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THE EFFECTS OF COMPETITION AND RESOURCE ON FIRM PERFORMANCE IN LOCAL INFORMATION SERVICE ON THE WEB

By

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ABSTRACT

THE EFFECTS OF COMPETITION AND RESOURCE ON FIRM PERFORMANCE IN LOCAL INFORMATION SERVICE ON THE WEB

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The promise of a market for Web-based local information service (WLIS) has attracted nearly all forms of media including broadcasters, newspapers, and Internet ventures to a new cross-media competition and coordination. The present research is the first effort to empirically explore the mechanism of firms' competitive advantage and performance in the WLIS. Web survey research was used to collect 183 firm data from 81 metropolitan markets.

The first purpose was to assess how competition intensity affects firms' financial commitments and performance. The competitive environment was found to strongly impact the resources available to the WLIS firm and its strategic choices. A firm's competition intensity was also positively related to market and financial growth performance controlling for market size, income, and service age.

The second purpose was to provide evidence that valuable and unique firm resources and capabilities provide the key sources of competitive advantage. Firm resources were found to be very important to the opportunity for competitive advantages. In particular, the effects of a firm's intangible resources were stronger on firm performance and product quality than those of tangible resources controlling for competition intensity.

Two competitive strategies were examined to identify the effects of firm performance and product quality. A firm's large-scale strategy was found to have a strong impact on firm performance and product quality, while earlier entry strategy was not. The result indicates that in the WLIS industry, without effective strategies such as large-scale strategy and intangible resource commitment, first mover advantage has no effects on product quality and firm growth performance. In addition, the effects of firm's resources were found to be stronger than the effects of market competition on firm performance.

Third, the present research identified three organizational goals in the WLIS: service quality, profitability, and business competition. The goals of firms with different boundaries were found to be reflected in their allocation of resources and competitive behavior, and result in different levels of firm performance

Finally, venture origin was found to be associated with a firm's financial commitments, competitive strategies, and performance. Considering the market share and market growth performance, the current WLIS market seems to be characterized by strong competition between daily newspapers and Internet ventures.

This research elaborated the link between market structure and firm performance by analyzing how market level effects are mediated by firm level conduct for firm performance and product quality. It provides empirical evidence for theoretical linkage between the financial commitment and the resource-based theory of the firm in a developing monopolistic competitive market.

To My Mother and Father
With Thanks and Love

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INTRODUCTION

In early 1998, 51 percent of Internet users had already accessed local applications such as news, weather, sports, real estate, and e-commerce. Moreover, 46 percent indicated that they would use sites that aggregate local content at least once a week (Krasilovsky, 1998). The promise of a market for Web-based local information service (WLIS) has attracted nearly all forms of media including television, radio broadcasters, newspapers, and Internet ventures to a new cross-media competition and coordination. There are now more than 2,900 newspapers online and more than 980 television station sites in the United States (Editor & Publisher MediaLink, March 2000). In any given local market, there can be as many as twenty local information service sites competing against one another. The marketer of local information service may have a newspaper site, an alternative weekly site, a local branch of a city guide chain such as CitySearch and Digital Cities, several TV and radio station sites, and joint ventures between media groups.

Some news companies reported annual new media profits in the millions of dollars. The Web site of WCCO of Minneapolis was the first local TV site to claim profitability. Even if there have been incredible efforts to gain a competitive advantage in the industry, a model of competitive advantage and firm performance still should be established. The present research is the first effort to empirically explore the mechanism of firms' competitive advantage and performance in the WLIS.

In particular, this research focuses on local competition, firms' diverse resources, and competitive strategies to explain firm performance in Web-based local information services (WLIS). It will contribute to a further understanding of the WLIS market and industry, expand the limited body of studies on firm behaviors and resources in media research, and advance some important linkages between firm resources and performance to theoretical foundations.

Purpose of the Research

The first purpose of the present research is to identify organizational goals and objectives in WLIS. According to system theory, before the inputs are released into the systems and before the processes take place, direction in the form of goals and objectives is given to the organizational system (Connellan, 1978). In other words, a firm should have some specific goals and objectives before the firm adopts a specific conduct. The objectives of firms with different boundaries may differ systematically, may be reflected in their competitive behavior, and could result in different levels of firm performance. Exploring the organizational goals may be the first step to picture the industry and firm behavior for the emerging business and market.

The second purpose is to identify which factor is the primary cause of firms' performance in WLIS. Traditional economic research focuses on market structure such as competition as the primary cause of performance,[1] while the resource-based view of the firm tends to emphasize the importance of firm-specific resources and capabilities. McGahan and Porter (1997) confirm that both market and firm effects

[1] Economists usually use the term market structure to describe how competition

are important in shaping profitability. But they argue that the partitioning differs across sectors of industry. The present research examines partitioning and complementarity between firm and market effects on performance, and thereby elaborates the link between market structure and firm performance.

The third purpose comes from theoretical concerns in media economics and management. The financial commitment approach is based on the competitive newspaper and local television news markets, which are characterized as oligopolies with product competition. An important theoretical issue is the applicability to media markets that contain large numbers of firms, which is characteristic of perfect competition (Lacy, 1992). This research attempts to apply the financial commitment approach to the emerging market of the WLIS.

Finally, for future research in WLIS, this research methodologically attempts to propose and develop several measures for economic and management variables such as competition, firm resources, and performance. Figure 1 summarizes the scheme of the present research.

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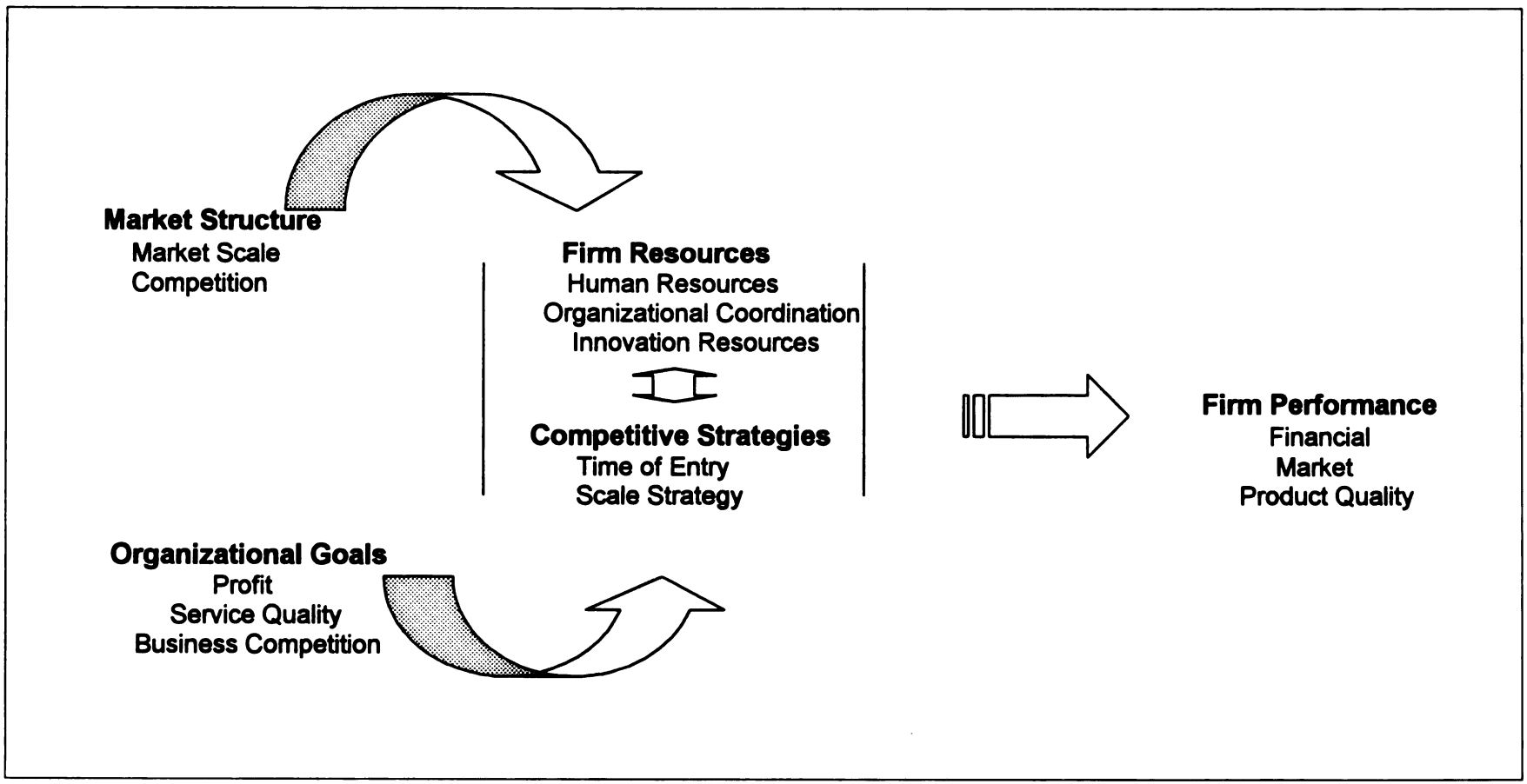
takes place within a geographic area (Lacy, 1993).

Figure 1

Scheme of the Research: The Effects of Competition and Resources on Firm Performance in Web-based Information Service



Chapter II

LITERATURE REVIEW AND HYPOTHESES

WLIS Product and Market Structure

The industrial organizational model allows the analysis of a particular industry or market by examining the market structure. The structure-conduct-performance (SCP) paradigm posits a causal relationship wherein external market structure affects firm strategy or conduct, which in turn affects firm performance (Bain 1956, 1968; Mason, 1957). Market structure models are derived from microeconomic theories such as perfect competition, monopolistic competition, oligopoly and monopoly. Given the geographic market, market structure is determined by three dimensions: the number of firms, the homogeneity of products within the market, and the extent of barriers to entry (Lacy & Simon, 1993).

According to three dimensions of market structure, traditional media markets have been defined as oligopolies with product competition (Prisuta, 1979; Litman, 1988; Lacy, 1992). For example, Litman (1988) places newspaper markets between oligopolies and monopolies. An oligopoly is characterized by a market with a few firms that recognize their strategic interdependence. The growing number of media outlets in large markets, however, have made the application of oligopoly more and more questionable (Lacy, Atwater, & Qin, 1989). Recently, Chan-Olmsted (1997) proposed a multichannel media competition model by applying monopolistic competition theory at the industry level and oligopoly theory at the group level.

Unlike the traditional media markets, the Web-based local information service market has a larger number of firms and lower barriers to entry even in local markets which are characteristic of perfect competition. Perfect competition markets are those with many sellers, homogeneous products, and low barriers to entry. In the perfect competition market, each firm assumes that the market price is independent of its own level of output. At higher prices, the firm sells nothing, and below the market price it faces the entire market demand curve (Varian, 1996).

WLIS products, however, are not homogeneous. Each WLIS firm attempts to make consumers think that its product is different from the products of its competitors to create some degree of market power. The primary incentive for sellers to differentiate is the reduced substitutability between products. With reduced substitutability between products, price-cutting does not result in a complete loss of one's market share. Product differentiation thus gives a firm a certain power within its own market. Such a market is called a monopolistically competitive market (Chamberlin, 1962).

The first step in examining the market structure is defining the market in terms of geography and product. WLIS markets are difficult to strictly define by geographic market. Chyi and Sylvie (1998) suggested electronic newspapers perform in four separate submarkets: the local information market, the long-distance information market, the local advertising market, and the long-distance advertising market. Moreover, the local information market is not limited to the resident users of the market. Long distance users can access specific local contents if they are willing to pay their attention.

Another difficulty in defining the WLIS market mainly comes from its joint product nature which serves two markets with one production process. The WLIS sells information and entertainment to consumers and space to advertisers. Even the WLIS products are multiproducts that can serve markets other than the information and advertising markets (Lacy & Noh, 1997). WLISs provide electronic commerce transactions on their Web sites which may be an important revenue stream. For example, New York Times' New York Today (http://www.nytoday.com) launched a restaurant reservation service in February 2000. As Lacy and Noh (1997) argue, electronic media have ceased being just about content and allow new behaviors related to other markets.

WLIS products are quasi-public goods. Even if a user consumes information or entertainment on WLIS, this action does not diminish its availability to others. The WLIS products are not used up by the act of consumption, which is called non-exhaustibility or joint of supply (Barry & Hardin, 1982). Every member also has a chance to benefit from the Web contents. In other words, it is impossible to exclude some users from consuming the Web content. Public goods are not affected by supply and demand in the same way that private goods are affected (Picard, 1989). Although most WLISs are available to all consumers, there exist some premium Web services. When users begin to pay for the WLIS in the form of subscription fees or pay-per-article, the price element begins to affect demand by losing viewers who would surf only if the price were lower. Due to these hybrid characteristics, WLISs are quasi-public goods.

The WLIS products are also experience goods. Experience goods are defined as "those whose qualities and characteristics can be discovered only after the actual purchase of the good has occurred" (Ekelund & Saurman, 1988, p.63). Consumers must experience or sample them to evaluate the quality of Web content. For many experience goods, repeat purchases by consumers are commonplace. As a result, the quality of the products can be quickly discovered. In the WLIS market, consumers have a high degree of market power by repeat visiting. They can discontinue using the WLIS and move to other WLISs. The important factor, therefore, may not be the quantity of people a WLIS attracts but the quality of their experience. A WLIS that attracts just a few thousand loyal customers may ultimately be more valuable than one in which a million new people visit each month but never return (Schwartz, 1996). WLISs with loyal customers can extract higher advertising revenue from advertisers. Customer information may be valuable to advertisers and direct marketers (New York Times, October 20, 1998). The retention efforts are more important to keep customers and deter them from switching to another service.

