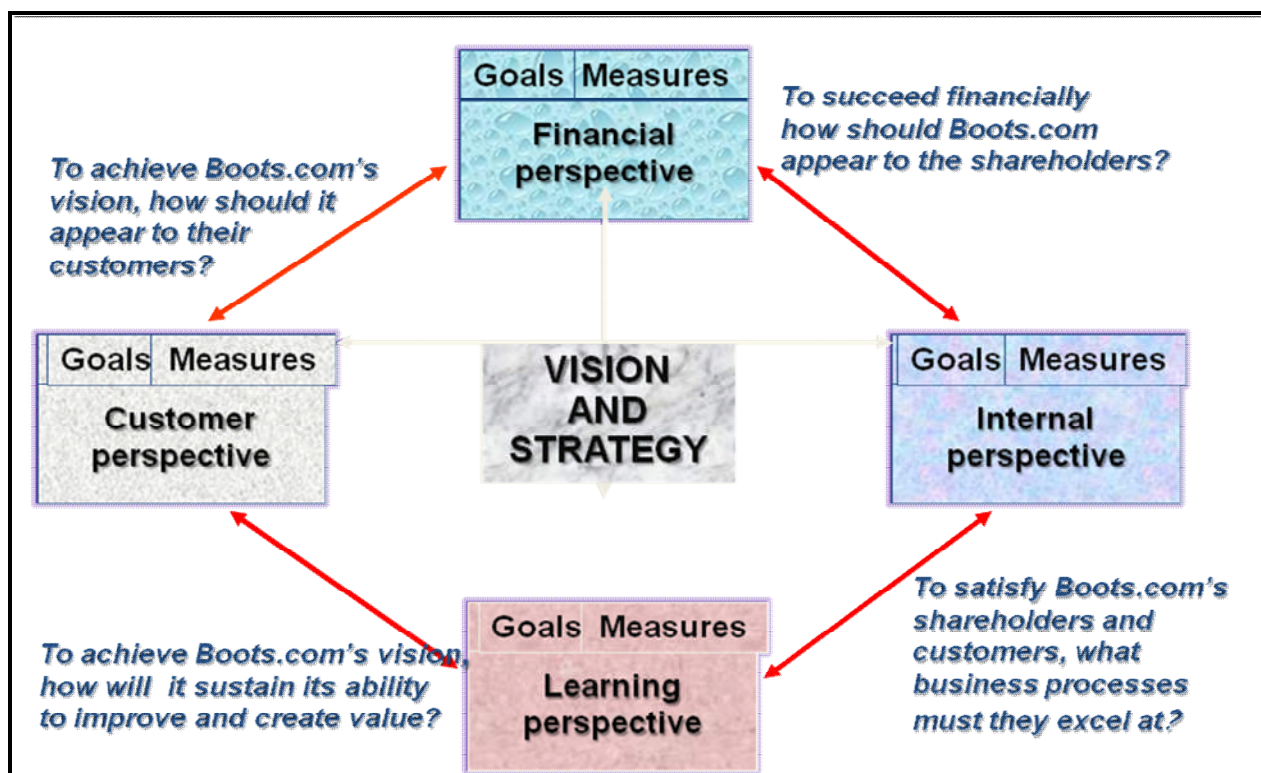
7.1 Impact on Financial Statements

By taking calculated risk, Boots.com will be able to maximise the mean-variance utility, the optimal portfolio will maximise return for a given level of risk. Assigning probabilities enables careful analysis of stock holding and inventory management for Boots.com and avoid the risk of stock-out. Cost associated with inventory management will decrease as a result of lower holding cost, interest cost and *i-force warehouse cost* (presently at £1 per-transaction). This will translate into higher margin, higher stock assets and a stronger balance sheet. With lower stock management cost, cash will be freed up for other working capital requirement and this improves the income statement resulting in higher cash flows and reserves for Boots.com. A higher reserve' will consequentially increase the enterprise value of Boots.com

7.2 Balanced Scorecard

For Boots.com it is essential to have a balanced scorecard to track all important element of its strategy including customer perspectives, internal perspective, financial and learning. The Balanced scorecard should link financial and non-financial measures and the critical aspects between short-term operation control to long-term vision & success. Communication between business plan and mission of Boots.com is crucial thus ensuring continuous improvements.

