



- 一 (10%)雲大便利商店出售各種報紙及雜誌，其中新觀念週刊頗受歡迎。此份週刊售價每本 80 元，進價成本 50 元。本期週刊，如果到了週末下期出刊時仍未售出，既不能退還出版商，也不能再出售。為便於決定該週的最佳訂購量，該店檢視了過去 50 週的銷售量，如下表，現假設近期需求不會有重大的改變。試問最佳訂購量為何？

新觀念週刊一週的需求量

每週的需求份數	週數
24	3
25	5
26	6
27	8
28	5
29	10
30	8
31	3
32	2

- 二 (15%)雲科大大約有 7500 位學生，現從 7500 後學生中隨機抽取 40 位學生，如下表來全校估計學生平均身高，

178	169	168	182	169	164	163	179	172	171
163	164	168	157	173	174	172	172	180	166
169	179	160	175	174	176	161	172	179	166
158	177	185	177	161	176	180	176	174	155

假設學生身高呈現常態分配，亦即 $X_i \sim N(\mu, \sigma^2)$ ， $i = 1, 2, 3, \dots, 40$ 。 μ 為雲科大平

均身高，新定義 $Y_i = \begin{cases} 1 & \text{if } x_i \geq \mu \\ 0 & \text{if } x_i < \mu \end{cases}$

1. 請問 $\sum_{i=1}^{40} Y_i$ 意義

2. $\sum_{i=1}^{40} Y_i$ 之機率分配

3. 計算 $P(a \leq \sum_{i=1}^{40} Y_i \leq b)$ 之機率，請列出計算過程及依據何種定理。



三 (10%)

- 1 設 A 、 B 、 C 為任意三事件，請例證兩兩獨立，但不推論 A 、 B 、 C 三事件是獨立事件。
- 2 請例證若兩事件 A 、 B 獨立則 $\text{cov}(X, Y) = 0$ ，反之不成立。

四 (10%) SARS 流行期間，一般大型公眾場所會新裝置紅外線掃描量測體溫，欲進入大樓之所有人員，若有民眾感染 SARS 病毒，紅外線感測器會顯示警訊之機率是 0.97，但有時民眾未感染 SARS 病毒但紅外線感測器，仍會顯示警訊之機率是 0.05，現假設一般民眾感染 SARS 的機率是 0.001 試問：

- 1 一棟大樓有 500 位民眾，則大約有多少人經過紅外線熱感測器時會發出警訊。
- 2 若某位民眾經紅外線熱感測器時會顯示警訊，請問他已感染 SARS 之機率為何？

五 (5%) 台北銀行出售彩券，某售券窗口長時間之記記錄，分析後，以平均 10 分鐘之 Poisson 分配抵達，試問六月六日第二位到達的顧客及第四位到達顧客之相距時間至少在 20 分鐘以上之機率為何？



填充題

1、以下何者較容易拒絕 H_0 ?

6%

a. a one-tailed or two-tailed test? _____

b. .05 or .01 level of significance? _____

c. $n = 188$ or $n = 388$? _____

2、某研究者想瞭解高績效與低績效兩組業務人員在性格方面的差異，以下是他所蒐集的資料（獨立樣本）

10%

Low-performing group: 8 6 4 12 16 17 12 10 11 13

High-performing group: 23 11 17 16 6 14 15 19

(1) 請寫出 H_0 : _____

H_1 : _____

(2) 假設兩組的變異數相等，請計算 pooled estimate of the population variance

$s^2 =$ _____，以及 t 值 _____

3、某研究者想研究學生兄弟對抽煙的態度，以下是他所蒐集的態度分數（相依樣本）

10%

學生兄: 16 20 10 15 8 19 14 15

學生弟: 15 18 13 10 12 16 11 12

請問若欲檢定兄弟兩組對抽煙態度有無差異，設定 $\alpha = .05$ ，

請寫出 t 值 _____



- 4、以下是管理者分別對三組員工使用不同的激勵方式所得的績效成果： **12%**

	<u>激勵方式</u>		
	<u>A</u>	<u>B</u>	<u>C</u>
n	7	7	7
\bar{X}	17.43	17.14	28.29
s	3.26	4.22	3.82