Financial Commitment

Media economics uses the term market structure to describe how competition takes place. Various studies on the structure of media markets have indicated a relationship between competition and firm conduct. Litman and Bridges (1986) found that competition had an impact on the amount of money spent on the product. Competitive newspapers tended to have more wire services and larger newsholes. They called the tendency to increase financial expenditures on the news product "financial commitment." Lacy (1989, 1992) conceptualized the financial

commitment theory with a set of explicit theoretical statements, which are applicable to newspaper and local TV news competition. According to the theory, as intensity of competition increases, the amount of money committed to news content increases (Lacy, 1992).

Newspaper research found that competition resulted in more financial commitment on product (Kenny & Lacy, 1987; Nixon & Jones, 1956; Litman & Bridges, 1986; Lacy, 1987, 1988, 1990; Mullins, 1975; Everett & Everett, 1989). The number of wire services carried and the number of reporters per amount of news space were related positively to intensity of competition (Lacy, 1987). This is because newspapers facing intense competition must increase expenditures on the information product to attract readers (Lacy, Atwater, & Qin, 1989).

Even if the financial commitment theory originated with the newspaper industry, research also confirmed the relationship between competition and financial commitment in local television news (Busterna, 1980, 1988a; Lacy, Atwater, Qin & Powers, 1988; Lacy, Atwater, & Qin, 1989; Lacy & Bernstein, 1991; Litman, 1979; Power and Lacy, 1991; Powers, 1993). For example, Litman (1979) found that an increase in competition between television networks resulted in increased programming expenditures. Busterna (1988) also found that competition in local television news was significantly related to staff size. Local news competition with another station was positively related to the number of employees in a station's news department per daily newscast (Lacy, Atwater, & Qin, 1989).

The competitive environment impacts the resources available to the venture and, as a result, its strategic choices (Chandler & Hanks 1994; Tsai, MacMillan, &

Low, 1991). Even if no published studies could be found concerning the impact of competition on human resources commitment in the WLIS, traditional media research suggests a possible connection between competition intensity and human resources commitment. The rationale is that industry conditions, competition intensity, influence the opportunities available for the firm. WLIS firms facing intense competition are likely to try to differentiate their products by hiring more people and higher quality people who can do a better job. The following hypotheses attempt to extend the relationship between competition and financial commitment to the WLIS market. Moreover, in proposing a hypothesis regarding this relationship, we should point out that this relationship may be other market variable-dependent; requiring controls for market size and market income level. The effects of service age are also controlled for these hypotheses (see p.21).

> H1a: For Web-based local information service, a firm's competition intensity with other firms will be positively related to larger quantity of human resources controlling for market size, income, and service age.
>
> H1b: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher quality of human resources controlling for market size, income, and service age.
>
> H2: For Web-based local information service, a firm's competition intensity with other firms will be positively related to larger scale of entry into market controlling for market size, income, and service age.

Competition and Performance

Sandberg and Hofer (1987) suggest that industry conditions greatly impact a firm's performance. The competitive environment influences the market's acceptance of its products. As the intensity of competition increases in a market, the market will tend to accept the higher quality products. Previous studies support

the relationship between competition and content quality in the newspaper industry (Wanta, Johnson, & Williams, 1990; White & Andsager, 1990; Sylvie, 1991). In the competitive market, a firm will try to establish higher quality products for the formation and survival of a new venture. A WLIS firm faces intense competition. Therefore, it is likely to spend more money to differentiate its product which means a higher quality of product.

Editorial content is the most important element to define the quality of WLIS products. Without the visual impact of shape, color, and contrast, however, WLIS content will not motivate the viewer to investigate their content. The Web design concept has two dimensions: aesthetic and functional (Noh, 1998). The aesthetic design concept refers to the extent to which Web design takes full advantage of the artistic potential of the medium. WLIS may also contain diverse levels of functionality. Functionality refers to the quality of WLIS that is characterized by increased control over the communications process by customers. For example, ease of searching is often the most important functional attribute because users rarely spend enough time on any individual Web site to become expert users (Nielson, 1998).

Research has supported to some degree that daily newspaper competition increases product quality in the form of more news space, more news services, and increased use of color and graphics. Kenny and Lacy (1987) found that the use of color and graphics on the front page of newspapers increased when the intensity of the competition increased. Lacy (1988) reported that increasing intensity of intercity competition among daily newspapers resulted in increases in the

percentage of total newsholes given to local news. Research using an index of quality in newspapers found a relationship between competition and quality (Lacy & Fico, 1989). Competition in local television news was positively related to the minutes of local news, as well as the number of minutes of all local programming (Busterna, 1988). Intensely competitive WLISs are likely to have higher quality ratings for their service products and firm performance.

> H3: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher quality of product controlling for market size, income, and service age.
>
> H4a: For Web-based local information service, a firm's competition intensity with other firms will be positively related to stronger emphasis on market performance within its business unit controlling for market size, income, and service age.
>
> H4b: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher level of market growth performance controlling for market size, income, and service age.
>
> H4c: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher level of financial growth performance controlling for market size, income, and service age.
>
> H4d: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher level of market share controlling for market size, income, and service age.

Resource-based Theory of the Firm

Resource-based theory emerged from dissatisfaction with the SCP paradigm of industrial organization and neoclassical economics (Bogner, Mahoney, & Thomas, 1998). The neoclassical theory of the firm was originally designed for the theory of price determination and resource allocation. Within the industrial organization model, firms in an industry were considered to be alike in all respects

except for scale. There is little heterogeneity of firms in the model. As a result, the industrial organizational model emphasizes industry condition, market structure, as the primary basis for superior firm performance.

The structural view has been criticized because the causal assumption ignores the dynamic influences that a firm's strategic actions have on the industry structure (Chan-Olmsted, 1997). Penrose (1959) noted that it is inappropriate to try to reconcile the neoclassical theory of the firm with organizational theory. Neoclassical microeconomics is inadequate in dealing with dynamic growth processes based on heterogeneity of firms. As Rumelt (1974) argued, "the central concerns of business policy are the observed heterogeneity of firms and firm's choice of product-market commitments" (p.560). They require a focus on the individual firm.

The resource-based theory of the firm takes the perspective that valuable and unique firm resources and capabilities provide the key sources of sustainable competitive advantage (Barney, 1991; Conner, 1991; Hart, 1995). The resource base focuses on rents other than monopoly rents, the returns to market power. Thus the resource-based theory assumes that business strategy and performance should be viewed more as a quest for Ricardian rents (Grant, 1991). Unlike monopoly rents by market power, Ricardian rents are based on the possession of scarce and valuable resources (Barney, 1986: Peteraf, 1993). They suggest the returns to the resources from competitive advantage are over and above the real costs of the resources. The theory highlights how the deployment of unique and idiosyncratic organizational resources and capabilities can result in superior performance. Even for the new

venturing firm, research has shown that resources and capabilities are the source of competitive advantage (Chandler & Hanks, 1994; McGrath et. al., 1994).

Sustained competitive advantage grows from firm-specific resources that cannot easily be imitated or substituted. Product strategies are dependent on resources and therefore strategy formulation starts with a resource assessment. Penrose (1959) provided a new conceptual schema for the firm as a collection of resources. Mata, Fuerst, and Barney (1995) suggested that the firm's resources be based on two characteristics: resource heterogeneity and immobility. Resource heterogeneity means that the resources and capabilities possessed by competing firms may differ; resource immobility means that these differences may be long lasting. If a firm possesses a resource that is possessed by other competing firms, that resource cannot be a source of competitive advantage. Thus common resources do not meet the resource heterogeneity requirement. On the other hand, a resource is immobile if firms without a resource face a cost disadvantage in developing, acquiring, and using that resource compared to firms that already possess and use it (Mata, Fuerst & Barney, 1995).

Firms are comprised of heterogeneous bundles of resources. Six major categories of resources have been suggested: physical, financial, human, reputation, organizational, and technological resources (Barney, 1991; Conner, 1991; Peteraf, 1993, Grant, 1991). Although physical and financial resources may produce a temporary advantage for a firm, competitors or new entrants often can readily

acquire them on factor markets.[2] Important resources in a firm must be difficult to replicate and therefore raise a "barrier to imitation" (Rumelt, 1984).

Human Resources

Brush and Chaganti (1998) showed that human and organizational resources are more strongly associated with certain performance outcomes than strategy in small service and retail firms. For example, technological and marketing skills significantly influence firm performance (Roberts, 1992). In particular, the most important resources are tacit or socially complex. The tacit resources are skill-based and people-intensive (Hart, 1995). Chandler (1962) highlights the importance of critical human resources: "(O)f these resources, trained personnel with manufacturing, marketing, engineering, scientific, and managerial skills often become even more valuable than warehouses, plants, offices, and other physical factors (p.383)."

Even if the translation of resources into content quality is not perfect because some waste always occurs in the process (Lacy, 1992), media research has supported the relationship between resource commitment and product quality (Lacy & Fico, 1989; Lacy, Fico, & Simon, 1989). Lacy and Fico (1989) found that as human resources for a given amount of space increased, the quality of the newspaper increased. For direct performance effects, research has also suggested that staff sizes are positively related to performance in the newspaper industry (Lacy, Fico, & Simon, 1989). Power and Lacy (1991) found that size of newsroom staff was positively related to audience share for the early evening newscast.

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[2] Moreover, financial resources of a larger firm are not indicative of financial resources the firm has allocated or is willing to invest in the new venture. This

However, the quantity of human resources is only part of human resources dimensions. Hiring more people does not guarantee higher quality which can do a complete job for superior performance. Sometimes, the quality of human resources has a stronger impact on firm performance than the quantity of human resources. Therefore, the effects of each dimension should be examined for product quality and firm performance.

H5a: The quantity of human resources will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.

H5b: The quantity of human resources will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

H5c: The quantity of human resources will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

H5d: The quantity of human resources will be positively related to higher level of market share controlling for firm's competition intensity, market size, income, and service age.

H6a: The quality of human resources will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.

H6b: The quality of human resources will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

H6c: The quality of human resources will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

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would not be disclosed.

Organizational Coordination

Creating competitive advantage is not simply a matter of assembling a set of resources. Rents are usually earned not necessarily because of better resources, but because of better use of resources (Penrose, 1959). Resources are basic inputs into the production process. Productive activity, however, requires the cooperation and coordination of teams of resources (Chandler & Hanks, 1994). Socially complex resources depend on large numbers of people engaged in coordinated action such that few individuals have sufficient breadth of knowledge to understand the overall phenomenon (Barney, 1991; Reed & DeFillippi, 1990)

Organizational coordination involves processes that redefine the firm's product strategies, reconfigure chains of resources the firm can use, and redeploy resources through organizational structures (Sanchez, 1995). The organizational coordination builds a pattern of organizational routines within the firm. Organizational routines are regular and predictable patterns of activity which are made up of a sequence of coordinated actions by individuals. The organizational systems and routines such as relationship, planning, and structure, are central to achieving efficiencies in operations and providing superior levels of service (Brush & Chaganti, 1998). Andrews (1980) suggested that the essence of coordination is the way in which subdivided functions and interests are resynthesized.

Sustainable competitive advantage involves complex patterns of coordination between people and between people and other resources (Grant, 1991). Dynamic product markets such as Web information service require frequent adjustments in

product strategies and coordinating the uses of product creation resources. Therefore, the following hypotheses of organizational coordination were addressed.

> H7a: Organizational coordination will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.
>
> H7b: Organizational coordination will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.
>
> H7c: Organizational coordination will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

Innovation Resources

Innovation in combining or deploying resources can lead to a competitive advantage or superior performance (Grant, 1991; Barney, 1991). Being first to market allows the firm to establish its products as the standard, which forces later entrants to follow the pioneer's rules of competition (Zahra, Nash, & Bickford, 1995). Rapid product introductions can meet customers' needs, generate profits, and preempt the competition (Zahra, 1996). In other words, they enhance the firm's ability to differentiate itself from the competition.

In the early developmental stage of the WLIS, there is still much experimentation, research, and development that need to be funded by WLIS firms. For superior performance, it is essential to create a new and innovative application that others will want to copy (Outing, October 23, 1999). Companies to compete based on innovative products should be in the best position to take advantage of opportunities in rapidly changing industries such as WLIS.

> H8a: Innovation resources will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.

H8b: Innovation resources will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

H8c: Innovation resources will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

Market and Resources

Market-level effects that promote homogeneity among firms coexist with firm-level effects that generate heterogeneity, just as various forms of competition coexist within the same industry (Mauri & Michaels, 1998). Thus there is a complementarity between resource-based and industrial organizations perspectives, including financial commitment theory, to explain the mechanism of firm performance. For example, Mauri and Michaels (1998) found the strong influence of industry-level drivers on R & D and advertising investment, whereas the results for performance confirmed the strong effect of firm-level drivers from the variance components methodology. Chandler and Hanks (1994) confirmed that both perceived market attractiveness and resource-based capabilities were significantly related to venture performance.

