

招生學年度	九十七	招生類別	博士班
系所班別	企業管理學系		
科目	專業英文		
注意事項	【本考科禁用計算機】		

Please read the following articles and answer the questions *in English or in Chinese*:

**Article I**

The idea that global companies can do good and do well at the "bottom of the pyramid" - that is, among the poor populations of developing countries - has generated excitement among corporations, governments, and NGOs in recent years. But most of the resulting initiatives by multinationals have missed the very poor, the 2 billion people in places like Haiti and Bangladesh who live on less than two dollars a day and have been virtually ignored by the corporate world and cut off from the global marketplace. The multinationals seem not to have noticed the examples of Telenor and Digicel, innovative mobile phone companies that have found opportunities to earn profits and simultaneously improve local economic landscapes by serving the very poor.

Telenor was drawn to Bangladesh and Pakistan, and Digicel to Haiti, by low-wage workforces and the potential for creating local consumer markets, despite endemic poverty. Both companies refused to accept the low-purchasing-power status quo and have been systematically building up local consumer markets. They are now boosting economic growth by generating jobs, tax revenue, and investment.

Their success should come as no surprise. Indeed, the argument that companies can improve poor economies while making profits by selling consumer goods was put forth by C.K. Prahalad and Allen Hammond in their article "Serving the World's Poor, Profitably" (HBR September 2002) and by Prahalad in *The Fortune at the Bottom of the Pyramid* (Wharton School Publishing, 2004). Since the publication of the article and the book, multinationals have begun "creating the capacity to consume" among the poor. In India, for example, Procter & Gamble sells single-use sachets of detergent and shampoo that are affordable for the poor. But the vast majority of such efforts have been aimed at urban consumers in India, China, and South America who are just below the middle class. Multinationals can learn a great deal from Telenor's and Digicel's creative ways of generating purchasing power among consumers with much lower income.

Telenor's joint venture with Grameen Telecom in Bangladesh has several programs aimed at doing this, including one that allows people without bank accounts to pay utility and other bills via mobile phone. In Pakistan, Telenor offers would-be entrepreneurs in impoverished remote areas its "business in a box" solution: a subsidized phone plus training. And Digicel allows phone cards to be recharged from abroad, enabling people in the Haitian diaspora to help relatives pay for their phones, many of which are used in local businesses.

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Both Norway-based Telenor and Jamaica-based Digicel have fared well: Telenor's Grameenphone joint venture, which has been doing business in Bangladesh since 1997, became profitable in 2000 and is now the country's largest telecom firm. Telenor Pakistan, a more recent initiative, increased its revenues 265% in 2007 and saw a nearly 200% jump in its customer base, to 15 million. Digicel doesn't break down its profits by country, but Haiti represents the company's largest market, and the corporation's profits doubled to roughly \$450 million for the year ending March 2008. The phenomenal growth in all three markets suggests significant improvements in local purchasing power. In Bangladesh, another indicator of increased purchasing power is a recent decline in the profits of the 280,000 "phone ladies," who offer access to Telenor's services, as more and more people in remote villages can now afford their own phones.

Perceived high risk and a difficult business environment have prevented capital from flowing into the world's poorest countries, which also include many of the nations of sub-Saharan Africa. But several studies and my own experience with officials of poor countries indicate that once investment comes in, the business environment can improve quickly. Haiti, for example, has established a new Investment Facilitation Center, a one-stop window for traders and investors. And there are factors that offset the risks, such as low labor costs, abundant resources, and highly preferential trade agreements with developed countries. Opportunities are waiting for companies that - like Telenor and Digicel - strive to do good and do well in every country, no matter how poor.

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By Jean-Louis Warnholz

**Questions:**

1. Please write a short summary of this article (around 300 words, *answer in Chinese*) (20%)
2. Give an appropriate title of this article and write a short paragraph to comment on its content (For example: What is the best idea in this article? Is the author too optimistic? What are the challenges for these multinationals? .....etc.) (*answer in English*) (20%)

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## Article II

Although recent work has stressed the importance of motivation to leadership processes (e.g., Yukl, 1998), the leadership literature, in general, has paid limited attention to the underlying psychological processes and mechanisms through which leaders motivate followers. Recent developments in motivation theory stress the importance of people's self-regulatory focus as a central component shaping their motivations and behavior (Higgins, 1997, 1998). This theoretical development may be helpful in attempting to understand the ability of leaders to influence and motivate followers by arousing different self-regulatory foci of followers.