Diagram 15-Norton and Kaplan Scorecard



(Source: Norton and Kaplan, 2003)

As depicted in Diagram 15, adopting a Kaplan & Norton Balanced Scorecard Framework, essentially means that Boots.com combines all different elements of competitive agenda that puts strategy, vision, not control in the centre. Balanced scorecard must not guard sub-optimization (no-trade off between measures), links performance with vision and strategy.

Boots.com should drive organizational performances and translates objectives into measures that lead to improved performance. By deploying strategic direction, communicating, & measuring progress towards objectives, Boots.com can create a healthy, efficient and effective Health and Beauty business. Boots.com can provides service to its customers & employees and put value on results.

Financial considerations for a well defined Balanced Scorecard include improved margins, Return on Investment, Return on Capital Employed, Residual Income, and Enterprise Value Added. Boots.com's sales growth in Health and Beauty products should translate into higher shareholder value i.e. higher share Price and positive Net Present Value. With a steady stream of future cash flows Boots.com can continue as a going concern and function profitable. This will translate into a successful Healthy Balance Sheets & liquidity and larger market share.

7.3 Real Options

Financial options, hedging instruments exist in foreign currencies, commodities and corporate securities. However, what are real options and what makes an “*Option*” *Real*. Can e-retailers like Boots.com use *Real Options* to manage risk?

Akin to financial options, *Real Options* confer rights. Real Option approach stresses that many investment create important follow-on opportunities that Boots.com may potentially exploit. It also highlights value that is contingent on earlier investment may have a very low or even negative Net Present Value, it may also provide platform for future favourable investments.

Real Options provided managers (refer Table x for illustrative real options) with discretion rights but not obligations. Financial and *Real Options* can help Boots.com limit their downside risk while also gaining access to upside opportunities in the future. Nevertheless, *Real Options* come into existence by creating opportunities created by Boots.com's strategic investments. In risk management, *Real Options* incentivise Executive to combat uncertainty proactively, rather than merely attempting to buffer against or avoid uncertainties.

In the case of Boots.com, *Real Options encourage* managers to create value and reduce risk by making strategic investments that confers lucrative opportunities, actively monitoring sources of uncertainties and changing resource allocations appropriately in real time.

As shown in Table 15, Boots.com can obtain growth option by making a platform investment in a foreign location. Product Development Initiatives or New Product Launch such as Research and Development or marketing campaigns across products, early investment outlays create abandonment options.

Table 15 –Illustrative Real Options

<i>Option Type</i>	Description	Context
<i>Growth</i>	An early investment opens up future expansion opportunities	Infrastructure investments Investments in products with multiple generations External corporate development
<i>Abandonment</i>	The presence of resale markets allows Boots.com to realise value from existing markets with deteriorating conditions	New-product introduction Capital-intensive industries
<i>Switch</i>	Product flexibility allows shifts in product mix, process flexibility permits shifts in inputs	Consumer goods susceptible to volatile demand Tapered vertical integration
<i>After Scale</i>	Unexpected favourable or unfavourable market conditions lead the firm to expand or contract production	Cyclical industries Fashion goods
<i>Defer</i>	A lease or option to launch new product and to expand	Product extension or brand extension
<i>Compound</i>	Investments conferring multiple options of the types listed above	Any of the above

Sources: J.J Reuer and Michael J. Leiblein (2001)

8.0 Conclusion

Risk management has been fervently institutionalised and has undergone many changes such as the creation of internal risk controls, the establishment of sophisticated risk management frameworks like information flows and lines reporting from board level to unit business unit. The merging of internal auditing with risk management practices and the raising of awareness of risk throughout company culture has been more pronounced. Of late are attempts to reorient risk management department into an internal consulting practice and the increasing representation of risk management directly on the Board of Directors of Company.