Although industry effects are important, the resource-based view places primary emphasis on investigating firm-level effects on performance. Rumelt (1991) found that the variance within markets is greater than variance across markets. Roquebert, Phillips and Westfall (1996) also confirmed the dominance of firm effects on performance using variance components analysis. McGahan and Porter (1997) found that there are significant stable business segment-specific effects of 32% while industry effects on firm profitability was 19% of the total

variation. Even when firms follow similar strategies, the idiosyncrasy in their resources leads to different performance outcomes (Lawless, Bergh, & Wilsted, 1989).

RQ1a: Are the effects of firm's resources on product quality stronger than those of firm's competition intensity?

RQ1b: Are the effects of firm's resources on market growth performance stronger than those of firm's competition intensity?

RQ1c: Are the effects of firm's resources on financial growth performance stronger than those of firm's competition intensity?

Competitive Strategies

Scale Strategy

Literature on competitive strategies for new ventures differs significantly on the domain breadth for new ventures, small- versus large-scale entry. Small scale position argued that new ventures should pursue 'niche' strategies concentrating on specialized products, localized business operation (Hosmer, 1957) and customized market segments, and high quality of customer services (Cohen and Lindberg, 1972). Thus they should avoid direct competition with large established firms.

On the other hand, MacMillan and Day (1987) found that large-scale entry was more successful than small-scale entry. Large-scale strategies include high levels of capacity, sales promotion, service quality, advertising, and sales force expenditures. Cooper, Willard and Woo's (1986) also suggested that with the large-scale combination of resources, new ventures may develop strategies of direct competition with larger and established market leaders.

WLIS is defined as increasing returns business. The essence of an increasing returns business is that the product or service becomes more valuable as more customers purchase it (Hagel, 1999). The increasing returns business of WLIS mainly comes from the feature of discretionary database. Connolly and Thorn (1993) defined it as "a shared pool of data to which several participants may, if they choose, separately contribute information." When someone contributes information to the Web, other consumers enjoy some benefit from using the information on the WLIS. WLIS include many kinds of discretionary databases such as local forum, real-chatting, diverse opinion from customers, information of local events, and even advertising. In the increasing returns business, the firm is likely to have to be aggressive to drive success in this business. It is essential to achieve a critical mass point to maximize WLIS utility, which results in product differentiation. Therefore the following hypotheses were addressed.

> H9a: For Web-based local information service, large-scale entry strategy will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.
>
> H9b: For Web-based local information service, large-scale entry strategy will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.
>
> H9c: For Web-based local information service, large-scale entry strategy will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.
>
> H9d: For Web-based local information service, large-scale entry strategy will be positively related to higher level of market share controlling for firm's competition intensity, market size, income, and service age.

Time of Entry

By engaging in pioneering, the firm takes the competition to a new arena where its early mover status is hoped to create some basis for sustainable competitive advantage (Covin, Slevin, & Heeley, 1999). Research supported that firm age strongly impacts an organization's resources and performance (Aldrich & Auster, 1986; Venkataraman & Low, 1994; Brush & Chaganti, 1998). Mosakowski (1993) found that firms of different ages have different combinations of human and organizational resources correlated to performance.

Early entry into a young industry is also associated with higher levels of long-term performance. Many researchers have found that first entrants maintain higher market performance and higher chance of survival (Mitchell, 1991; Lambkin, 1979; Robinson & Fornell, 1985; Mascarenhas, 1997). This is because the investments made in an industry's early period create a set of strategic assets for firms that conditions their later choices (Oster, 1994). Thus, the early entrants may choose employees and agents and obtain equipment at lower market prices than later entrants. Most of all, customers may view first entrants as prototypical of the new product category (Mascarenhas, 1997). Therefore, a firm's earlier entry into market is likely to have higher sustainable competitive advantage, which results in higher firm performance.

> H10a: For Web-based local information service, earlier entry into market will be positively related to higher quality of product controlling for market size, income, competition intensity, and scale of entry.

> H10b: For Web-based local information service, earlier entry into market will be positively related to higher level of market growth performance controlling for market size, income, competition intensity, and scale of entry.

H10c: For Web-based local information service, earlier entry into market will be positively related to higher level of financial growth performance controlling for market size, income, competition intensity, and scale of entry.

H10d: For Web-based local information service, earlier entry into market will be positively related to higher level of market share controlling for market size, income, competition intensity, and scale of entry.

Product Quality

Product quality has long been recognized and advocated as bases for competitive differentiation in growing industries. Product quality may be described as the characteristics of a product or service that can contribute to the fulfillment of stated or implied customer needs and wants (Garvin, 1984, Reeves & Bednar, 1994). The level of product quality reflects product differentiation. Product differentiation has two dimensions: horizontal and vertical (Whinston, Stahl, & Choi, 1997). Products are considered to be differentiated horizontally if the difference is based on appearance or consumer preference. When all consumers prefer a product among equally priced products, the products are considered to be vertically differentiated. Thus products are differentiated vertically if their qualities are different.

Cost-reducing mass production technology is no longer a major concern for digital products. If products are differentiated, each seller has some degree of market power over those consumers who prefer their product. Customization is an extreme example of product differentiation in which products are produced to match the specific demand of a small group of consumers or even one individual (Whinston, Stahl, & Choi, 1997).

Empirical evidence is supportive of the proposition that product quality should enhance market performance in media industry. For example, the level of

newspaper quality was positively related to circulation (Lacy & Fico, 1989). Lacy and Sohn (1990) found that as inches of copy devoted to stories about the suburbs increased, metro daily penetration increased. Customers tend to be drawn to quality outputs and form loyalties toward the providers (Kroll, Wright, & Heiens, 1999). A WLIS competing for the same customers must match the quality of the competing WLIS in most areas and differentiate themselves in other areas for higher level of firm performance.

> H11a: For Web-based local information service, product quality will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.
>
> H11b: For Web-based local information service, product quality will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.
>
> H11c: For Web-based local information service, product quality will be positively related to higher level of market share controlling for firm's competition intensity, market size, income, and service age.

Organizational Goals

The firm's goal in traditional microeconomic theory is assumed as profit maximization. Criticizing the simplicity of the firm's assumed goals, other alternative theories regarding the goals of firms suggests goals other than profit maximization. Baumol (1967) has suggested that firms work to maximize sales revenue. Marris (1964) argued that the goals of the firm are to maximize shareholder's capitalization.

All goals in the end may relate to maximize profit or shareholder's value but the firm has a number of subgoals. The firm cannot be sure of the relative contribution of any single subgoal to the profit or shareholder's value. Some of the

multiple goals involved in performance evaluation will be compatible, but others may come into conflict. When multiple goals exit, how do we determine which one is influencing strategic behavior? This may depend in part on the structure of the set of goals. Research suggests that the structure of goals is hierarchical in nature (Beach 1985; Maslow 1970). However, the organization of goals has a more fluid arrangement. One goal can sometimes be more or less important than alternatives. For example, profitability may not be an important goal in the initial stage of a new venture. Regardless of the structure, research on the organization of goals suggests that separate but compatible goals be grouped into relatively homogeneous categories of goals (Murphy & Cleveland, 1995).

Demers (1996) reported three homogeneous categories from newspaper management: product quality, profit, and community involvement. Rhea (1970) also conducted research on the goals of broadcast news directors. He included 11 task-oriented goals including profit, product quality, community involvement, licensing, and market position. Bates (1997) found that the primary focus of local television sites remains promotional, with a secondary emphasis on providing information content. Some WLIS firms are competing for the future. The firms should be concerned not only with the present profitability, but also with its future positions and source of competitive advantage (Hamel & Prahalad, 1994).

With firms that have different sets of goals, the impact of management pursuing the goals can vary. The goals of firms with different boundaries may differ systematically, may be reflected in their allocation of resources and competitive behavior, and could result in different levels of firm performance. The

following research questions attempt to identify organizational goals and the effects of the goals on resource allocation and competitive strategies in WLIS.

> RQ2a: What kinds of organizational goals are most likely to be sought through local Web-based local information service?
>
> RQ2b: How do firm's organizational goals affect firm resources such as i) quantity of human resources, ii) quality of human resources, iii) organizational coordination, and iv) innovation resources?
>
> RQ2c: How do firm's organizational goals affect large-scale entry to compete with other firms?
>
> RQ2d: How do firm's organizational goals affect i) product quality, ii) market growth performance, iii) market share, and iv) financial growth performance?

Venture Origin

Five venture origins are found in Web-based local information service. The market of WLIS may have daily, weekly newspaper sites, TV station sites, radio station sites, and Internet ventures. The Internet venture is defined as a local branch of a city guide chain such as CitySearch or Digital Cities, independent city guide, and joint venture between media groups.

Newspapers have a big advantage in being able to easily port over news content composed for print directly to a Web site. TV stations have their most valuable content in video form, which when ported to the Web presents serious bandwidth problems. One successful business model is the 'cluster' strategy where several weekly newspapers are grouped together on one site. By clustering groups of weekly newspapers onto shared regional sites, the content is updated more frequently—either every day or every few days. This schedule means that the Web

site gets fresh news almost every day from at least one of the cluster weeklies on the site (Sullivan, 1998).

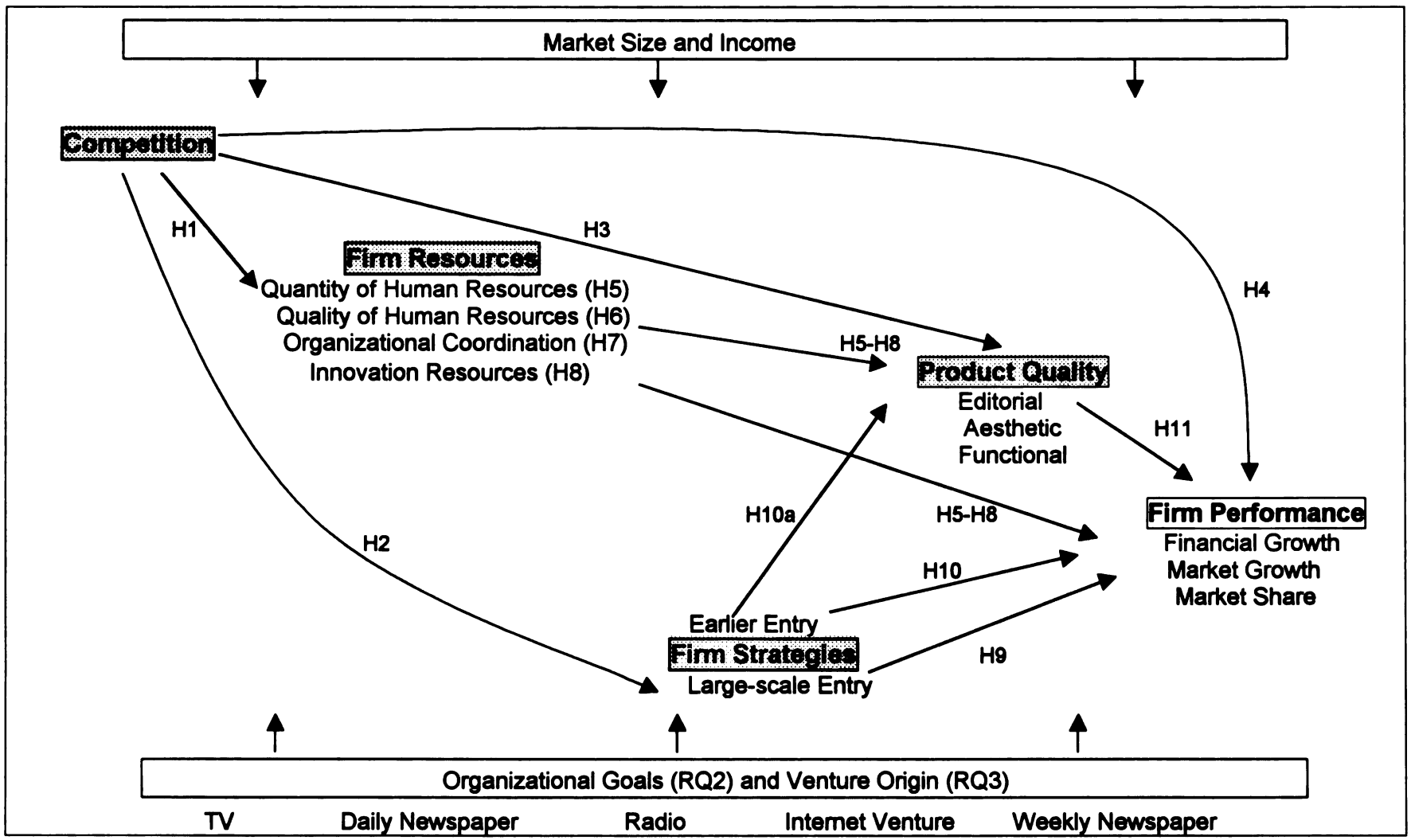
Oster (1994) defined a strategic alliance broadly to include any arrangement in which two or more firms combine resources outside of the market in order to accomplish a particular task or set of tasks. In a joint venture, a separate entity is set up and the contributing firms each transfer resources to the partnership and receive ownership rights over the common property. Strategic alliances have been particularly common in the WLIS industry. For example, TV-newspaper joint ventures can combine newspaper reporting with video from the TV station ported to the Web. Research suggests that venture origin is an important source of resource differences, and a source of differences in strategies and performance (Knight, 1989; Miller & Camp, 1985; Shrader & Simon, 1997). The origins may be a powerful variable in explaining the differences of resources as well as firm performance. Figure 2 displays a diagram of hypotheses and research questions for the present research.