Our goal here is to draw from transformational and charismatic leadership theory (e.g., Avolio, Bass, & Jung, 1999; Conger & Kanungo, 1998) and from identity and self-concept-based theories of leadership (e.g., Kark & Shamir, 2002; Lord & Brown, 2004; Lord, Brown, & Freiberg, 1999; Shamir et al., 1993; van Knippenberg & Hogg, 2003) as well as from the theory of regulatory focus (Higgins, 1997, 1998), to develop a conceptual framework to advance further studies on the underlying mechanisms that enable leaders to behave in a transformational/charismatic manner and to influence followers' motivation and, ultimately, their behaviors and organizational-related outcomes.

Thus, our aim here is twofold. First, we aim to understand how leaders' self-regulatory foci (chronic and situational) and leaders' values, which serve as strong regulatory guides (Schwartz, 1992), affect leaders' motivation to lead (MTL) and their subsequent behavior (i.e., leadership style). Second, we aim to decipher how different leadership behaviors affect followers' motivation and performance by priming different modes of followers' self-regulatory foci (e.g., promotion or prevention). By focusing on both leaders' and followers' motivations, we develop a theoretical framework that traces a full course of the workings of motivation in the leadership process—starting from the exploration of leaders' inner self and the way it influences their leadership style and proceeding through an exploration of how this leadership style affects followers' aspects of the self and, ultimately, their behavior and organizational outcomes.

In the following, we define and review the literature on transformational/charismatic leadership and on identity and self-concept-based theories of leadership, as well as the literature on self-regulatory focus theory. We then present a framework for understanding leaders' and followers' motivation, using Higgins' (1997, 1998) theory of the self-regulatory focus. This framework focuses first on leaders' motivations, exploring the role of leaders' self-regulatory foci and their value structure in determining their MTL and the effect of these motivations on their behavior. We then focus on the followers' motivations, discussing the role of regulatory focus as mediating between leaders' behavior and follower outcomes. We develop propositions that differentiate between various leadership behaviors that prime different aspects of followers' self-regulatory foci. Finally, we investigate various possible individual- and group-level outcomes

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of the leaders' activation of followers' promotion or prevention foci. We conclude with implications and future directions for research.

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By Ronit Kark and Dina van Dijk

### Questions:

1. Please translate the fourth (the last) paragraph *into Chinese*. (15%)
2. According to these paragraphs, delineate (or portray) the theoretical framework of this research. (*answer in English*) (25%)

### Article III

With rapid technological change posing ever more intense competitive challenges, companies are often advised to scrutinize their portfolios and eliminate unprofitable products. Every product, the reasoning goes, must stand on its own bottom line. That, however, may be exactly the wrong mantra for these times. A broader portfolio of products - even if some are, for a time, unprofitable - often can help a company capture more value.

To understand why breadth matters, it helps to look at how today's strategic landscape is changing. New, less-expensive production technologies and ease of entry into some markets have led to a proliferation of products and services; at the same time, the cost of reproducing and distributing certain classes of products has dropped dramatically. The result is a heightening of two core strategic challenges facing businesses: getting noticed and getting paid.

How is a brand to get noticed when there are some 13,000 U.S. mutual funds to select from and, as Barry Schwartz notes in *The Paradox of Choice*, supermarkets can offer 175 varieties of tea bags and 285 kinds of cookies? In information industries, the problem is particularly acute: U.S. publishers produce more than twice as many books today as they did a decade ago, and the volume of information our society generates is far outstripping our ability to consume it all.

And how is, say, a music company to recover its investments when people can cheaply copy and distribute the products? Media organizations are currently having the most trouble getting paid - think of big metropolitan newspapers and the competition from free dailies and free online content such as blogs. Other types of businesses face similar problems - witness the challenge to Microsoft by Linux.