Boots.com like any other e-retailers, at a deeper level, account for the rising profile of risk management as greater responsibility in risk taking process. The drivers to risk management institutionalisation goes beyond globalisation, regulation, shareholder value, new technologies or even the pace of change, but changing responsibilities, values and expectations among managers. There is no single well accepted set of principles that underlie risk management. Risk management is a process, a journey. Without a clear set of risk management goals, miscalculation can be dangerous. The key to making good investment is generating the cash to fund them internally.

If Boots.com can value and transfer risks, it can focus on managing and acquiring risks for which they have competitive advantage such as rapid and accessible real time internet sales of Health and Beauty products.

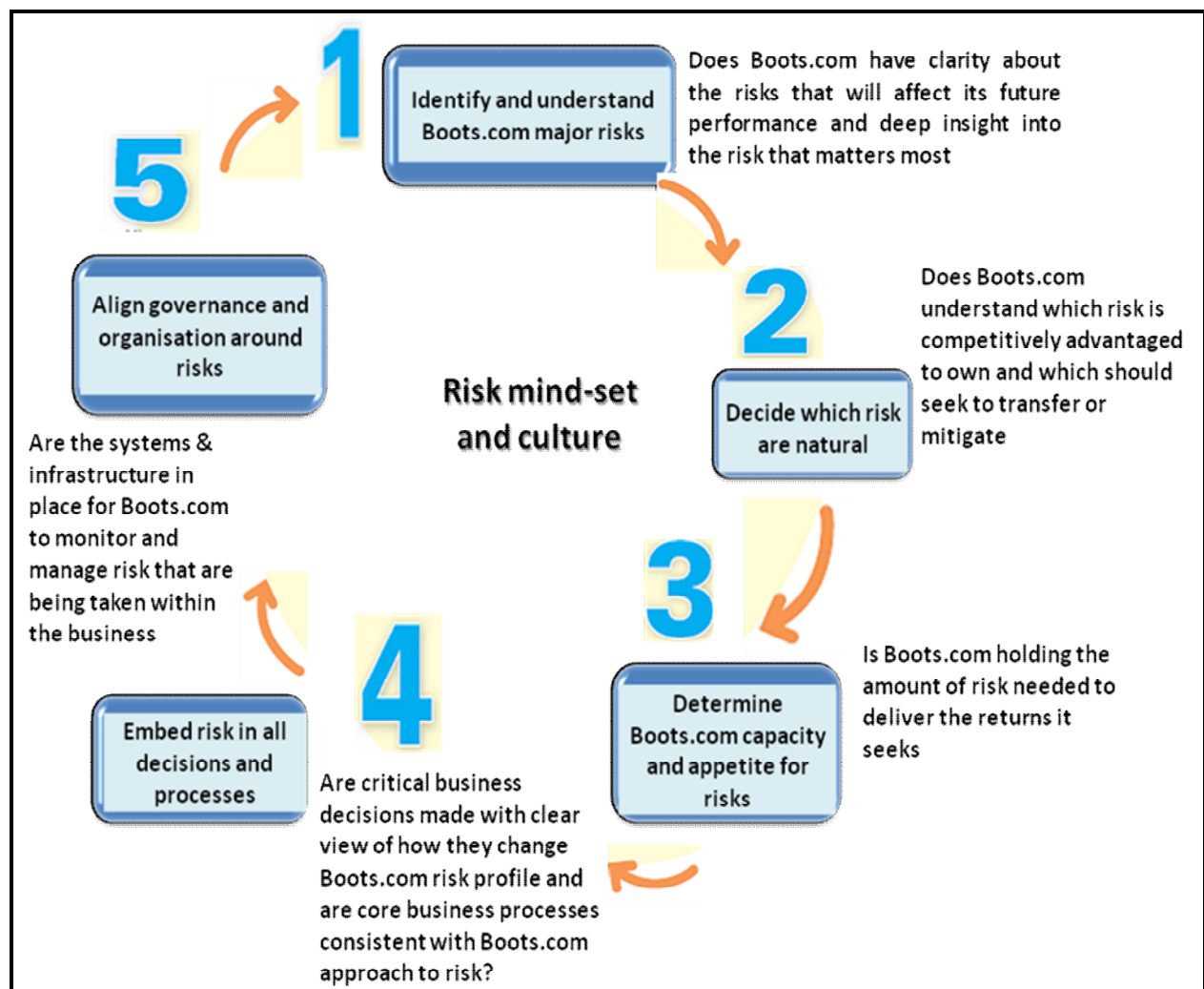
Risk management is not merely the prerogative of top management for Boots.com but it is inherent in everyday decision making. Risk awareness requires assessment of it in every day decision making. Without strong risk analysis process, Boots.com could risk gravitating into one of the two extremes; overexposure or over insurance.