RQ3a: How does variation in venture origin affect firm's organizational goals?

RQ3b: How does variation in venture origin affect firm's i) quantity of human resources, ii) quality of human resources, iii) organizational coordination, and iv) innovation resources?

RQ3c: How does variation in venture origin affect firm's i) product quality, ii) market growth performance, iii) financial growth performance, and iv) market share?

Figure 2
Diagram of Hypotheses and Research Questions



Chapter III

METHODS

Sampling and Data Collection

The first step was to identify markets for Web-based local information service (WLIS). The top 100 metropolitan statistical areas (MSAs) were chosen from the Editor & Publisher Market 1999 Guide. To create a master list of WLISs in the top 100 MSAs, media Web search engines were used, the E & P Online Media Links[3], Ultimate TV[4], and Yahoo[5] search engines. Even though the E & P Online Media search engine includes comprehensive URL information across all types of media, it is specialized in newspapers and city guides. The E & P Online Media Links were used to generate the URLs of daily, weekly newspapers and city guides. Television station URLs were collected from the Ultimate TV search engine and radio station URLs from the Yahoo search engine. Three search engines allow for a search of an individual WLIS's URL based on completing the search fields: name, city, county, or state. Each search engine was used as a complementary frame to obtain a complete list of WLIS population in the top 100 MSA markets. The master list included daily newspapers, weekly newspapers, local television stations, city-guides, and radio station sites, which provide local applications such as local news, classifieds, local entertainment, weather, and local forums. The list incorporated 271 TV stations, 326

[3] URL: http://emedia1.mediainfo.com/emedia/
[4] URL: http://www.ultimatetv.com/tv/us/
[5] URL: http://dir.yahoo.com/News_and_Media/Radio/By_Region/U_S__States/

radio stations[6], 296 newspapers, and 84 Internet venture, totaled 977 WLISs in the top 100 MSA markets.[7]

The highest-ranking managers in WLIS (e.g. general manager, new media director, online editor) were selected as respondents to the survey for the firm data. The e-mail addresses of the managers were collected by searching contact information on their Web sites. If a personalized e-mail address of the manager was not found on the Web site, a representative e-mail address was chosen.

A small-scale pilot study was conducted to test the survey instrument and implementation. Twenty five sites from smaller markets were selected for the pilot study. It was conducted the same as the main study procedure. A review and evaluation of the pilot study suggested a few minor changes in wording for the final survey questionnaire and invitation e-mail letter.

The self-report questionnaire was administered to the highest-ranking manager sample using Web format during January and February in 2000. A four-wave data collection procedure for the Web format survey was employed. Each wave procedure had an interval of two weeks. The first step in data collection was sending e-mail "Response Invitation" letters, which described the study and invited respondents to participate in the survey on the Web. This included a hyperlink to the survey questionnaire in the body of the e-mail message. The response invitation allowed

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[6] Many local radio Web sites are operated by the same Web site management team under one general manager in a local market. In the case of multiple ownership in a local market, just one site was selected for a master list of WLIS.

[7] The total number was extended after a pilot study that revealed a lower response rate (about 20%) than the researcher expected, to achieve the required case size for this study.

people to either click through to the survey or enter the URL in their web browser because URL links are not supported by all e-mail software packages. Those individuals not responding after two weeks were sent a reminder e-mail message with a hyperlink to the survey questionnaire. The people not responding after the first and second step were sent a third reminder message. For the fourth wave, those individuals not responding even after the third wave were sent the original response invitation letter.

The response invitation letters were distributed to 977 WLIS site managers in the top 100 MSA markets by e-mail. The Web survey questionnaire was located at Michigan State University Web server (http://www.msu.edu/~nohgheey/issurvey.htm). Of the 977, 93 [8] were returned not deliverable with reasons of unknown destination address, permanent connection timeout, and quota exceeding. Of the remaining 884 managers, 110 submitted their responses on the Web at first wave, 45 at second wave, 20 at third wave, and 12 at fourth wave for a response rate of 21.2 %.[9] Four invalid responses were excluded in statistical analysis. For the multiple correlation testing, required case size depends on a number of issues, including the desired power, alpha level, number of predictors, and expected effect size. According to rules of thumb (Tabachnick & Fidell, 1996), more than 162 cases are needed for this research with a

[8] For 121 undelivered e-mails through the third wave, the e-mail addresses were rechecked on the Web sites. The e-mail address of the next highest-ranking manager in the same firm was collected if it was available. Thirty one new addresses were found and incorporated in the fourth wave. Of the 31, three were returned not deliverable.

[9] The response rates by venture origin were 17.3 % of TV stations, 15.0% of radio stations, 22.3% of newspapers, and 25% of Internet ventures indicating a good reprentation of each venture type.

total of 14 independent variables to test multiple regression.[10] With 183 valid respondents, the number of cases is well above the minimum requirement for testing overall correlation and individual predictors. Market data for 81 MSAs were collected from the E & P Market 1999 Guide.

Operational definition

Each of the relevant constructs for the present research was measured by multiple-item scales. Because several original scales vital to this research are introduced, no previous reliability estimates exist. Therefore coefficient alphas were calculated as an indicator of internal consistency on the scales. All composite scales were above the minimum reliability level of .65.[11]

Competition Intensity

Competition intensity was measured by asking the following question about five statements: "At your Web site, how much concern do you have for competition from other local Web sites?" A seven-point scale, with a range from "strongly disagree" to "strongly agree", was used. One statement of "Our site overall is very different from others in the Web service" was found not to contribute to the scale and reacted in reverse direction of what had been anticipated. As the statement was dropped out, the competition intensity scale demonstrated a higher internal reliability. The scale of competition intensity was reduced to four statements. The coefficient Cronbach alpha for the scale was .74. The overall mean of competition intensity

[10] For testing individual predictors, only 118 cases are needed.
[11] No standard rules exist for evaluating the magnitude of reliability coefficients. However, Nunnally (1978)'s guideline suggests that in the early stages of research, modest reliability in the .50 to .60 is acceptable.

scale was 19.295.[12]

At your Web site, how much concern do you have for competition from other local Web sites? Please select the number that best describes your approach.

	Strongly Disagree						Strongly Agree
Intensity of competition is strong.	1	2	3	4	5	6	7
*Our site overall is very different from others in the Web service.	1	2	3	4	5	6	7
We are constantly attentive to what other services are doing in our area.	1	2	3	4	5	6	7
We are likely to make adjustments in our service in response to our competitors.	1	2	3	4	5	6	7
Our budget is increased as competition develops.	1	2	3	4	5	6	7

* Eliminated from the scale.

Quantity of Human Resources

The quantity of human resources was operationalized by indexing the number of full-time equivalent employees in four task areas: editorial, design, technical and marketing. The quantity was measured by asking the question: "In the following areas, how many full-time equivalent do you have for your Web site?" Respondents were asked to consider two half time staffs as one full-time staff for the total number of employees.

Quality of Human Resources

Respondents were also asked to rate their employees for overall quality with the following question: "Compared to your top market competitor in your city market, how do you evaluate the quality of your employees working on the following areas?" A seven-point response scale was used with a range from "much worse" to "much better." The standardized item alpha for the quality of human resources scale

[12] Group means by venture origin were Internet venture 20.95, daily newspaper 20.91, television station 19.42, weekly newspaper 19.16, and radio 17.11. The fact that there is variability across the five categories, suggests validity of the competition intensity measure.

was .72.

Compared to the top competitor in your city market, how do you evaluate the quality of your employees working on the following areas? Please select the number that best describes your Web business unit.

	Much Worse						Much Better
Editorial staff	1	2	3	4	5	6	7
Design staff	1	2	3	4	5	6	7
Technical staff	1	2	3	4	5	6	7
Marketing staff	1	2	3	4	5	6	7

Organizational Coordination

The level of organizational coordination was measured by the following four items. Respondents were asked to respond to "To the best of your knowledge, how do you evaluate your organizational routines in the following areas?" Response scale was seven-point scale with a range from "very poor" to "excellent". The standardized item alpha for the scale was .76.

To the best of your knowledge, how do you evaluate your organizational routines in the following areas?

	Very Poor						Excellent
Coordination between editorial staff and design staff	1	2	3	4	5	6	7
Coordination between advertising staff and production staff	1	2	3	4	5	6	7
Teamwork within our business unit	1	2	3	4	5	6	7
Flexibility of organization structure in response to the signals of the market	1	2	3	4	5	6	7

Innovation Resources

The level of innovation resources was measured by six statements. Respondents were asked to respond to "The following statements deal with specific resources that a business unit may have. To the best of your knowledge, please check

the number that represents how much you agree with the following statements." A seven-point response scale was used with a range from "strongly disagree" to "strongly agree". The standardized item alpha for the scale of innovation resources was .84.

The following statements deal with specific resources that a business unit may have. To the best of your knowledge, please select the number that represents how much you agree with the following statements. Our business unit:

	Strongly Disagree						Strongly Agree
Is very eager to try fresh ideas.	1	2	3	4	5	6	7
Is very creative at marketing the service	1	2	3	4	5	6	7
Has expertise in new service development	1	2	3	4	5	6	7
Has a staff which suggests a concept that is perceived as original by our unit.	1	2	3	4	5	6	7
Is respected by our industry for successful use of new ideas.	1	2	3	4	5	6	7
Has innovative employees.	1	2	3	4	5	6	7

Market Size and Income

Market size was measured by the number of Internet users. Respondents were asked to provide the estimated percentage of Internet users in their metropolitan market. Then the estimated percentage was multiplied by the population of the MSA market. Because more than one person responded from each market, some variation in responses to the estimates of Internet user penetration was found. In that case, the mean estimates of the responses at the same market were used. Gross income per household was used for market income level.

Product Quality

Respondents rated their product quality compared with the top competitor in their local market on a seven-point response scale ("much worse" to "much better") for three aspects of product quality: editorial, aesthetic, and functional quality. The

editorial quality was measured by the following four items: depth of the information, original content, immediacy of the information, and breadth of the information (α = .85). Four items were used for the aesthetic quality measure: visual effects, aesthetic design, vividness of images, and layout (α = .92). The functional quality was measured by the following four items: easy of use, degree of customization, security of transaction, and bulletin board function (α = .69). Overall product quality was operationalized and measured by the sum of the three subscales of product quality including 12 items (α = .87).

Compared to the top competitor in your city market, how would you rate your service quality in the following areas?

	Much Worse						Much Better
Depth of the information	1	2	3	4	5	6	7
Original content	1	2	3	4	5	6	7
Immediacy of the information	1	2	3	4	5	6	7
Breadth of the information	1	2	3	4	5	6	7
Visual effects	1	2	3	4	5	6	7
Aesthetic design	1	2	3	4	5	6	7
Vividness of images	1	2	3	4	5	6	7
Layout	1	2	3	4	5	6	7
Ease of searching	1	2	3	4	5	6	7
Degree of customization	1	2	3	4	5	6	7
Security of transaction	1	2	3	4	5	6	7
Bulletin board function	1	2	3	4	5	6	7

Market and Financial Growth Performance

Respondents were asked to rank their firm performance on four market and three financial growth performance measures for the previous twelve-month period. In principle, more objective measures would be preferred. However, the objective data are not available to the public and no standard measure has been established for

firm performance in the Web-based information service. Moreover, past studies of business policy and strategy have shown that self-reported ratings by knowledgeable respondents provide valid measures of firm performance (Conant, Mokwa, & Varadarajan, 1990; Dess & Robinson, 1984; Robinson & Prearce, 1988; Venkatramna & Ramnujam, 1987).

There is no commonly accepted measure for performance, especially in new ventures. The use of profitability measures such as return of equity to evaluate new venture may be questioned, because it is affected by owner's salaries and other cost items that are frequently not disclosed by the venture (Zahra, 1996). Strong profitability may or may not be an important objective for a new venture (McDougall & Oviatt, 1996). For example, the development of a new product and brand identification may be a more important performance criterion than profitability in the initial stage of venture's progress. The multiple measures were used to reflect the multidimensionality of the performance construct (Priem, Rasheed, & Kotulic, 1995) focusing on firm's growth.

The seven-item performance scale gauged managers' perceptions of their venture's performance. Two evaluations per performance item were used. The first indicates the importance of each performance measure in their firm. Respondents rated the importance of performance measures in their business unit on a seven-point response scale (1= not at all important to 7 = extremely important). The second indicates the extent managers evaluated their firm's success in the seven performance measures. Respondents were asked to rate their performance success during the last 12 months on a seven-point scale (1= not at all successful to 7= extremely successful).

Importance scores were multiplied by their corresponding performance success scores. Each multiplied score was summated for multiple performance measure. The market growth performance was measured by the following four items: advertising sales growth, e-commerce sales growth, brand identification, and market share. The standardized item alpha for the market growth performance scale was .76. The financial growth performance was measured by the following three items: return on investment, return on equity, and net profit margin. The standardized item alpha for the financial growth performance scale was .97.

How much importance does the top management at your organization place on the following performance areas?