請用 ANOVA 計算 F 值 _____

請用 Tukey 事後比較法，檢定 A 和 C 組的差異 Q 值 _____

- 5、假設有兩個變數 X 和 Y，兩者皆為 Likert 五點量尺分數，請製造一組數據，使得 X 和 Y 的 Pearson 相關係數 r 在 -0.70 和 -1.0 之間，假設 $n = 6$ **12%**

	<u>X</u>	<u>Y</u>
Subject 1		
Subject 2		
Subject 3		
Subject 4		
Subject 5		
Subject 6		

另外，請寫出以上相關係數的計算公式 _____

請以此公式計算出你所製造的 X 和 Y 的相關係數 $r_{XY} =$ _____



請詳細閱讀以下文章，據以回答下列問題。(為求評分公正性，除專有名詞外，請一律以中文作答)

1. According to this article, what is "Projection"? How does it impact on the manager's decision-making process? (25%)
2. 管理學中有不同的研究途徑(Approaches)以解釋決策者的決策過程，例如理性決策途徑(Rational Approach)、行為決策途徑(Behavioral Approach)等，此種分類在管理研究上有何意義？此篇文章主旨與那一種研究途徑相符合？請說明。(25%)
3. 根據本文，說明"Projection"發生的原因，並對這些原因提出你的評論(同意、不同意之處)，以及提出你認為的防範"Projection"之道。(50%)



HOW ASSUMPTIONS OF CONSENSUS UNDERMINE DECISION MAKING

Decision making in today's global environment requires that managers understand the ways their experiences bias their perceptions of new situations — and hurt the company.

In the early 1990s, a Fortune 100 company contemplated making a sizable investment to manufacture and distribute a core product in Asia. Although the project's champion knew little about Asia, he was convinced he could succeed there just as he had in the United States. In making his judgment, he overlooked financial, operational and strategic information that contradicted his views. Senior executives, relying on the company's U.S. experience, gave the go-ahead. After the resulting debacle and much soul searching, managers realized that they had let themselves be misled by their untested assumptions.

Such problems are not new, but in today's world, they can be fatal. Rapid advances in information and production technologies have combined with global expansion and competition to create a business environment in which change is the norm.[1]

There's nothing wrong with change. Classic management texts insist change is necessary for business survival and exhort executives to abandon their organizational isolationism — and their naive belief in environmental stability and homogenous, conflict-free workplaces.[2] In dynamic internal and external business environments, leaders must be able to interpret cues and make decisions.[3] But decision making is increasingly complex and success uncertain. Smart choices are often incompatible with existing knowledge and past experience, so managers may feel they are traveling without guideposts.[4]

Decision making is an art and a science, with no simple rules. To determine if a particular manager can handle an expatriate assignment, for example, a decision maker might need to use intuitive assessment

in addition to analytic tools and research. Not surprisingly, increasing numbers of companies invest in programs to help managers improve intuitive judgment.

Although intuitive judgment has benefits, mounting evidence suggests that it often runs contrary to rational thinking, with managers' confidence in their judgments and predictions far exceeding objective accuracy rates.[5] Also, objectively irrelevant factors may influence choices. For example, some research shows that policy decisions based on numbers of jobs saved are often different from decisions based on numbers of jobs lost. Other research demonstrates that members of negotiating teams believe they have more-powerful bargaining positions than do solo counterparts, even when the only difference is the number of negotiators at the bargaining table.[6] Most important, people who are unaware of the problems with intuitive judgment fail to compensate for it in their decision making.[7]

A key culprit in undermining intuitive judgment is social projection, also known as the false-consensus effect. Projection is the misperception of the commonness of one's own beliefs, values, abilities and behaviors — usually in the direction of overestimating how common they are. Our analysis and field research have highlighted how projection has affected industries as diverse as consumer products, petroleum, manufacturing and professional services.



Tripping on the Path to Globalization

The Fortune 100 manufacturing company that blundered in a promising Asian market illustrates projection's insidious effects. The project champion, a promising executive with significant domestic experience, debated the opportunity with staff, external consultants and investment bankers. Despite detailed analysis, the "go/no-go" decision was not clear-cut. Attractive financing was available; however, market data looked only marginally favorable, and political and cultural factors were unknowns. If anything, the bulk of the evidence suggested aborting the initiative. Experts questioned the size of the investment, the aggressiveness of the assumptions and the lack of familiarity with consumers and the labor market in Asia.