Thus Boots.com must have the knowledge and risk vocabulary in decision making and requires sophisticated understanding of risk measurement for both short term and long term. Understanding risk influences decision making and must not be merely based on intuition.

Chapter 9: Recommendations

If Boots.com can value and transfer risks, they can focus on managing and acquiring risks for which they have a competitive advantage. Risk management is not just a question of top-level analysis. Risk is inherent in every decision, and the risk-aware company requires some assessment of it in every decision that managers make. The benefits of using risk as an organizing principle for strategy. Its approach is through a 5-step process below.

Diagram 16-New Risk Management Strategy



Source: Buchler, K. Freeman, A. & Ron Hume (2008)

1) Identify and understand Boots.com' major risk

Specify risk that can affect Boots.com and quantifying the gravity is important. For example, the impact of a new launches or line extension to Boots.com, if unsuccessful and how the risk can be mitigated. Identifying key risk to Boots.com's cash flow volatility, demand risk, commodity risk, country risk, operation risks are important.

2) Decide which risk are natural

Boots.com needs to ask whether its business has portfolio containing natural offsets such as a vertically integrated supply chain of Health and Beauty products.

Does Boots.com have superior capabilities for managing the risk like real time information advances or project management skills for product launch management and investments? Thirdly, are the accessible risk-transfer markets reasonably efficient that they offset the benefits of natural ownership?

3) Determine Boots.com capacity and appetite for risks

Boots.com needs to assess its risk capacity by quantifying operating cash flow risk and profiling cash flow at risk using Monte Carlo simulation drawing on probability distribution step by step.