	Not at all important						Extremely important
Advertising sales growth	1	2	3	4	5	6	7
E-commerce sales growth	1	2	3	4	5	6	7
Brand identification	1	2	3	4	5	6	7
Market share	1	2	3	4	5	6	7
Return on investment	1	2	3	4	5	6	7
Return on equity	1	2	3	4	5	6	7
Net profit margin	1	2	3	4	5	6	7

How successful was your Web service in the following performance areas during the last 12 months?

Increasing	Not at all successful						Extremely successful
Advertising sales growth	1	2	3	4	5	6	7
E-commerce sales growth	1	2	3	4	5	6	7
Brand identification	1	2	3	4	5	6	7
Market share	1	2	3	4	5	6	7
Return on investment	1	2	3	4	5	6	7
Return on equity	1	2	3	4	5	6	7
Net profit margin	1	2	3	4	5	6	7

Market Share Index

In addition, respondents were asked to provide the average number of visitors a day on their Web site. For market share index, the average number of visitors was divided by the market size defined as the number of Internet user in a specific market.

Organizational Goals

The organizational goals were measured by the following 22 statements which comprise of measures for newspaper organizational goals suggested by Demers (1996), for local television station suggested by Rhee (1971) and original measures.[13]

The following statements represent organizational goals that a business unit may pursue. Please indicate how much importance top management at your Web-based service places on the following beliefs or values by selecting the number that best represents the importance.

	Not At All Important						Extremely Important
Doing the job well	1	2	3	4	5	6	7
Improving the information product	1	2	3	4	5	6	7
Responding to user's needs	1	2	3	4	5	6	7
Serving the general needs of the community	1	2	3	4	5	6	7
Increasing the number of impressions on our site	1	2	3	4	5	6	7
Reducing costs	1	2	3	4	5	6	7
Promoting our firm and brand	1	2	3	4	5	6	7
Providing superior information to the community	1	2	3	4	5	6	7
Maximizing profits	1	2	3	4	5	6	7
Increasing the gross revenue	1	2	3	4	5	6	7
Maintaining high quality transmission standards	1	2	3	4	5	6	7
Keeping the service growing and expanding	1	2	3	4	5	6	7
Hiring the best employees	1	2	3	4	5	6	7
Increasing profit	1	2	3	4	5	6	7
Maintaining our firm's position in the market	1	2	3	4	5	6	7
Being the best	1	2	3	4	5	6	7
Providing high quality information	1	2	3	4	5	6	7
Supporting local community leaders	1	2	3	4	5	6	7
Beating the competition	1	2	3	4	5	6	7
Attaining a position of leadership in the business community	1	2	3	4	5	6	7
Protecting our franchise in the market	1	2	3	4	5	6	7
Maximizing growth of organization	1	2	3	4	5	6	7

[13] This study uses the informant approach to measure organizational goals which asks employees to define the goals or rank-order them (Demers, 1996).

The adopted measures were partly reworded for the present study. Respondents were given a series of statements and asked to indicate the extent to which they agree with each statement on 7-point scales ranging from "not very important" to "extremely important." Due to the use of the adaptive and original measures, a confirmatory stage was necessary to establish the reliability of components in the individual scales (See statistical analysis and results chapter).

Service Age

Service age was measured by asking the following question: "At what date was your Web site first operational as service (after any trial periods)? The Editor & Publisher MediaLink database also provides the starting date of television station and newspaper sites. The information from the MediaLink was used for incomplete responses.

Scale Strategy

Respondents were asked to evaluate the following scale strategy items adapted from McDougall and Robinson (1990). Respondents were given a series of statements, which represent the methods by which business may compete and asked to indicate the extent to which they agree with the following statements on a seven-point scale ranging from "never emphasized" to "always emphasized." Two items, " Serving limited or specific geographic markets" and "Providing a narrow range of services," were evaluated to have a weak empirical and construct validity, even though they were recoded in a reverse direction during the analysis phase. The two items were deleted from the index and the index reduced to four items.

Each of the following items represents different methods by which businesses may compete. Please select the number that best describes the emphasis your business unit has placed on the means of competition.

	Never emphasized						Always emphasized
Producing specialty services	1	2	3	4	5	6	7
High level of advertising and promotion spending	1	2	3	4	5	6	7
*Serving limited or specific geographic markets	1	2	3	4	5	6	7
Providing high level of customer service	1	2	3	4	5	6	7
*Providing a narrow range of services	1	2	3	4	5	6	7
Entering the market on a large scale with rapid, immediate growth objective	1	2	3	4	5	6	7

*Eliminated from the index

Venture Origin

Venture origin was coded by the classification of the E & P's MediaLink directory (1: TV station, 2: Daily Newspaper, 3: Radio station, 4: Internet Venture, 5: Weekly Newspaper). Internet venture includes city guides and joint ventures between media groups. The venture origin of WLIS was also checked by visiting the Web sites.

Data cleaning for Multivariate Statistics

Prior to statistical analysis, all items and scales were examined through various SPSS programs for accuracy of data entry, missing values, fit between their distributions, and the assumptions for multivariate analysis.

Missing Data

Reviewing and examining the pattern of missing data suggested that missing values scattered randomly through the data matrix. All variables on the data matrix had missing values on less than five percent of the cases except 'User' variable which

is used for "Market Share." Regression method was used to estimate missing values, except the "User" variable. For the estimation, other variables were used as independent variables to write a regression equation for the variable with missing data serving as dependent variable. Then the missing values were replaced by the regression estimates for the cases.

For 'User' variable, however, there are 30 cases with missing values--more than 5% of the cases. Since the variable is used for a dependent variable and considered to be critical to the hypotheses, the 30 cases that failed to provide scores were just deleted instead of replacing the missing data for statistical analysis. The results of missing value analysis are displayed in Appendix 1.

Multivariate Normality

Multivariate normality is the assumption that each variable and all linear combinations of the variables are normally distributed. The multivariate normality of variables was assessed by both statistical and graphical methods. After screening continuous variables for multivariate normality, four variables were found to have substantial positive skewness with nonnormal kurtosis: "Market Size," "Income," "Market Share," and "Quantity of Human Resources." With nonnormality of the variables, a logarithmic transformation was applied to four variables. For the "Market Size" variable, skewness was reduced from 2.063 to .368 and kurtosis reduced from 4.326 to -.527 by the logarithmic transformation. For the 'Income' variable, skewness was reduced from .995 to .515 and kurtosis reduced from 1.627 to .502 by the logarithmic transformation. For the 'Market Share' variable, skewness was reduced from 2.856 to -.332 and kurtosis reduced from 9.144 to -.475 after data

transformation. For the 'Quantity of Human Resources' variable, skewness was reduced from 2.395 to .285 and kurtosis reduced from 7.377 to -.501. Table 1 displays descriptive statistics of continuous variables used for the present study.

On the other hand, 22 items of the 'Organizational Goal' were checked for multivariate normality before factoring the items.[14] The distribution of all the variables showed substantial negative skewness. A reflected logarithmic transformation was applied to the organizational goal items to improve their normality. Thus the items with negative skewness were converted to those with positive skewness prior to logarithmic transformation. Skewness and kurtosis were substantially reduced after the transformation of data. Table 2 shows descriptive statistics for organizational goal items.

[14] As long as factor analysis is used descriptively to summarize the relationship in a large set of observed variables, assumptions regarding the distributions of variables are not in force. However, even when the statistics are used purely descriptively, normality of variables enhances the analysis (Tabachinick & Fidel, 1996).

Table 1

Descriptive Statistics

	N	Min	Max	Mean	S.D	Skewness	S.D.	Kurtosis	S.D.
Market Size (log)	183	5.62	6.97	6.2017	.331	.368	.180	-.527	.357
Income (log)	183	4.62	4.96	4.7696	.000	.515	.180	.502	.357
Competition Intensity	183	4.00	28.00	19.2617	5.318	-.713	.180	.212	.357
Service Age	183	1	71	35.40	18.3	-.163	.180	-1.034	.357
Quantity of human resources (log)	183	.00	1.76	.7661	.375	.285	.180	-.501	.357
Quality of human resources	183	3.00	21.00	16.4741	3.575	-.745	.180	.548	.357
Organizational coordination	183	5.00	21.00	14.9404	3.766	-.403	.180	-.577	.357
Innovation resources	183	12.00	42.00	31.4435	5.996	-.320	.180	-.147	.357
Intangible resources	183	-8.05	5.00	.0000	2.511	-.098	.180	-.386	.357
Large-scale Strategy	183	8.00	28.00	18.9352	4.260	-.297	.180	-.259	.357
Product Quality	183	26.00	84.00	58.5519	12.869	-.244	.180	-.203	.357
Market Share (log)	153	-2.03	1.38	.0000	.767	-.332	.196	-.475	.390
Market Growth Performance	183	4.00	196.00	102.7155	39.476	-.008	.180	-.034	.357
Financial Growth Performance	183	7.00	147.00	62.4268	39.050	.505	.180	-.714	.357

Table 2

Descriptive Statistics in Organizational Goal Items

	N	Min	Max	Mean	S.D	Skewness	S.D.	Kurtosis	S.D.
LGL_1	183	.00	.72	.1549	.207	.950	.180	-.365	.357
LGL_2	183	.00	.72	.1951	.217	.553	.180	-1.057	.357
LGL_3	183	.00	.74	.2011	.221	.553	.180	-.997	.357
LGL_4	183	.00	.85	.2612	.245	.299	.180	-1.155	.357
LGL_5	183	.00	.74	.1932	.211	.580	.180	-.824	.357
LGL_6	183	.00	.85	.4125	.275	-.357	.180	-1.139	.357
LGL_7	183	.00	.70	.1822	.207	.565	.180	-1.069	.357
LGL_8	183	.00	.70	.2060	.226	.498	.180	-1.187	.357
LGL_9	183	.00	.85	.3040	.278	.195	.180	-1.366	.357
LGL_10	183	.00	.85	.2528	.256	.440	.180	-1.081	.357
LGL_11	183	.00	.85	.2962	.244	.016	.180	-1.294	.357
LGL_12	183	.00	.78	.2283	.226	.378	.180	-1.086	.357
LGL_13	183	.00	.85	.3056	.251	.097	.180	-1.201	.357
LGL_14	183	.00	.85	.2740	.272	.326	.180	-1.357	.357
LGL_15	183	.00	.74	.1490	.207	1.013	.180	-.228	.357
LGL_16	183	.00	.72	.1645	.213	.928	.180	-.298	.357
LGL_17	183	.00	.70	.1843	.217	.653	.180	-.932	.357
LGL_18	183	.00	.85	.5369	.252	-.880	.180	-.132	.357
LGL_19	183	.00	.74	.2131	.233	.569	.180	-.963	.357
LGL_20	183	.00	.85	.3202	.255	.009	.180	-1.266	.357
LGL_21	183	.00	.72	.1693	.228	.900	.180	-.635	.357
LGL_22	183	.00	.85	.2844	.254	.180	.180	-1.251	.357

Univariate Outliers

Searching for univariate outliers was performed by Missing Value Analysis and Explore Analysis (See Appendix 1). The influence of univariate outliers was reduced by assigning a raw score on the offending variable that is one unit lager or smaller than the next most extreme score in the distribution as Tabachicnick and Fidell (1996) suggested. The search of multivariate outliers was performed by computation of Mahalanobis distance for each case on regression procedure. Mahalanobis distance is the distance of a case from the centroid of the remaining cases where the centroid is the point created by the means of all the variables (Tabchnick & Fidell, 1996). Because Mahalanobis distance is distributed as a chi square variable with degree of freedom equal to the number of independent variables, multivariate outliers were determined by the value of χ^2 at the .001 alpha level.

Statistical Analysis

Standard multiple regression was performed to test hypotheses and assess relationships among variables for research questions. Multiple regression is used to control possible confounding variables that may influence the hypothesized relationship between variables.

The WLISs which responded are not a random sample even though the survey attempted a census of the top 100 MSAs. Therefore, tests of substantive significance were used to interpret the regression analysis and test the hypotheses. Even though statistical significance was reported in each result table, it was not used for purpose of hypothesis testing and inference because inferential statistics assume random sampling

with a perfect response rate (Babbie, 1992). The test for hypothesis support was set at a semipartial correlation of .20 or higher.[15] Semipartial correlation expresses the unique contribution of the independent variable to the total variance of the dependent variable. On the standard multiple regression, the value of semipartial correlation, when squared, indicates the amount by which R would be reduced if an independent variable were omitted from the regression equation. This criterion of the .20 semipartial correlation indicates that 4% of the variance in the dependent variable is exclusively shared with an independent variable.

For research question 1, squared semipartial correlations on each regression were used to determine the degree of association. As two values of squared semipartial correlation showed a difference of more than .02 (2%), the degree of association for each variable was interpreted to be different.

For research question 2, a principal components factor analysis was performed to reduce a large number of organizational goal items and identify main organizational goals because none of the variables was designed as dependent, and no grouping of observations was assumed (Rencher, 1995). The principal components analysis uses units (1.00) in the principal diagonal of the correlation matrix. Oblique rotation was judged to be more reasonable than orthogonal rotation because it seems more likely that factors generated from organizational goal items are correlated than they are not. The factor correlation matrix showed that two component correlations exceed .32, indicating there is enough variance to warrant oblique rotations.