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It's tempting for companies to try to meet the twin challenges of getting noticed and getting paid by shedding product lines, but successful firms have shown that the best approach is often the opposite one: to expand and extend the product portfolio. Expanding it increases not only the chances for a big win but also the number of other products that can benefit from a hit's popularity. The portfolio approach has been used for years in the traditional supermarket - that brawling arena of product proliferation - in such tactics as umbrella branding and loss-leader pricing.

Indeed, the technique is showing up in a range of industries. Apple's expansion of its portfolio to include the iPod has not only launched a whole economy of "i-" add-ons, including the iPhone, but also boosted sales of Apple's existing computers. The Indian network Star TV saw its prime-time viewer share increase from less than 5% to more than 80% in one year after a single hit show, Kaun Banega Crorepati (the Indian version of Who Wants to Be a Millionaire), helped all its productions become more popular. The benefits can even extend to other firms. Author Dan Brown had written three books with mediocre sales prior to his best seller The Da Vinci Code. When his former publishers then re-released the older works, they became best sellers as well.

The portfolio approach can also help a company tackle the getting-paid problem. When there's price pressure in a company's core business, a product-oriented strategy would be to try to boost the return from each product by, for example, giving up price-sensitive customers and pursuing those who are willing to pay more. With a portfolio approach, a company doesn't have to do that - it can protect itself by expanding into sectors that make more money when prices of the company's core products fall. Recording studios were kicking themselves for not seeing the opportunity in products such as MP3 players that were adjacent to easily duplicated CDs. Many media firms, such as the Norwegian company Schibsted, have aggressively expanded into complementary businesses such as free newspapers and online classifieds.

With technology moving so quickly that virtually no manager, engineer, or technologist can predict next year's winning and losing products, a portfolio approach presents greater opportunities for creative solutions than does fighting with your competitors on a product-by-product level.

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By Bharat N. Anand

### Questions:

1. Please outline the main points of this article (*in English or in Chinese*). (20%)

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| 注意事項  | 【本考科得使用掌上型計算機】 |      |     |

1. Let  $(X, Y) \sim N_2(\mu_1, \mu_2, \sigma_1^2, \sigma_2^2, \rho)$  with  $\mu_1 = 10\%$ ,  $\mu_2 = 5\%$ ,  $\sigma_1 = 8\%$ ,  $\sigma_2 = 4\%$ , and  $\rho = -0.6$ .

Please compute

- (a)  $P(0.4X + 0.6Y < 0)$ . (10%)  
 (b) the value of  $z$  such that  $P(0.4X + 0.6Y < z) = 0.05$ . (10%)

2. Let  $X_1, X_2, \dots, X_n \sim i.i.d. \exp(\theta)$ . Define the pdf of  $X_i$  be

$$f(x) = \begin{cases} \frac{1}{\theta} e^{-x/\theta} & \text{if } x > 0, \\ 0 & \text{otherwise.} \end{cases}$$

Please find

- (a) the UMVUE of  $\theta$ . (10%)  
 (b) the UMVUE of  $\frac{1}{\theta}$ . (10%)
3. Let the regression relation between savings ( $Y$ ) and income ( $X$ ) be linear for both rural and urban families. The error term variances for the two populations (rural and urban families) are the same.
- (a) Assume that the slopes of the two regression lines are the same. Please set up the regression relation between savings ( $Y$ ) and income ( $X$ ). (10%)  
 (b) Assume that both the slopes and the intercepts are different in the two regression lines. Please set up the regression relation between savings ( $Y$ ) and income ( $X$ ). (10%)
4. A stock analyst thinks 4 stock mutual funds generate about the same return. She collects the accompanying rate-of-return data on 4 different mutual funds during the last 5 years.

|      | Fund |    |    |    |
|------|------|----|----|----|
|      | A    | B  | C  | D  |
| 1988 | 12   | 11 | 13 | 15 |
| 1989 | 12   | 17 | 19 | 11 |
| 1990 | 13   | 18 | 15 | 12 |
| 1991 | 18   | 20 | 25 | 11 |
| 1992 | 12   | 19 | 19 | 10 |

Do one way ANOVA to decide whether the funds give different performances.