However, the project champion paid cursory attention to expert views not consistent with his thinking. He was sure that others really shared his beliefs and were merely being cautious. Ultimately, he advanced the project for approval because he believed "in his heart" that, with their good domestic record, the product and the management approach would work in Asia. Others' data-based objections faded; a consensus emerged that the project champion would be successful because he had been before. He got the go-ahead.

Asia proved different from the United States, however. Political and labor problems doubled the time required for construction of the manufacturing facilities. Inadequate infrastructure and external parties' unwillingness to fulfill agreements thwarted distribution. Facilities finally were constructed, but productivity was below expectation. North American control systems created friction with employees, and Asian consumers did not take to the product as readily as anticipated.

In subsequent candid discussions, the project champion revealed that he knew the business case had been weak. But he argued, "We had a great product and a proven track record domestically. It seemed to me that all we needed to do was apply a little elbow grease." He had made an intuitive judgment and assumed that his own beliefs, values and experiences were shared by others — projection at work.

He was not the only one in error. The members of the planning and investment committees also projected their values and experiences onto the Asian business environment. They selected the project champion to manage the venture because of his U.S. track record — even though they sensed that different managerial skills and values might be necessary. Unfortunately, problem-solving skills and individualistic values that worked in the United States proved an inadequate basis for selecting a manager who could succeed in Asia.

Understanding projection and its impact on decision making can not only explain inconsistencies and irrational choices, it can prevent the problems from occurring. When a psychological process operates automatically and outside managers' awareness, a key step in combating its negative consequences is to develop insight.

When Assumptions Are Dangerous

Projection is a normal tendency. As human beings, we often misperceive the commonness of our beliefs, values and behavior. Most often, we overestimate the proportion of others who share our beliefs.

So we come to see our own values and choices as relatively typical and appropriate — and we view alternative responses as unusual and even deviant.[8] Because of our bias, we assume that the beliefs and behavior of others will be like ours. In organizations, such assumptions create barriers to successful globalization and change. ("The Problems Projection Creates,")



In one of the earliest demonstrations of projection, students' estimates of the prevalence of cheating on exams differed significantly depending on whether or not they had first admitted to cheating. Both those who cheated and those who didn't overestimated the commonness of their particular tendency.[9] The same phenomenon occurs in managerial contexts. In a study of mock employment interviews, one of the authors found that recruiters' beliefs about a candidate's willingness to answer illegal interview questions correlated strongly with the recruiters' own willingness to do so.[10] Recruiters who would say no to requests for polygraph tests or to marital-status disclosures (which employers are proscribed from demanding) expected higher rates of refusal from others. More important, they made potentially inappropriate inferences about candidates who had an opposing view. A recruiter who would agree to take a polygraph test assumed that most candidates would also — and that a noncompliant candidate had something to hide. Recruiters who reported they would be willing to disclose their family status considered uncooperative a female candidate who refused to do the same.

What psychological processes underlie the perception that one's own beliefs are common to most people? Researchers have identified five possibilities: surrounding oneself with similar others (selective exposure and cognitive availability); attending to one's own views the most (salience of point of view); believing that one's own behavior is based on the situation and that others' behavior is based on their nature (causal attributions); filling in the gaps in ambiguous situations (situational construal); and needing to validate one's own beliefs (motivation). ("Why Projection Occurs.")

Surrounding Oneself With Similar Others The earliest explanation of social projection combined what is known as "selective exposure" and "cognitive availability." [11] Selective exposure refers to people's tendency to select friends, acquaintances, colleagues and advisers who share their backgrounds, interests, values and outlooks. It is not surprising that when consulting similar others, people hear their own views and conclude that almost everyone shares those views. Selective exposure creates a bias in their understanding of the variety of views others hold.[12] Cognitive availability refers to the mental process by which people bring certain information to mind. Rather than conduct an exhaustive search, they search their memories for readily available information, which includes their own views and any data that support those views. Together, selective exposure and cognitive availability lead people, quite unknowingly, to underestimate the diversity of views and to overestimate the commonness of their own views.[13]

Consider this real-life scenario. A global consulting organization convened biannually a group of senior executives and valued managers for two days of operational meetings. Because individuals were nominated by their regional offices, it was understood that they represented the opinions of a local peer group. They advised the executives on how company policies affected individuals at the senior-consultant and manager levels. As the organization's employee base diversified throughout the 1990s, a broader array of interests were discussed, including day-care facilities, nondiscriminatory work practices, elder care and general quality-of-life issues. Moreover, the previously all-white, male group began to include women and members of racial minorities.