4) Embed Risk in All Decision and Processes

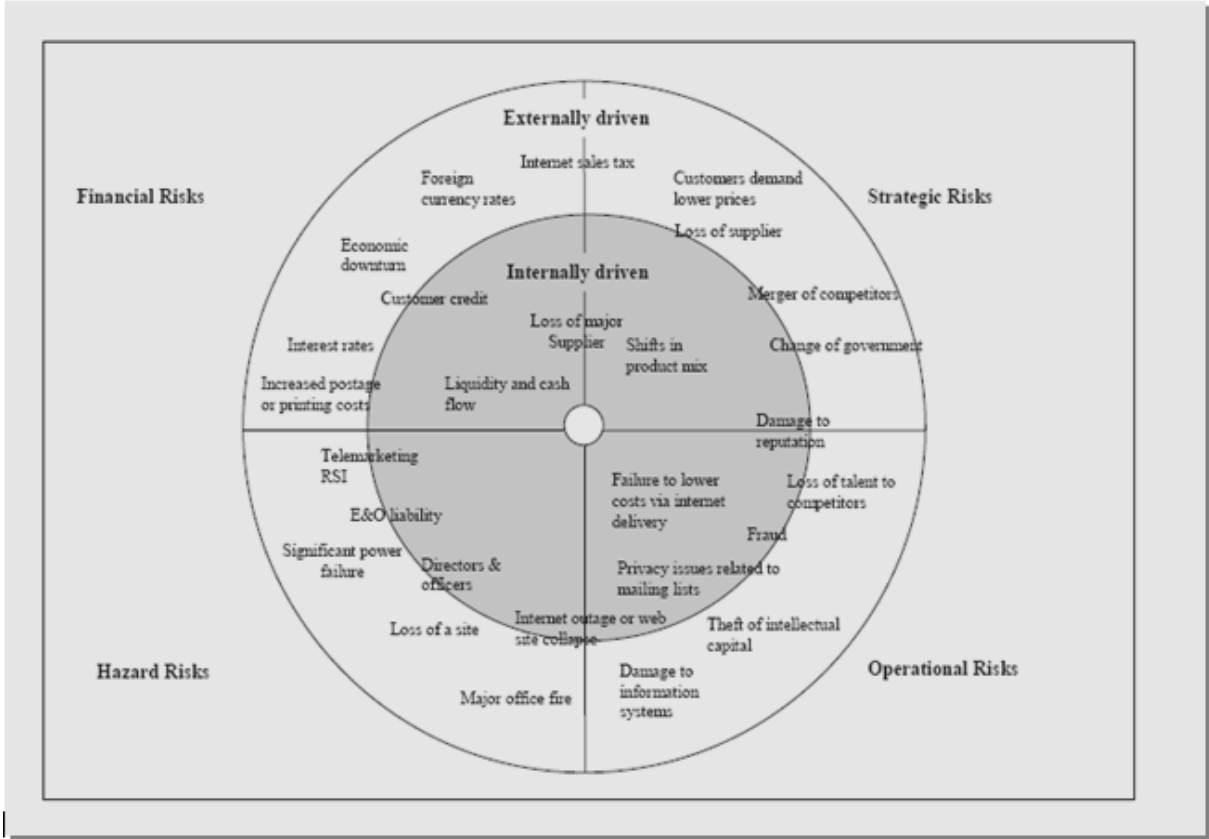
Boots.com can embed risk in all decision process by adapting a probability-based approach to investment. Boots.com can avoid pit fall inherent in traditional NPV Evaluation. The Black Scholes Option Pricing formula and other risk-assessment tools help quantify the value of Real Options, such as deferring or accelerating investments.

5) Align governance and Boots.com around risk

Boots.com can align governance around risk by constantly committing the best risk managements practice and have a culture of openness and intrigue.