Use the significant level  $\alpha = 0.05$ . (20%)

Note:  $F_{0.05}(2,15) = 3.682$ ,  $F_{0.05}(3,16) = 3.239$ ,  $F_{0.05}(4,19) = 2.895$

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5. Independent random samples from normal populations with the same variance gave the results shown in the following table. Can we conclude that the difference between the means,  $\mu_X - \mu_Y$ , of the two normal populations is less than 5 with the significant level  $\alpha = 0.05$ . (20%)

|   | Sample Size | Average        | Standard Deviation |
|---|-------------|----------------|--------------------|
| X | $n_1 = 15$  | $\bar{X} = 22$ | $S_X = 9$          |
| Y | $n_2 = 20$  | $\bar{Y} = 25$ | $S_Y = 7$          |

Cumulative normal distribution

| d     | N(d)  | d     | N(d)  | d     | N(d)  | d    | N(d)  | d    | N(d)  | d    | N(d)  |
|-------|-------|-------|-------|-------|-------|------|-------|------|-------|------|-------|
| -3.00 | .0013 | -1.58 | .0571 | -0.76 | .2236 | 0.06 | .5239 | 0.86 | .8051 | 1.66 | .9515 |
| -2.95 | .0016 | -1.56 | .0594 | -0.74 | .2297 | 0.08 | .5319 | 0.88 | .8106 | 1.68 | .9535 |
| -2.90 | .0019 | -1.54 | .0618 | -0.72 | .2358 | 0.10 | .5398 | 0.90 | .8159 | 1.70 | .9554 |
| -2.85 | .0022 | -1.52 | .0643 | -0.70 | .2420 | 0.12 | .5478 | 0.92 | .8212 | 1.72 | .9573 |
| -2.80 | .0026 | -1.50 | .0668 | -0.68 | .2483 | 0.14 | .5557 | 0.94 | .8264 | 1.74 | .9591 |
| -2.75 | .0030 | -1.48 | .0694 | -0.66 | .2546 | 0.16 | .5636 | 0.96 | .8315 | 1.76 | .9608 |
| -2.70 | .0035 | -1.46 | .0721 | -0.64 | .2611 | 0.18 | .5714 | 0.98 | .8365 | 1.78 | .9625 |
| -2.65 | .0040 | -1.44 | .0749 | -0.62 | .2676 | 0.20 | .5793 | 1.00 | .8414 | 1.80 | .9641 |
| -2.60 | .0047 | -1.42 | .0778 | -0.60 | .2743 | 0.22 | .5871 | 1.02 | .8461 | 1.82 | .9656 |
| -2.55 | .0054 | -1.40 | .0808 | -0.58 | .2810 | 0.24 | .5948 | 1.04 | .8508 | 1.84 | .9671 |
| -2.50 | .0062 | -1.38 | .0838 | -0.56 | .2877 | 0.26 | .6026 | 1.06 | .8554 | 1.86 | .9686 |
| -2.45 | .0071 | -1.36 | .0869 | -0.54 | .2946 | 0.28 | .6103 | 1.08 | .8599 | 1.88 | .9699 |
| -2.40 | .0082 | -1.34 | .0901 | -0.52 | .3015 | 0.30 | .6179 | 1.10 | .8643 | 1.90 | .9713 |
| -2.35 | .0094 | -1.32 | .0934 | -0.50 | .3085 | 0.32 | .6255 | 1.12 | .8686 | 1.92 | .9726 |
| -2.30 | .0107 | -1.30 | .0968 | -0.48 | .3156 | 0.34 | .6331 | 1.14 | .8729 | 1.94 | .9738 |
| -2.25 | .0122 | -1.28 | .1003 | -0.46 | .3228 | 0.36 | .6406 | 1.16 | .8770 | 1.96 | .9750 |