The first time an African-American participated in the group was at a planning session one of the authors facilitated. To start, each of the managers presented issues of concern. When it was her turn, the new member said, somewhat nervously, that advancement within the firm was particularly difficult for members of minority groups. When she concluded speaking, everyone in the room looked expectantly at the senior executives. In a pleasant manner, the most senior executive said, "Based on my discussions and concern for this specific topic, I am pretty sure that it is not a problem in our firm." The new manager seemed crestfallen, and the atmosphere in the room was uncomfortable for a moment, but soon the meeting proceeded as usual.

In private conversation with the author, the senior executive explained why he had handled the diversity issue as he did. He had thought deeply about the issue, trying to remember examples of problems in the company. None came to mind. He had consulted with others, and they had confirmed what he believed. He perceived that the topic made the managers in the room uncomfortable. He further explained that he had talked about the issue with his partners (white and male), with whom he felt "comfortable discussing [such] a sensitive topic" and that previous conversations with the managers in the room had given him the impression that they, like himself, were unwilling to discuss it. Because he relied on his memory for evidence and did not test his impressions with people different from himself (such as the managers in the room), he confidently maintained the misperception. In reality, many of the managers in the room did want to discuss the issue and were disappointed by the executive's response.



In projecting his own beliefs onto others, the senior executive overlooked a potentially important issue, marginalized a promising manager and perhaps decreased the likelihood of hearing from her again. He also inadvertently signaled to the other managers that executives were not sincere in seeking input on certain issues.

The executive responded that way because of his selective exposure to partners who reinforced his viewpoint and led him to conclude that his beliefs were shared by an even broader population (the managers in the room and beyond). Selective exposure made him deaf to contrary voices.[14]

Attending to One's Own Views the Most Paying attention to beliefs that are highly salient — one's own beliefs, for example — also contributes to projection. Unlike secondhand information, our own knowledge and experiences are rich and vivid. That vividness captures our attention and biases both the information we gather from others and our judgments. Alternative views and options recede. Research shows that when people consider a particular course of action, their perception that others would agree with their conclusion increases, and their perception of the commonness of differing beliefs diminishes. [15] As a result, they are likely to disregard less vivid data that is relevant but contrary.[16] Other research shows that the more that people think about their beliefs and position, the more pronounced the bias becomes.[17]

Consider a regional bank we'll call Stalwart Savings and Loan. Stalwart's seven senior executives, having completed their annual off-site strategic-planning cycle with one of the authors, were preparing for a board meeting. To the author, the planning meetings had seemed to run smoothly. The principal concern had been a possible acquisition. The CEO had favored it and frequently observed that Stalwart's chairman expected to fuel growth through acquisition. Some of the executives were initially skeptical but gradually they were persuaded. The planning process appeared to have united the group.

The CEO was elated that few dissenting voices had been raised. He indicated that in the past each individual had negotiated merely for the good of her or his respective department, and he was glad he didn't have to meet individually with members to secure support this time.

However, other points of view surfaced. Many senior executives expressed frustration that the CEO had brushed aside any objections to the acquisition. In fact, the chief financial officer was shocked, pointing to a thick binder of strategic and financial analyses indicating the acquisition was not the right way to proceed.

Subsequent meetings with the CEO revealed that he had been privately weighing the pros and cons of the acquisition for several weeks before concluding that it was right. Further, in a discussion prior to the planning session he had discovered that the chairman of the board was an advocate. So the CEO entered the planning process with a clear preference for an acquisition — and an image of how the successful strategy would unfold. He held steadfastly to that vivid personal vision despite others' concerns. Moreover, he was convinced that his entire executive team supported the acquisition. He had no idea he was relying on his own beliefs, was ignoring contrary ideas and was making a sizable commitment based on an inaccurate perception of his team's support.

Believing One's Own Behavior Is Based on the Situation and Others' Is Not The process of understanding and attributing causes of behavior is another driver of projection. Specifically, projection is greater when people consider that their own beliefs and behaviors are arising from the situation (situational factors) rather than from their disposition (personal factors).[18] Personal factors are stable characteristics of an individual, whereas situational factors emphasize the external circumstances in which the individual operates. Attributing their decisions to the realities of a situation, executives assume that most others would respond similarly.