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[15]A higher standard would increase the chance of type II error, which should be avoided at this stage of research because this is an under-researched topic (See Shaver

Before factoring organizational goal items, screening mean scores of the items was performed to find inappropriate items for the organizational goal. One item "Supporting local community leaders" was found to be inappropriate because the mean score of the item was less than 4.0, a center point of response scale. In other words, the item was least used for organizational goal. Then each factor was obtained using oblique rotation with a cut-off eigenvalue of 1.0. The criterion for a variable to remain in the factor analysis was a loading of at least .50 (Comrey & Lee, 1992).

A factor with less than 2 items was removed to produce reliable scales. A principal components analysis of the 21 items resulted in four eigenvalues greater than 1.00. Four-factor solution contained a factor with just two items. The two items were removed for next step factoring. On the three-factor solution, one item "Keeping the service growing and expanding" was loaded less than .50. Another item "Being the best" was multi-loaded more than .40. Therefore two items were deleted for the final solution. The present study reports the results of the oblique rotated three-factor solution with 17 organizational goal items. To assess the internal consistency of multiple-item measures, the Cronbach coefficient alpha was estimated. The standardized item alphas for three factors were above .80 (See Table 45). Each factor scores was estimated by regression methods for further analysis.

Finally, research question 3 was assessed by performing analysis of covariance (ANCOVA) to examine the main effects of venture origin on a firm's resource commitment, strategies, goals, and performances controlling for possible confounding

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& Lacy, 1999).

variables. Differences between firms on covariates such as competition intensity and service age are removed so that the only differences that remain are related to the effects of venture origin on ANCOVA. Method 3, sequential approach, for survey data and unequal cell size was used for the ANCOVA. Strength of association is usually assessed as the percentage of variance in the dependent variables that is associated with the independent variable. A partial eta-squared was used to test the strength of association for each effect. The eta-squared statistic describes the proportion of total variability attributable to a factor. The test for hypothesis support was set at a partial eta-squared of .04 or higher. Homogeneity of variance was assessed using Levene's test of equality of error variance.

Chapter IV

RESULTS

Descriptives

Market and WLIS Profile

The Web-based local information services (WLISs) responded to the survey cover 81 Metropolitan markets with a population range of 9 million to 500 thousand. Household income was ranged from average 41,200 dollars to 90,900 dollars. Income per household, estimated number of Internet user, and frequency of response are seen in Appendix 2.

As for venture origin of the WLISs, 47 were television station sites, 43 daily newspaper sites, 49 radio station sites, 23 weekly newspaper sites, and 21 Internet venture sites. The average service age was about 36 months (See Table 3). They had average 20,250 visitors a day on their Web sites.

Table 3 Profile: Service Age

	Frequency	Valid Percent	Cumulative Percent
1994	12	6.7	6.7
1995	36	20.0	26.7
1996	45	25.0	51.7
1997	30	16.7	68.3
1998	28	15.6	83.9
1999	28	15.6	99.4
2000	1	.6	100.0
Total	180	100.0	

Respondents also reported to have at least average 7 dedicated staffs to their Web information service. As displayed in Table 4, the WLISs employed average three persons for editorial task, more than one person for design and technical task,

and about two persons for marketing. As for quality level of human resources, editorial staff was ranked first (M = 5.6) and design staff received the second highest rating (M = 5.5) by respondents. The quality of human resources is displayed in Table 5.

Table 4 Profile: Number of Employees

	N	Min.	Max.	Mean	S.D.
Editorial Staff	177	.00	20.00	2.7839	3.7346
Design Staff	177	.00	15.00	1.4319	1.9569
Technical Staff	177	.00	15.00	1.4090	2.0813
Marketing Staff	177	.00	20.00	1.8828	2.8719

Table 5 Quality of Human Resources

	N	Min.	Max.	Mean	S.D.
Editorial Staff	181	1.00	7.00	5.6243	1.4307
Design Staff	181	1.00	7.00	5.5028	1.5078
Technical Staff	182	1.00	7.00	5.3571	1.4485
Marketing Staff	181	1.00	7.00	4.9558	1.7056

* 1= Very Poor 7= Excellent

More than 40% of the WLISs were reported to increase their employees over 50% during last two years. Further 21 % employed their staffs more than 100%. Only 4.6% reduced their employees for the WLIS. Table 6 shows the pattern of change in total employment.

Table 6 Change in total employment

	Frequency	Percent	Cum Percen
More than 50% Decrease	3	1.7	1.
25% Decrease	5	2.9	4.
Unchanged	66	37.7	42.
25% Increased	29	16.6	58.
50% Increased	27	15.4	74.
75% Increased	6	3.4	77.
More than 100% Increased	39	22.3	100.
Total	175	100.0	

Product Quality and Performance

The mean values of product quality assessed by the respondents are reported in Table 7. Editorial quality items were evaluated higher than functional quality items. Table 7 shows a rank order of the product quality items.

Table 7 Mean of Product Quality Items

	N	Min	Max	Mean	S.D.
Original content	182	1.00	7.00	5.5824	1.5382
Immediacy of the information	182	1.00	7.00	5.4780	1.5113
Depth of the information	182	1.00	7.00	5.3736	1.5917
Breadth of the information	182	1.00	7.00	5.3242	1.4752
Layout	182	1.00	7.00	5.1923	1.4722
Aesthetic design	182	1.00	7.00	5.1813	1.5142
Vividness of images	182	1.00	7.00	5.0604	1.5562
Ease of searching	182	1.00	7.00	4.8516	1.6933
Visual effects	182	1.00	7.00	4.7143	1.6134
Security of transaction	182	1.00	7.00	4.2143	2.0174
Degree of customization	182	1.00	7.00	4.1484	1.9340
Bulletin board function	182	1.00	7.00	3.4945	2.0991

As for the importance of performance measures, brand identification was ranked first (mean of 6.14) and advertising sales growth received the second highest rating (mean of 5.96). E-commerce sales growth (mean of 4.58) and return on equity (mean of 5.09) were rated lowest. Except e-commerce sales growth, market performance was perceived to be more important than financial performance in the current stage of WLIS industry. On the other hand the WLISs responded to the survey were evaluated to make a success in brand identification (mean of 5.16) and market share (mean of 4.86). However all measures of financial performance were below a central point (4.00). This indicates that they made no financial success in their WLIS. Table 8 and 9 show mean importance and success scores in seven performance measures.

Table 8 Mean Importance Scores in Seven Performance Measures

	N	Min	Max	Mean	S.D.
Brand identification	183	1.00	7.00	6.1421	1.2005
Advertising sales growth	182	1.00	7.00	5.9615	1.5710
Market share	182	1.00	7.00	5.9121	1.4539
Net profit margin	182	1.00	7.00	5.4396	1.6468
Return on investment	183	1.00	7.00	5.3169	1.7691
Return on equity	182	1.00	7.00	5.0934	1.8107
E-commerce sales growth	182	1.00	7.00	4.5769	1.9587

Table 9 Mean Success Scores in Seven Growth Performance Measures

Increasing	N	Min	Max	Mean	S.D.
Brand identification	181	1.00	7.00	5.1602	1.4764
Market share	179	1.00	7.00	4.8547	1.5904
Advertising sales growth	179	1.00	7.00	4.2961	1.9736
Return on investment	179	1.00	7.00	3.8603	1.8383
Net profit margin	178	1.00	7.00	3.7978	1.8937
Return on equity	178	1.00	7.00	3.6798	1.8392
E-commerce sales growth	176	1.00	7.00	3.0511	1.8586

Financial Commitment

All variables entered the equation without violating the default value for tolerance. Further, as Table 10 displays, the highest correlation among the independent variables, between Market Size (log) and Income (log), was .50. Therefore, no evidence of multicollinearity and singularity among the independent variables was found. None of cases had the Mahalanobis distance value in excess of 14.52. This shows no multivariate outliers in the solution.

Table 10 Pearson Product Moment Correlations of Independent Variables for Financial Commitment Hypotheses

	Competition Intensity	Market Size (log)	Income (log)	Service age
Competition Intensity	1.000	.005	-.046	.122
Market Size (log)	.005	1.000	.503	-.146
Income (log)	-.046	.503	1.000	.085
Service age	.122	-.146	.085	1.000

> H1a: For Web-based local information service, a firm's competition intensity with other firms will be positively related to larger quantity of human resources controlling for market size, income, and service age.

The hypothesis was supported, as the semipartial correlation for the relationship was .303 in the direction hypothesized, which exceeds the .200 cut-off point (β = .306, S.E = .005). This indicates that a firm's competition intensity accounts for about 9.2 % of variance in quantity of human resources (log) even when market size and service age are constant. The regression result suggests that as a firm's competition intensity becomes stronger, the firm tends to employ more people. Table 11 displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 11 Multiple Regression of Competition Intensity on Quantity of Human Resources (log)

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	.000	2.237		.030	.976			
Market Size (log)	.230	.079	.235	2.892	.004	.192	.212	.197
Income (log)	-.251	.513	-.039	-.489	.625	.079	-.037	-.033
Service age	.000	.001	.169	2.378	.018	.168	.175	.162
Competition intensity	.000	.005	.306	4.440	.000	.330	.316	.303

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.414	.171	.153	.3453

To examine the pattern of association, the quantity of four task areas was entered into regression equation. The degree of association in each task area also showed supporting the hypothesis. In particular, the semipartial correlation for the quantity of marketing staffs (β = .329, sr_i = .305) was found to be stronger than the quantity of editorial (β = .205, sr_i = .203) and technical staffs (β = .236, sr_i = .233) in the relationship of WLIS firm's competition intensity. The semipartial correlation for the quantity of design staff was .272 (β = .275). In other words, with a stronger competition, WLIS firms appear to employ more marketing staff rather than editorial and technical staff. Table 11-1, Table 11-2, Table 11-3, and Table 11-4 show standardized regression coefficients and semipartial correlations of the quantity of each human resource area on a firm's competition intensity and other covariates.

Table 11-1 Multiple Regression of Competition Intensity on Quantity of Editorial Staff (log)

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	-.390	2.005		-.194	.846			
Market Size (log)	.154	.071	.181	2.161	.032	.142	.160	.152
Income (log)	.000	.460	-.017	-.208	.835	.082	-.016	-.015
Service age	.000	.001	.215	2.942	.004	.212	.215	.207
Competition intensity	.000	.004	.205	2.884	.004	.233	.211	.203

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.343	.118	.098	.3095

Table 11-2 Multiple Regression of Competition Intensity on Quantity of Design Staff (log)

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	-.694	1.318		-.527	.599			
Market Size (log)	.149	.047	.258	3.175	.002	.229	.232	.217
Income (log)	.000	.302	-.009	-.115	.909	.123	-.009	-.008
Service age	.000	.001	.175	2.474	.014	.171	.182	.169
Competition intensity	.000	.003	.275	3.983	.000	.298	.286	.272

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.412	.170	.151	.2035

Table 11-3 Multiple Regression of Competition Intensity on Quantity of Technical Staff (log)

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	-1.624	1.558		-1.043	.298			
Market Size (log)	.148	.055	.222	2.669	.008	.226	.196	.187
Income (log)	.161	.357	.037	.452	.652	.148	.034	.032
Service age	.000	.001	.110	1.514	.132	.110	.113	.106
Competition intensity	.000	.003	.236	3.331	.001	.249	.242	.233

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.356	.127	.107	.2405

Table 11-4 Multiple Regression of Competition Intensity on Quantity of Marketing Staff (log)

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	1.321	1.739		.760	.448			
Market Size (log)	.110	.062	.147	1.780	.077	.091	.132	.124
Income (log)	-.425	.399	-.088	-1.065	.288	-.020	-.080	-.074
Service age	.000	.001	.097	1.349	.179	.109	.101	.094
Competition intensity	.000	.004	.329	4.671	.000	.345	.330	.325

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.373	.139	.120	.2684

H1b: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher quality of human resources controlling for market size, income, and service age.

The hypothesis was not supported, as the semipartial correlation equaled .173 (β = .175). Even though the semipartial correlation for the relationship did not exceed the cut-off point of .200, the result explains that about 3.1 % of variance in quality of human resources (log) is associated with a firm's competition intensity in the direction hypothesized. Table 12 displays unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 12 Multiple Regression of Competition Intensity on Quality of Human Resources

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	-21.456	27.518		-.780	.437			
Market Size (log)	-2.137	.977	-.185	-2.186	.030	-.134	-.162	-.156
Income (log)	10.756	6.307	.143	1.705	.090	.055	.127	.121
Service age	.000	.018	.153	2.070	.040	.214	.153	.147
Competition intensity	.148	.061	.175	2.435	.016	.186	.180	.173

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.313	.098	.078	4.2478

H2: For Web-based local information service, a firm's competition intensity with other firms will be positively related to larger scale of entry into market controlling for market size, income, and service age.

The hypothesis was supported, as the semipartial correlation for the relationship was .290 in the direction hypothesized, which exceeds the .200 cut-off point (β = .293). This shows that 8.4 % of variance in large-scale strategy is associated with a firm's competition intensity. Thus as a firm's competition intensity becomes stronger, WLIS firms are likely to conduct larger scale strategies

in advertising, specialty services, customer service, and entry. Information from this analysis is summarized in Table 13.