| -2.20 | .0139 | -1.26 | .1038 | -0.44 | .3300 | 0.38 | .6480 | 1.18 | .8810 | 1.98 | .9761 |
| -2.15 | .0158 | -1.24 | .1075 | -0.42 | .3373 | 0.40 | .6554 | 1.20 | .8849 | 2.00 | .9772 |
| -2.10 | .0179 | -1.22 | .1112 | -0.40 | .3446 | 0.42 | .6628 | 1.22 | .8888 | 2.05 | .9798 |
| -2.05 | .0202 | -1.20 | .1151 | -0.38 | .3520 | 0.44 | .6700 | 1.24 | .8925 | 2.10 | .9821 |
| -2.00 | .0228 | -1.18 | .1190 | -0.36 | .3594 | 0.46 | .6773 | 1.26 | .8962 | 2.15 | .9842 |
| -1.98 | .0239 | -1.16 | .1230 | -0.34 | .3669 | 0.48 | .6844 | 1.28 | .8997 | 2.20 | .9861 |
| -1.96 | .0250 | -1.14 | .1271 | -0.32 | .3745 | 0.50 | .6915 | 1.30 | .9032 | 2.25 | .9878 |
| -1.94 | .0262 | -1.12 | .1314 | -0.30 | .3821 | 0.52 | .6985 | 1.32 | .9066 | 2.30 | .9893 |
| -1.92 | .0274 | -1.10 | .1357 | -0.28 | .3897 | 0.54 | .7054 | 1.34 | .9099 | 2.35 | .9906 |
| -1.90 | .0287 | -1.08 | .1401 | -0.26 | .3974 | 0.56 | .7123 | 1.36 | .9131 | 2.40 | .9918 |
| -1.88 | .0301 | -1.06 | .1446 | -0.24 | .4052 | 0.58 | .7191 | 1.38 | .9162 | 2.45 | .9929 |
| -1.86 | .0314 | -1.04 | .1492 | -0.22 | .4129 | 0.60 | .7258 | 1.40 | .9192 | 2.50 | .9938 |
| -1.84 | .0329 | -1.02 | .1539 | -0.20 | .4207 | 0.62 | .7324 | 1.42 | .9222 | 2.55 | .9946 |
| -1.82 | .0344 | -1.00 | .1587 | -0.18 | .4286 | 0.64 | .7389 | 1.44 | .9251 | 2.60 | .9953 |
| -1.80 | .0359 | -0.98 | .1635 | -0.16 | .4365 | 0.66 | .7454 | 1.46 | .9279 | 2.65 | .9960 |
| -1.78 | .0375 | -0.96 | .1685 | -0.14 | .4443 | 0.68 | .7518 | 1.48 | .9306 | 2.70 | .9965 |
| -1.76 | .0392 | -0.94 | .1736 | -0.12 | .4523 | 0.70 | .7580 | 1.50 | .9332 | 2.75 | .9970 |
| -1.74 | .0409 | -0.92 | .1788 | -0.10 | .4602 | 0.72 | .7642 | 1.52 | .9357 | 2.80 | .9974 |
| -1.72 | .0427 | -0.90 | .1841 | -0.08 | .4681 | 0.74 | .7704 | 1.54 | .9382 | 2.85 | .9978 |
| -1.70 | .0446 | -0.88 | .1894 | -0.06 | .4761 | 0.76 | .7764 | 1.56 | .9406 | 2.90 | .9981 |
| -1.68 | .0465 | -0.86 | .1949 | -0.04 | .4841 | 0.78 | .7823 | 1.58 | .9429 | 2.95 | .9984 |
| -1.66 | .0485 | -0.84 | .2005 | -0.02 | .4920 | 0.80 | .7882 | 1.60 | .9452 | 3.00 | .9986 |
| -1.64 | .0505 | -0.82 | .2061 | 0.00  | .5000 | 0.82 | .7939 | 1.62 | .9474 | 3.05 | .9989 |
| -1.62 | .0526 | -0.80 | .2119 | 0.02  | .5080 | 0.84 | .7996 | 1.64 | .9495 |      |       |
| -1.60 | .0548 | -0.78 | .2177 | 0.04  | .5160 |      |       |      |       |      |       |

This table shows the probability [N(d)] of observing a value less than or equal to d. For example, as illustrated, if d is -.24, then N(d) is .4052.