Although individuals maintain that their own behavior is determined by the situation, they usually believe that the behavior of others is based on personality or disposition (actor-observer effect). Thus when two managers disagree, each believes the other's dogged persistence is attributable to stubbornness but that his or her own persistence is a sensible response that other reasonable managers would likely support.



That thought process is particularly prevalent when the same information leads to different recommendations; it frequently emerges in new cross-functional teams focused on product development or organizational redesign. Such temporary teams generally bring together people from diverse functions who are preoccupied with the effect a decision could have on their department.

When one person disagrees with a recommended course of action because of its perceived effect on his or her department, others often fail to consider that person's situation, assuming instead that the dissension springs from a contrary disposition. Believing their view is shared by other team members, they become increasingly certain that if the dissenter were rational and working in the organization's best interests, he or she would not disagree. Causal attribution keeps teams from being effective — a dangerous scenario for critical strategic initiatives with tight deadlines.

Filling in the Gaps in Ambiguous Situations Some researchers offer what is called the “situational construal” explanation for projection. They point out that most social situations are ambiguous and lead people to fill in the gaps from whatever personal knowledge they have. Such a cognitive process is responsible for multiple interpretations of the same event. People are unaware that they are subject to the process — or that divergent and valid interpretations may be possible.[19]

In a 1990 report in the *Journal of Personality and Social Psychology*, Thomas Gilovich showed the powerful effect of such construal on perceptions of consensus. In one study, he asked college students about their preference for 1960s or 1980s music and told them to estimate the percentage of their peers who would make each choice. Students were then asked what specific music they had in mind. Students who expressed a preference for 1960s music provided more appealing examples of 1960s musical groups; those who preferred 1980s music listed more appealing 1980s musical groups. Their estimates about consensus among their peers mirrored their own preferences. Next, their specific interpretations were presented to a second set of students, whose preferences and consensus estimates closely corresponded to those of the original group. In other words, once the situation had been interpreted for the second group, the students' responses were predictable.

One of the authors observed a supplier-relationship renegotiation that illustrates the point. The European office of a Brussels-based U.S. multinational corporation and its French supplier spent several days discussing costs, product packaging, quality standards, distribution processes and related issues. Throughout the negotiation, members of the Brussels team consistently referred to “our special relationship” when discussing possible pricing arrangements and future research-and-development efforts. The author decided to interview each side separately to understand the precise meaning of “special relationship.”

When asked to define the term, the Brussels-based team leader smiled brightly. He explained that he was using the phrase to introduce the proposition that the companies create a single-supplier relationship. He detailed the presumed benefits to both companies, noting that the French company ultimately would be required to open its books. He also expressed pleasure that the French team seemed willing to entertain such a relationship. “Whereas I expected initial hesitation,” the team leader stated, “no opposition appeared to exist.”

The French had a different understanding of “special relationship.” At first perplexed, they finally decided it meant that the Brussels team valued the long-term relationship and the quality of the French product. The French team expected to continue with its favorable arrangement — one that enabled it to pursue other partnerships.

Each group relied on its own construal of the vague phrase “special relationship” and projected its own understanding onto the other party. Not surprisingly, a misunderstanding ensued. When the Brussels team got specific about being exclusive and opening the books, it saw the French respond coolly and realized something was awry. Each party viewed the other's reactions as surprising and inappropriate; negotiations foundered and mutual trust suffered.



Needing To Validate One's Own Beliefs So far the drivers of projection have all been cognitive. They underscore what people pay attention to and with whom they consult. However, motivational factors, such as the desire for social acceptance or the need to maintain self-esteem, also play a role in projection and may work independently of the cognitive drivers.[20] Motivation concerns people's needs, and many people have an unconscious need to believe that their views are common, acceptable or "normal." By assuming that their views are more common than they really are, people validate their own beliefs.[21]

Research shows that overestimating consensus for their positions helps individuals with minority views bolster their self-esteem.[22] Those whose identity is threatened by receiving negative feedback comprise another group that overestimates others' support.[23] According to the motivational explanation for projection, newly arrived executives who are unsure of their standing — and executives whose intuitive ability, not their quantitative ability, has led to their rise through the ranks — will overestimate consensus.