Table 13 Multiple Regression of Competition Intensity on Scale Strategy

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	46.966	26.371		1.781	.077			
Market Size (log)	.000	.937	.007	.081	.935	-.019	.006	.006
Income (log)	-6.708	6.044	-.093	-1.110	.269	-.114	-.083	-.079
Service age	.000	.017	-.133	-1.806	.073	-.106	-.134	-.128
Competition intensity	.239	.058	.293	4.095	.000	.281	.293	.290

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.327	.107	.087	4.0707

Competition and Performance

> H3: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher quality of product controlling for market size, income, and service age.

The hypothesis was not supported, as the semipartial correlation equaled .188 (β = .190). Even though the semipartial correlation for the relationship did not exceed the cut-off point, the result was consistent with the hypothesized direction. About 3.5 % of variance in product quality was found to be associated with a firm's competition intensity in the direction hypothesized. Table 14 displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 14 Multiple Regression of Competition Intensity on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	5.865	81.638		.072	.943			
Market Size (log)	-1.663	2.899	-.049	-.573	.567	-.043	-.043	-.042
Income (log)	10.547	18.712	.048	.564	.574	.025	.042	.041
Service age	.000	.053	.126	1.677	.095	.161	.125	.122
Competition intensity	.467	.181	.190	2.588	.010	.203	.190	.188

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.249	.062	.041	12.6021

H4a: For Web-based local information service, a firm's competition intensity with other firms will be positively related to stronger emphasis on market performance within its business unit controlling for market size, income, and service age.

The hypothesis was supported as the semipartial correlation for the relationship between firm's competition intensity and emphasis on market performance was .296 (β = .299). The result was consistent with the hypothesized direction. This indicates that 8.8 % of variance in emphasis on market performance is associated with a firm's competition intensity. A firm's competition intensity with other firms is positively related to a stronger emphasis on market performance. Table 15 displays the result of the regression analysis.

Table 15 Multiple Regression of Competition Intensity on Emphasis on Market Performance

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	42.949	28.295		1.518	.131			
Market Size (log)	.586	1.005	.049	.583	.561	.030	.044	.041
Income (log)	-5.819	6.486	-.075	-.897	.371	-.075	-.067	-.064
Service age	.000	.018	-.121	-1.637	.103	-.098	-.122	-.116
Competition intensity	.261	.063	.299	4.172	.000	.288	.298	.296

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.324	.105	.085	4.3678

H4b: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher level of market growth performance controlling for market size, income, and service age.

The hypothesis was strongly supported, as the semipartial correlation for the relationship was .333 in the direction hypothesized, which exceeds the .200 cut-off point (β = .336). This indicates that 11.1 % of variance in market growth performance is associated with a firm's competition intensity. A firm's competition intensity with other competitors considerably contributed to regression. Thus as a firm's competition intensity becomes stronger, the firm's market growth performance is likely to be better. Table 16 displays the regression result of market growth performance on competition intensity and other covariates.

Table 16 Multiple Regression of Competition Intensity on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	448.918	236.429		1.899	.059			
Market Size (log)	14.551	8.397	.142	1.733	.085	.053	.129	.120
Income (log)	-102.115	54.192	-.154	-1.884	.061	-.090	-.140	-.130
Service age	.193	.153	.090	1.258	.210	.097	.094	.087
Competition intensity	2.515	.523	.336	4.812	.000	.355	.339	.333

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.387	.150	.131	36.4964

H4c: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher level of financial growth performance controlling for market size, income, and service age.

The semipartial correlation between a firm's competition intensity and financial performance was .227 in the direction hypothesized (β = .230). Therefore, the hypothesis was supported. In other words, about 5.5% of variance in financial growth performance is associated with a firm's competition intensity. Table 17

displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 17 Multiple Regression of Competition Intensity on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	158.464	246.151		.64	.521			
Market Size (log)	16.246	8.742	.159	1.85	.065	.127	.138	.134
Income (log)	-46.823	56.421	-.071	-.83	.408	-.003	-.062	-.060
Service age	.000	.159	-.016	-.21	.831	-.017	-.016	-.015
Competition intensity	1.714	.544	.230	3.15	.002	.232	.230	.227

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.272	.074	.053	37.9972

H4d: For Web-based local information service, a firm's competition intensity with other firms will be positively related to higher level of market share controlling for market size, income, and service age.

The hypothesis was supported, as the semipartial correlation for the relationship was .207 in the direction hypothesized, which exceeds the .200 cut-off point (β = .210). This indicates that 4.3 % of variance in market share (log) is associated with individual firm's competition intensity. A firm's competition intensity with other firms appears positively related to higher level of market share (log). Table 18 displays the result of multiple regression analysis.

Table 18 Multiple Regression of Competition Intensity on Market Share

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	1.345	4.644		.290	.772			
Market Size (log)	-.487	.175	-.239	-2.779	.006	-.268	-.223	-.203
Income (log)	.000	1.065	.007	.084	.934	-.095	.007	.006
Service age	.000	.003	.275	3.606	.000	.341	.284	.264
Competition intensity	.000	.011	.210	2.823	.005	.242	.226	.207

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.456	.208	.186	.6919

Firm Resources

Human Resources

As Table 19 displays, the highest correlation among the independent variables, between 'Organizational Resources' and 'Innovation Resources', was .617. 'Quality of human resources' was high correlated with 'Organizational Resources' and 'Innovation Resources'. The inclusion of high correlated variables in the same analysis actually weaken an analysis because they inflate the size of error terms. The resource variables, however, are not redundant because they reflect different measures in four aspects in firm resources. Further, the resource variables are not using their subscale. Therefore, to resolve doubts about possible multicollinearity among the resource variables, each resource independent variable was separately entered into regression equation with a firm's competition intensity and other four covariates. Mahalanobis distances showed no multivariate outliers in the solution for the hypothesis 5 examining the effects of the quantity of human resources. For the hypothesis 6, Mahalanobis distances also showed no multivariate outliers in the solution with the quality of human resources. None of cases shows the Mahalanobis distance score in excess of 16.31. The variable to case ratio for dependent variables was 1 to 36.6 exceeding the minimum ratio for multiple regression.

Table 19

Pearson Product Moment Correlations of Independent Variables for Firm Resource Hypotheses

Correlations

	Market size (log)	Income (log)	Competition	Service age	Quantity of HR (log)	Quality of HR	Org. Coordina.	Innovation Resources
Market size (log)	1.000	.503*	.005	-.146	.192*	-.134	-.035	.009
Income (log)	.503*	1.000	-.046	.085	.079	.055	-.064	-.005
Competition intensity	.005	-.046	1.000	.122	.330*	.186	.155	.225*
Service age	-.146	.085	.122	1.000	.168	.214*	.039	-.015
Quantity of human resources (log)	.192*	.079	.330*	.168	1.000	.156	.084	.092
Quality of human resources	-.134	.055	.186	.214*	.156	1.000	.547*	.489*
Organizational coordination.	-.035	-.064	.155	.039	.084	.547*	1.000	.617*
Innovation resources	.009	-.005	.225*	-.015	.092	.489*	.617*	1.000

* Correlation is significant at the 0.01 level (2-tailed).

H5a: The quantity of human resources will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was not supported, as the semipartial correlation for the relationship failed to prove substantially significant (β = .145, sr_i = .132). Even if the relationship was positive in the direction hypothesized, only 1. 7 % of variance in product quality is associated with the quantity of human resources (log) after controlling for firms' competition intensity and other covariates. The quantity of human resources was not related to product quality. Table 20 displays the result of multiple regression of product quality.

Table 20 Multiple Regression of Quantity of Human Resources on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	5.532	81.10		.068	.946			
Market size (log)	-2.803	2.94	-.083	-.951	.343	-.043	-.071	-.069
Income (log)	11.791	18.60	.054	.634	.527	.025	.048	.046
Competition intensity	.358	.18	.146	1.895	.060	.203	.141	.137
Service age	.000	.05	.102	1.341	.182	.161	.100	.097
Quantity of human resources (log)	4.963	2.71	.145	1.826	.070	.198	.136	.132

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.282	.080	.054	12.5202

H5b: The quantity of human resources will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was supported, as the relationship between the quantity of human resources (log) and market growth performance was found to be positive (β = .314, sr_i = .286). This result explains that the quantity of human resources (log) accounts for about 8.2% of variance in market growth performance even after controlling for the firms' competition intensity and other covariates. Table 21

displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 21 Multiple Regression of Quantity of Human Resources on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	446.723	225.445		1.982	.049			
Market size (log)	7.033	8.193	.069	.858	.392	.053	.064	.057
Income (log)	-93.910	51.709	-.142	-1.816	.071	-.090	-.135	-.120
Competition intensity	1.797	.525	.240	3.420	.001	.355	.249	.225
Service age	.000	.148	.037	.539	.591	.097	.040	.036
Quantity of human resources (log)	32.727	7.554	.314	4.332	.000	.401	.310	.286

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.481	.231	.210	34.8008

To examine the pattern of association, each quantity in editorial, design, technical, and marketing staff was entered into regression equation. The quantity of editorial ($\beta = .274$, $sr_i = .257$), design ($\beta = .270$, $sr_i = .246$), and marketing staff ($\beta = .289$, $sr_i = .268$) were positively related to higher level of market growth performance except the quantity of technical staff ($\beta = .191$, $sr_i = .179$). There seems to be no difference in the degree of association across three task areas. Table 21-1, Table 21-2, Table 21-3, and Table 21-4 summarize the results of each multiple regression analysis with regression coefficients and model summary.

Table 21-1 Multiple Regression of Quantity of Editorial Staff on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	461.740	227.702		2.028	.044			
Market size (log)	9.487	8.192	.093	1.158	.248	.053	.087	.077
Income (log)	-98.962	52.193	-.149	-1.896	.060	-.090	-.141	-.126
Competition intensity	2.095	.515	.280	4.067	.000	.355	.292	.271
Service age	.000	.151	.031	.443	.658	.097	.033	.030
Quantity of editorial staff (log)	32.907	8.512	.274	3.866	.000	.347	.279	.257

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.465	.216	.194	35.1455

Table 21-2 Multiple Regression of Quantity of Design Staff on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	482.174	228.658		2.109	.036			
Market size (log)	7.429	8.341	.073	.891	.374	.053	.067	.059
Income (log)	-100.455	52.372	-.151	-1.918	.057	-.090	-.143	-.128
Competition intensity	1.959	.527	.262	3.716	.000	.355	.269	.248
Service age	.000	.151	.043	.608	.544	.097	.046	.041
Quantity of design staff (log)	47.906	12.990	.270	3.688	.000	.354	.267	.246

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.459	.210	.188	35.2694

Table 21-3 Multiple Regression of Quantity of Technical Staff on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	496.687	233.312		2.129	.035			
Market size (log)	10.208	8.425	.100	1.212	.227	.053	.091	.082
Income (log)	-106.856	53.346	-.161	-2.003	.047	-.090	-.149	-.136
Competition intensity	2.178	.530	.291	4.108	.000	.355	.295	.279
Service age	.148	.152	.069	.975	.331	.097	.073	.066
Quantity of technical staff (log)	29.407	11.192	.191	2.627	.009	.270	.194	.179

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.426	.182	.159	35.9059

Table 21-4 Multiple Regression of Quantity of Marketing Staff on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	396.679	227.221		1.746	.083			
Market size (log)	10.206	8.128	.100	1.256	.211	.053	.094	.083
Income (log)	-85.330	52.163	-.129	-1.636	.104	-.090	-.122	-.108
Competition intensity	1.805	.531	.241	3.397	.001	.355	.247	.225
Service age	.133	.148	.062	.898	.370	.097	.067	.060
Quantity of marketing staff (log)	39.532	9.778	.289	4.043	.000	.391	.291	.268

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.471	.222	.200	35.0183

H5c: The quantity of human resources will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was not supported, as the semipartial correlation only equaled .109, which did not exceed the cut-off point. As can be seen in the Table 22, although the relationship was positive (β = .120), the quantity of human resources (log) does not seem to be substantially related to financial growth performance.

Table 22 Multiple Regression of Quantity of Human Resources on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	157.625	245.245		.643	.521			
Market size (log)	13.371	8.912	.131	1.500	.135	.127	.112	.108
Income (log)	-43.686	56.251	-.066	-.777	.438	-.003	-.058	-.056
Competition intensity	1.440	.571	.193	2.519	.013	.232	.186	.181
Service age	.000	.161	-.036	-.478	.633	-.017	-.036	-.034
Quantity of human resource (log)	12.512	8.218	.120	1.523	.130	.198	.114	.109

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.293	.086	.060	37.8573

H5d: The quantity of human resources will be positively related to higher level of market share controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was strongly supported, as the semipartial correlation for the relationship was .555 in the direction hypothesized (β = .612). This indicates that 30.8 % of variance in market share is associated with the quantity of human resources (log). The quantity of human resources was positively related to higher level of market share even after controlling for the firms' competition intensity and other covariates. Table 23 displays the result of multiple regression analysis.

Table 23 Multiple Regression of Quantity of Human resources on Market Share

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	.280	3.64		.077	.939			
Market size (log)	-.763	.14	-.375	-5.434	.000	-.268	-.409	-.312
Income (log)	.591	.83	.047	.706	.481	-.095	.058	.041
Competition intensity	.000	.00	.005	.079	.937	.242	.007	.005
Service age	.000	.00	.193	3.199	.002	.341	.255	.184
Quantity of human resource (log)	1.266	.13	.612	9.662	.000	.576	.623	.555

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.718	.515	.499	.5429

H6a: The quality of human resources will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.