Appendices

Appendix 1, referred from Section 1.3 page 7



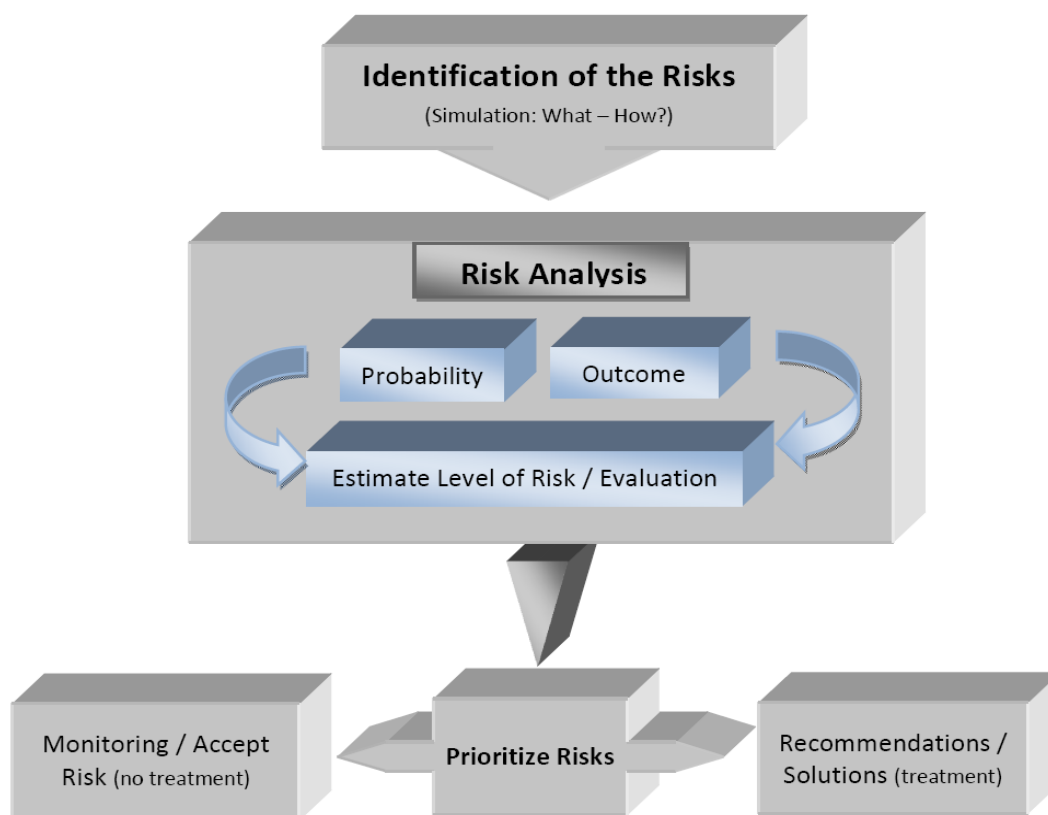
Internal versus external risks

Much is made of the difference between internal and external risks. The major differences, however, relate to the ability to apply the risk process to them. Internal risks can be just as difficult to identify, assess and evaluate as external risks and thus just as complex to manage. The same broad principles of risk management apply to both.

Appendix 2, referred from Section 2.1.2 page 15

	<i>Sources of risk</i>	Risk examples
STRATEGIC	Infrastructure	Functioning of transport, communications and utilities infrastructure. The impact of storms, floods, pollution.
	Politics & law	Effects of change of government policy, UK or EC legislation, national or local political pressures or control, meeting the administration's manifesto commitments
	Social factors	Effects of changes in demographic, residential and social trends on ability to deliver objectives
	Technology	Capacity to deal with obsolescence and innovation, product reliability, development and adaptability or ability to use technology to address changing demands
	Competition & markets	Affecting the competitiveness (cost & quality) of the service &/or ability to deliver Best Value and general market effectiveness
	Stakeholder-related factors	Satisfaction of: citizens, users, central and regional government and other stakeholders
	Environmental	Environmental consequences of progressing strategic objectives (eg in terms of energy efficiency, pollution, recycling emissions etc.)
	OPERATIONAL	Finance
Human resources		Recruiting and retaining appropriate staff and applying and developing skills in accordance with corporate objectives, employment policies, health & safety, and absence rates.
Contracts & partnerships		Failure of contractors to deliver services or products to the agreed cost & specification. Procurement, contract and relationship management. Overall partnership arrangements, e.g. for pooled budgets or community safety. PFI, LSVT and regeneration.
Tangible assets		Security of land and buildings, safety of plant and equipment, control of IT hardware.
Environmental		Relating to pollution, noise or the energy efficiency of ongoing operations
Processes		Infection control, inspection compliance, project management, performance management, benefits system, environmental management system (EMS).
Professional judgement & activities		Risks inherent in professional work, such as assessing patients' welfare or designing buildings or teaching vulnerable children, response to the Human Rights Act.