Note that in discussing projection, we are careful to avoid saying two things. We are not saying that projection always leads to disaster. In fact, some studies show that when objective information is lacking, people who project their own preferences onto others may be more accurate than those who do not.[24] In one study, respondents making predictions about people who were highly similar to themselves used their own preferences as proxies and were more accurate than were those who did not rely on their personal preferences.[25] Note also that when people have no belief about how others might respond, they are unlikely to engage in projection.[26] In such cases, people understand the inappropriateness of using their own responses as proxies for someone else's.

So people do not always indulge in projection. Sometimes the opposite occurs, with people perceiving "false uniqueness." They underestimate the commonness of their own responses. Cases of perceived uniqueness are seen in people who are estimating abilities, rather than estimating beliefs or behaviors. For example, the same people who show a uniqueness bias regarding their abilities show a consensus bias regarding their beliefs.[27] Not only do people underestimate the commonness of their abilities, but their bias about the uniqueness of a particular attribute increases as the attribute's importance to them increases.



一、請解釋下列名詞：（25%）

- (1) 命題 (Proposition)
- (2) 假設 (或假說) (Hypothesis)
- (3) 理論 (Theory)
- (4) 操作性定義 (Operational Definition)
- (5) 邏輯經驗 (或實證) 主義 (Logical Empiricism)

二、Collins在其2001年所著的書「從A到A+」(Good To Great)中，研究企業從優秀到卓越的公司之特性，其研究方法如下之資料（摘錄自遠流出版社出版之中譯本），請從企業研究方法的觀點，評論其方法所得出結論之缺點，並說明你認為可改進之處。（25%）

「從優秀到卓越」的公司篩選過程

研究小組花了很多力氣在設定篩選標準，並利用這些標準來進行財務分析，以找出「從優秀到卓越」的公司。在這個過程中，研究小組成員戴德倫（Perter Van Genderen）付出了很多心力。

「從優秀到卓越」公司的篩選標準：

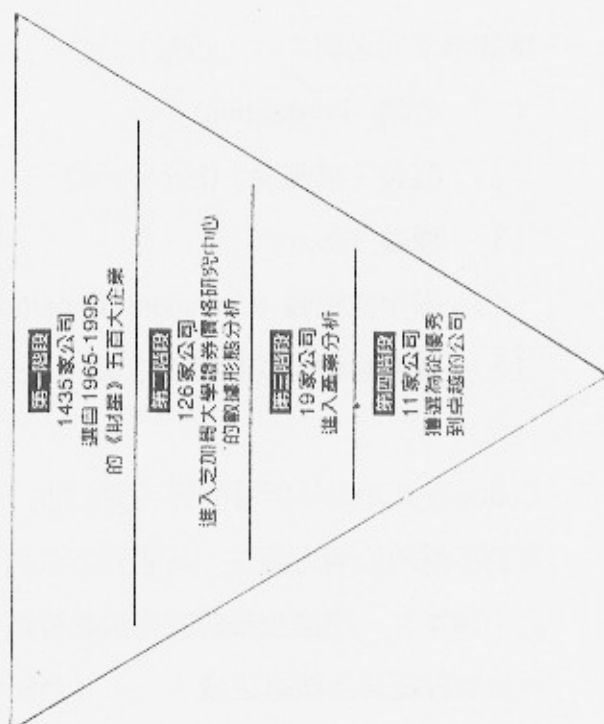
1. 這家公司首先必須表現「優秀」，在轉折點之後，更突飛猛進，表現「卓越」。我們為「卓越」所下的定義是：從轉折點開始的十五年內（T+15），累計股票報酬率至少是大盤表現的三倍。「優秀」的表現則是轉折點之前的十五年間，累計股票報酬率不超過大盤的一・二五倍。此外，轉折點之後十五年的累計股票報酬率必須比轉折點之前十五年的累計報酬率至少高三倍。
2. 從優秀到卓越的形態不是產業共通的趨勢，而是這家公司特有的轉變。換句話說，每一家公司的績效表現形態不只和整體市場作對照，也要和相關產業作比較。
3. 這家公司到達轉折點時，必須已經是一家持續經營、基礎穩固的公司，而非新創的小公司。因此公司在轉折點之前，必須至少營運了一十五年，股票也已經上市了十年以上，可以充足的獲得累計股票報酬率數據。
4. 轉折點必須發生在一九八五年之前，因此我們才有足夠的數據來評估企業是否能持久保持卓越的績效。從優秀到卓越的蛻變如果發生在一九八五年之後，雖然這家公司依然有可能是「從優秀到



卓越」的公司，然而我們卻無法在完成研究之前，蒐集到足夠的數據來計算這家公司的十五年累計股票報酬率和大盤表現之比。

5. 無論轉折點發生在哪一年，在篩選過程中，唯有持續營運而且獨立運作的重要公司才有可能通過篩選，進入下一個階段的候選名單。為了達到這個標準，列入篩選名單的公司都必須名列一九九六年出版的「一九九五年度《財星》五百大企業排行榜」上。
6. 最後，在篩選過程中，公司在股市的表現必須仍舊持續向上揚升。如果某家公司的 T+15 不到一九九六年，那麼從最初的轉折點到一九九六年的累計股票報酬率和大盤表現之比的上升幅度應該相等於或超越前向標準 1 的比率上升幅度。

從優秀到卓越公司的篩選過程



從優秀到卓越的公司篩選過程

我們採用愈來愈嚴格的標準，層層篩選出從優秀到卓越的公司。篩選過程總共分成四個階段：

第一階段：從所有美國公司中選出一四三五家公司

我們決定先從《財星》雜誌的美國最大上市公司排行榜中，搜尋符合標準的公司。《財星》雜誌從一九六五年開始，每年公布企業排行榜。我們最初的名單是曾經在一九六五、一九七五、一九八五和一九九五年出現在《財星》大企業排行榜上的公司，總共有一四三五家企業。大多數人都把《財星》雜誌這份大企業排行榜稱為「財星五百大」，但實際上，榜單上的公司有時會多達一千家，因為《財星》雜誌偶爾會變更上榜企業的規模和形式。初步分析時先以《財星》雜誌的大企業排行榜為基礎有兩大好處。第一，進入榜單的公司都具備實質規模（企業每年的營業額必須達到相當規模，才有可能入榜）。因此，《財星》大企業排行榜上的每家公司幾乎都符合我們的標準——在轉型期間，已經是一家基礎穩固、持續營運的公司。第二，《財星》排行榜上的大企業都是上市公司，因此我們可以把股票報酬數據當作進一步嚴謹篩選和分析的基礎。未上市公司不需要遵守相同的會計標準和資訊揭露制度，因此也無法針對績效作一對一的直接對照分析。將研究樣本限制在《財星》大企業排行榜的範圍內則有一個明顯的缺點：我們分析的對象只限於美國公司。然而，我們認為，只採用美國上市公司合乎標準的公開資訊，建立起更嚴格的篩選標準，遠比是否為國際性的研究更重要。

第二階段：從一四三五家公司到一二六家公司

下一步是採用美國芝加哥大學證券價格研究中心(CRSP, Center Research in Security Prices)的資料篩



國立雲林科技大學

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選出從優秀到卓越的企業。但是，我們需要設法將公司數目削減到我們可以處理的程度。我們採用《財星》雜誌所刊登的報酬率數字進行淘汰。《財星》雜誌從一九八五年開始，就在排行榜上列出每一家企業的十年投資人報酬率。我們利用這個數據，將候選公司的數目從一四三五家縮減為一二六家。我們挑選出一九八五年—一九九五年、一九七五年—一九九五年、和一九六五年—一九九五年期間，報酬率高於平均值的公司，同時也搜尋之前表現低於平均水準，但之後的表現卻高於平均水準的公司。此外，這一二六家公司也必須通過下列任何一項檢驗標準：

檢驗一：從一九八五到一九九五年，每年的複合投資人報酬率都超越同期的《財星》雜誌工業與服務業排行榜上企業的平均複合投資人報酬率三〇%以上（也就是說，是平均報酬率的一・三倍以上），而且之前十年（一九六五—一九八五年）只展現符合平均水準或低於平均水準的績效。

檢驗二：從一九七五到一九九五年，每年的複合投資人報酬率都超越同期的《財星》雜誌工業與服務業排行榜上企業的平均複合投資人報酬率三〇%以上（也就是說，是平均報酬率的一・三倍以上），而且之前十年（一九六五—一九七五年）只展現符合平均水準或低於平均水準的績效。