Appendix 3 ~ Risk Management Framework referred from Section 2.2 page 22



(Sources: AIRMIC, ALARM, IRM, 2007)

1. Name of Risk	
2. Scope of Risk	Qualitative description of the events, their size, type, number and dependencies
3. Nature of Risk	Eg. strategic, operational, financial, knowledge or compliance
4. Stakeholders	Stakeholders and their expectations
5. Quantification of Risk	Significance and Probability
6. Risk Tolerance/ Appetite	Loss potential and financial impact of risk Value at risk Probability and size of potential losses/gains Objective(s) for control of the risk and desired level of performance
7. Risk Treatment & Control Mechanisms	Primary means by which the risk is currently managed Levels of confidence in existing control Identification of protocols for monitoring and review
8. Potential Action for Improvement	Recommendations to reduce risk
9. Strategy and Policy Developments	Identification of function responsible for developing strategy and policy

APPENDIX 4 ~ Supply Chain Risk Referenced from page 37, para, line 3.4.1

	Supplier-Related	Internal	Customer related
<i>Disruptions</i>	<ul style="list-style-type: none"> ▪ Supplier of a key part shuts down for a while or at a key part of the production cycle ▪ Supplier capacity-drops by 20% 	<ul style="list-style-type: none"> ▪ Key plant shut down unexpectedly for a while ▪ Capacity of key plant crops by 20% overnight 	<ul style="list-style-type: none"> ▪ Demand goes up by 20% <ul style="list-style-type: none"> - for all product - for a key product - across the board ▪ demand goes down by 20% under conditions above
<i>Delays</i>	<ul style="list-style-type: none"> ▪ Purchase orders of key parts or raw materials delayed by month 	<ul style="list-style-type: none"> ▪ Distribution or production orders delayed by a month 	<ul style="list-style-type: none"> ▪ Customer orders delayed by a month
<i>Systems</i>	<ul style="list-style-type: none"> ▪ Supplier’s order-entry system goes down for a week 	<ul style="list-style-type: none"> ▪ Key customer’s procurement system inside your company goes down for a week ▪ Boots inventory/accoun system 	<ul style="list-style-type: none"> ▪ Order entry-system not working for a week ▪ Key customer’s procurement system inside your company goes down for a week ▪ Credit card information stolen from hacked e-commerce system
<i>Information Processing</i>	<ul style="list-style-type: none"> ▪ Supplier rations suppliers by a % 	<ul style="list-style-type: none"> ▪ To take advantage of volume discounts, company begins to order in quantities twice as large as usual 	<ul style="list-style-type: none"> ▪ Key customer begins to order in batches that are twice as large as usual but less frequent (the impact of forecasting)
<i>Intellectual property</i>	<ul style="list-style-type: none"> ▪ Key supplier redesigns parts and creates own products 		
<i>Procurement</i>	<ul style="list-style-type: none"> ▪ Supplier delays in processing returns by twice as long ▪ Supplier forced to increase price of key component by 20% ▪ Transportation costs-go-up 20% overnight 	<ul style="list-style-type: none"> ▪ Unforeseen cash squeeze requires month-long delays in paying key suppliers 	

APPENDIX 5**Turnbull Report**

Referenced from page 28, para, line 2.3.8

Companies now perform a fraud risk assessment and Directors must evaluate controls designed to prevent or detect fraud, including management override of controls. Evaluating controls over the period-end financial reporting process must be done. These are primarily aimed at assessing risk and evaluate controls over the safeguarding of assets; and conclude on the adequacy of internal control over financial reporting. (Turnball & Cadbury Report, 2007

APPENDIX 6

Referenced from page 54, para, line 6.0

Assumed that

- Realised demand-stock available during lead-time (excluding safety stock), 500 units-safety stock
- Stock out units x relevant stock out cost £2.00 per unit
- Annual demand 14,000 divide 1000, EOQ = 14 Orders per year
- Probability of stock out x relevant stock out costs x number of orders per year
- Safety stock x annual relevant carrying costs of £5.00 per unit (assumes that safety stocks is on hand at all times and that there is no overstocking caused by decreases in expected usage)
- At a safety stock level of 300 units, no stock out occurs and hence expected stock out costs=£0

Probability calculation

Total demand in 2 weeks

Units	200	300	400	500	600	700	800
Probability	0.06	0.09	0.20	0.30	0.20	0.09	0.06

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