檢驗三：從一九六五到一九九五年，每年的複合投資人報酬率都超越同期的《財星》雜誌工業與服務業排行榜上企業的平均複合投資人報酬率三〇%以上（也就是說，是平均報酬率的一・三倍以上）。由於《財星》雜誌沒有一九六五之前十年的企業投資人報酬率數據，所以我們決定將從一九六五到一九九五年績效最佳的所有企業都包括在最初的名單中。

檢驗四：一九七〇年以後才創立的公司，以及從一九八五到一九九五年或從一九七五到一九九五年期間，總投資人報酬率超越同期的《財星》雜誌工業與服務業排行榜上企業的平均複合投資人報酬率三〇%以上（也就是說，是平均報酬率的一・三倍以上），但卻因為在《財星》雜誌的企業排行榜上找不到更早的數據，因此不符合以上標準。如此一來，我們可以將近二十年來績效良好，卻未能及早出現在《財星》排行榜上的公司也納入考慮。選定了一九七〇年作為界限之後，我們也可以排除歷史太短，無法明確顯示轉折形態的公司。

第三階段：從一二六家公司到十九家公司

我們根據美國芝加哥大學證券價格研究中心（CRSP）的資料，分析了每一家公司的累計股票報酬率，並和大眾表現比較，尋找從優秀到卓越的股票報酬形態。符合第三階段任何一項淘汰標準的公司都會在這個階段遭到淘汰。

第三階段的淘汰標準

只要符合以下任何一項標準的公司，都會在本階段中遭到淘汰。

第三階段淘汰標準中使用的名詞：

T 年：企業的股票報酬率開始呈現上升走勢的年分。

X 時期：在 T 年之前，相對於股市表現，可以觀察到「優秀」表現的時期。



Y 時期：在 T 年之後，持續大幅超越股市表現的時期。

淘汰標準 1：公司在 C R S P 數據所涵蓋的整個時期中，相對於大盤表現，一直呈現上升走勢——根本不會出現 X 時期。

淘汰標準 2：公司相對於大盤表現，呈現出持平或緩步上升的走勢。沒有在轉折後，明顯呈現突破性成長的績效。

淘汰標準 3：公司出現了轉折，但是 X 時期卻短於十年。換句話說，轉折點之前的數據累計的時間不夠長，不足以呈現出根本的轉折形態。在有些情況下，公司在轉折年之前的 X 時期可能比較長，但是，他們的股票在 X 時期才開始在那斯達克、紐約證券交易所或美國證券交易所交易，因此我們的數據可以回溯的時間仍然不夠長，不足以涵蓋整個 X 時期。

淘汰標準 4：公司展現的轉折形態是，相對於大盤表現，他們從績效很差進步到表現平平。換句話說，我們淘汰了典型的谷底翻身的形態。

淘汰標準 5：公司展現了向上轉折的形態，但卻在一九八五年之後才發生，原本這些企業很可能仍然符合從優秀到卓越的候選資格，但如此一來，在我們完成研究之前，將無法證明他們的十五年累計報酬率與大盤表現之比的確符合三：一的標準。

淘汰標準 6：公司的績效逐步上揚，但卻無法持久不墜。在我們進行篩選之前，公司績效最初短暫上揚，但後來和大盤表現相比，卻一直原地踏步，或走下坡。

淘汰標準 7：公司的累計股票報酬率一直劇烈上下震盪，看不出明顯的 X 時期、Y 時期，或 T 年。

淘汰標準 8：缺乏一九七五年之前的完整 C R S P 數據，因此無法明確界定十年以上的 X 時期。

淘汰標準 9：展現了轉折形態，但公司在 X 時期之前展現了非凡的績效，足以證明這家公司原本就是一家卓越的公司，只不過暫時碰到了困難，而不是一家原本平庸或優秀的公司後來躍升為卓越公司。迪士尼公司就是個好例子。

淘汰標準 10：公司在我們進行第三階段分析時已遭到收購，和其他公司合併，或因其他緣故而不再是一家獨立的公司，因此不符合標準。

淘汰標準 11：公司績效雖然略有提升，但卻沒能達到大盤表現的三倍。

第四階段：從十九家選出最後十一家從優秀到卓越的公司



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- 三、在執行個案研究收集證據時，個案研究的證據可能來源有哪些？試申論之（20%）除了要注意各種不同的來源外，對於進行個案研究時任何資料收集的活動，有一些很重要的基本原則，這些原則所指為何？試申論之（30%）