The semipartial correlation between firm's quality of human resources and product quality, as summarized in Table 24, was .359 in the direction hypothesized (β = .378). Therefore, the hypothesis was strongly supported. This result indicates that a firm's quality of human resources accounts for about 12.7 % of variance in product quality even after controlling for the firm's competition intensity. As the quality level of human resources in the WLIS firms becomes higher, product quality is likely to be higher.

Table 24 Multiple Regression of Quality of Human Resources on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	29.479	76.156		.387	.699			
Market size (log)	.689	2.736	.021	.252	.801	-.043	.019	.017
Income (log)	-1.291	17.568	-.006	-.074	.941	.025	-.006	-.005
Competition Intensity	.304	.171	.124	1.779	.077	.203	.133	.120
Service age	.000	.050	.069	.964	.336	.161	.072	.065
Quality of human resources	1.101	.207	.378	5.315	.000	.413	.371	.359

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.437	.191	.168	11.7358

To examine the strength of association on the quality of editorial, design, and technical staff, each semipartial correlation were computed. As displayed in Table 24-1, Table 24-2 and Table 24-3, the quality of design staff (β = .372, sr_i = .363) had a stronger association with product quality than the quality of editorial staff (β = .292, sr_i = .279) and technical staff (β = .320, sr_i = .314).

Table 24-1 Multiple Regression of Quality of Editorial Staff on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	40.074	78.856		.508	.612			
Market size (log)	-.346	2.804	-.010	-.124	.902	-.043	-.009	-.009
Income (log)	-.724	18.187	-.003	-.040	.968	.025	-.003	-.003
Competition Intensity	.376	.175	.153	2.150	.033	.203	.160	.150
Service age	.000	.052	.075	1.021	.309	.161	.077	.071
Quality of editorial staff	2.638	.659	.292	4.006	.000	.331	.288	.279

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.374	.140	.116	12.1010

Table 24-2 Multiple Regression of Quality of Design Staff on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	31.873	76.037		.419	.676			
Market size (log)	-.236	2.708	-.007	-.087	.931	-.043	-.007	-.006
Income (log)	.381	17.495	.002	.022	.983	.025	.002	.001
Competition Intensity	.337	.170	.137	1.987	.048	.203	.148	.134
Service age	.000	.049	.095	1.348	.179	.161	.101	.091
Quality of design staff	3.167	.588	.372	5.387	.000	.405	.375	.363

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.441	.194	.172	11.7138

Table 24-3 Multiple Regression of Product Quality on Quality of Technical Staff

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	2.272	77.441		.029	.977			
Market size (log)	7.817E-02	2.777	.002	.028	.978	-.043	.002	.002
Income (log)	6.248	17.774	.029	.352	.726	.025	.026	.024
Competition Intensity	.436	.171	.177	2.545	.012	.203	.188	.175
Service age	6.601E-02	.050	.094	1.310	.192	.161	.098	.090
Quality of technical staff	2.853	.625	.320	4.565	.000	.341	.325	.314

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.401	.161	.137	11.9536

H6b: The quality of human resources will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was supported, as the semipartial correlation for the relationship was .277 in the direction hypothesized, which exceeds the .200 cut-off point (β = .291). About 7.7 % of variance in market growth performance was found to be associated with the quality of human resources. This indicates that as the quality of human resources becomes higher, market growth performance is better even when the firms' competition intensity is constant. Table 25 displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 25 Multiple Regression of Quality of Human Resources on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	504.219	226.56		2.226	.027			
Market Size (log)	20.059	8.14	.196	2.464	.015	.053	.182	.163
Income (log)	-129.837	52.26	-.196	-2.484	.014	-.090	-.184	-.164
Competition intensity	2.133	.50	.285	4.197	.000	.355	.301	.277
Service age	.000	.14	.046	.658	.511	.097	.049	.044
Quality of human resources	2.577	.61	.291	4.184	.000	.317	.300	.277

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.476	.226	.204	34.9139

In particular, the quality of editorial staff was found to be the most important contributor to higher level of market growth performance among the quality levels of four task areas. As can be seen in Table 25-1 through Table 25-4, the semipartial correlation of the quality of editorial staff (β = .281, sr_i = .269) was higher than the quality of design (β = .194, sr_i = .190), marketing (β = .176, sr_i = .170), and technical staff (β = .169, sr_i = .165).

Table 25-1 Multiple Regression of Quality of Editorial Staff on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	548.987	228.163		2.406	.017			
Market Size (log)	18.402	8.112	.180	2.269	.025	.053	.168	.150
Income (log)	-135.085	52.623	-.204	-2.567	.011	-.090	-.189	-.170
Competition intensity	2.248	.506	.301	4.445	.000	.355	.317	.295
Service age	.000	.149	.041	.586	.559	.097	.044	.039
Quality of editorial staff	7.717	1.906	.281	4.050	.000	.296	.291	.269

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.471	.222	.200	35.0133

Table 25-2 Multiple Regression of Quality of Design Staff on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	490.182	232.499		2.108	.036			
Market size (log)	16.815	8.281	.165	2.031	.044	.053	.151	.138
Income (log)	-118.243	53.496	-.178	-2.210	.028	-.090	-.164	-.150
Competition Intensity	2.309	.518	.309	4.454	.000	.355	.317	.302
Service age	.158	.151	.074	1.044	.298	.097	.078	.071
Quality of design staff	5.025	1.798	.194	2.795	.006	.226	.206	.190

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.431	.186	.163	35.8174

Table 25-3 Multiple Regression of Quality of Technical Staff on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	443.169	233.265		1.900	.059			
Market size (log)	17.337	8.364	.170	2.073	.040	.053	.154	.141
Income (log)	-108.992	53.539	-.164	-2.036	.043	-.090	-.151	-.139
Competition Intensity	2.466	.516	.330	4.777	.000	.355	.338	.326
Service age	.156	.152	.073	1.030	.304	.097	.077	.070
Quality of technical staff	4.564	1.882	.169	2.425	.016	.172	.179	.165

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.421	.177	.154	36.0062

Table 25-4 Multiple Regression of Quality of Marketing Staff on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	457.255	233.064		1.962	.051			
Market size (log)	17.202	8.345	.168	2.061	.041	.053	.153	.140
Income (log)	-110.118	53.512	-.166	-2.058	.041	-.090	-.153	-.140
Competition Intensity	2.278	.524	.305	4.347	.000	.355	.311	.296
Service age	.159	.152	.074	1.047	.296	.097	.078	.071
Quality of marketing staff	4.036	1.619	.176	2.493	.014	.223	.184	.170

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.423	.179	.155	35.9733

H6c: The quality of human resources will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was also supported, as the semipartial correlation for the relationship equaled .264 (β = .278), which exceeds the .200 cut-off point. This is consistent with the hypothesized direction. The result indicates that about 7.0 % of variance in financial growth performance is associated with the quality of human resources even after controlling for WLIS firms' competition intensity and market size. As the quality of human resources becomes higher, financial growth

performance is likely to be better even when the firms' competition intensity and market size are equal. Table 26 displays the result of multiple regression of financial growth performance on quality of human resources.

As displayed in Table 26-1 through Table 26-4, the quality of design (β = .259, sr_i = .253) and marketing staff (β = .215, sr_i = .208) were positively related to higher level of financial growth performance. However, the strength of association in editorial staff (β = .151, sr_i = .144) and technical staff (β = .148, sr_i = .145) were tenuous to predict a firm's financial growth performance.

Table 26 Multiple Regression of Quality of Human resources on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	211.135	237.773		.888	.376			
Market Size (log)	21.492	8.543	.211	2.516	.013	.127	.186	.175
Income (log)	-73.228	54.850	-.111	-1.335	.184	-.003	-.100	-.093
Competition intensity	1.351	.533	.181	2.532	.012	.232	.187	.176
Service age	-.125	.156	-.059	-.801	.424	-.017	-.060	-.056
Quality of human resource	2.455	.647	.278	3.797	.000	.265	.274	.264

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.379	.144	.120	36.6415

Table 26-1 Multiple Regression of Quality of Editorial Staff on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	212.021	245.508		.864	.389			
Market size (log)	18.307	8.728	.180	2.097	.037	.127	.156	.150
Income (log)	-64.469	56.624	-.097	-1.139	.256	-.003	-.085	-.081
Competition Intensity	1.572	.544	.211	2.887	.004	.232	.212	.206
Service age	.000	.161	-.042	-.563	.574	-.017	-.042	-.040
Quality of editorial staff	4.130	2.051	.151	2.014	.045	.147	.150	.144

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.308	.095	.069	37.6751

Table 26-2 Multiple Regression of Quality of Design Staff of Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	213.395	238.644		.894	.372			
Market size (log)	19.259	8.499	.189	2.266	.025	.127	.168	.158
Income (log)	-68.294	54.910	-.103	-1.244	.215	-.003	-.093	-.087
Competition Intensity	1.439	.532	.193	2.706	.007	.232	.199	.189
Service age	.000	.155	-.038	-.522	.602	-.017	-.039	-.036
Quality of design staff	6.690	1.845	.259	3.625	.000	.264	.263	.253

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.372	.138	.114	36.7641

Table 26-3 Multiple Regression of Quality of Technical Staff of Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	153.438	244.043		.629	.530			
Market size (log)	18.682	8.750	.183	2.135	.034	.127	.158	.153
Income (log)	-52.837	56.013	-.080	-.943	.347	-.003	-.071	-.067
Competition Intensity	1.671	.540	.224	3.095	.002	.232	.227	.221
Service age	.000	.159	-.031	-.414	.680	-.017	-.031	-.030
Quality of technical staff	3.991	1.969	.148	2.027	.044	.129	.151	.145

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.308	.095	.069	37.6699

Table 26-4 Multiple Regression of Quality of Marketing Staff on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	168.644	241.042		.700	.485			
Market size (log)	19.483	8.630	.191	2.257	.025	.127	.167	.159
Income (log)	-56.597	55.343	-.086	-1.023	.308	-.003	-.077	-.072
Competition Intensity	1.424	.542	.191	2.628	.009	.232	.194	.186
Service age	.000	.157	-.035	-.481	.631	-.017	-.036	-.034
Quality of marketing staff	4.928	1.674	.215	2.943	.004	.222	.216	.208

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.342	.117	.092	37.2047

Organizational Coordination

None of cases had the Mahalanobis distance value in excess of 15.92. This shows no multivariate outliers in the solution for the hypothesis 7. No evidence of multicollinearity and singularity among the independent variables was found.

H7a: Organizational coordination will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was strongly supported, as the semipartial correlation for the relationship was .315 (β = .320) in the direction hypothesized, which exceeds the .200 cut-off point. This shows that a firm's organizational resources account for about 10 % of variance in product quality even after controlling for the firms' competition intensity. Thus a firm's organizational coordination was positively related to higher quality of product. Table 27 displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 27 Multiple Regression of Organizational Coordination on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	-29.692	77.791		-.382	.703			
Market Size (log)	-1.628	2.749	-.048	-.592	.555	-.043	-.044	-.041
Income (log)	14.594	17.764	.067	.822	.412	.025	.062	.057
Competition Intensity	.350	.173	.142	2.021	.045	.203	.150	.139
Service age	.000	.050	.118	1.657	.099	.161	.124	.114
Organizational coordination	.916	.200	.320	4.583	.000	.344	.326	.315

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.402	.162	.138	11.9485

H7b: Organizational coordination will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

The semipartial correlation between a firm's level of organizational coordination and market performance was .279 (β = .283) in the direction hypothesized. Therefore, the hypothesis was supported. About 7.8 % of variance in market performance was associated with organizational resources even after controlling the firm's competition intensity. The result indicates that as the level of organizational coordination becomes higher, market growth performance is likely to be better even when the firms' competition intensity is constant. Table 28 summarizes the result of multiple regression analysis.

Table 28 Multiple Regression of Organizational Coordination on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	353.361	227.138		1.556	.122			
Market Size (log)	14.645	8.027	.143	1.824	.070	.053	.136	.121
Income (log)	-91.237	51.867	-.138	-1.759	.080	-.090	-.131	-.116
Competition Intensity	2.200	.505	.294	4.354	.000	.355	.311	.288
Service age	.178	.146	.083	1.214	.227	.097	.091	.080
Organizational coordination	2.461	.583	.283	4.219	.000	.335	.302	.279

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.477	.227	.206	34.8875

H7c: Organizational coordination will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was again supported, as the semipartial correlation for the relationship was .256(β = .260), which exceeds the .200 cut-off point (see Table 29). This is consistent with the hypothesized direction. The result indicates that about 6.6 % of variance in financial growth performance is associated with the

firm's organizational coordination even after controlling for competition intensity and market size. As the degree of organizational coordination becomes higher, the firm's financial growth performance is likely to be higher even when competition intensity and market size are equal.

Table 29 Multiple Regression of Organizational Resources on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	70.837	239.129		.296	.767			
Market Size (log)	16.332	8.451	.160	1.933	.055	.127	.144	.135
Income (log)	-36.848	54.605	-.056	-.675	.501	-.003	-.051	-.047
Competition Intensity	1.425	.532	.191	2.679	.008	.232	.197	.187
Service age	.000	.154	-.022	-.310	.757	-.017	-.023	-.022
Organizational coordination	2.257	.614	.260	3.674	.000	.286	.266	.256

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.374	.140	.115	36.7293

Innovation Resources

All variables entered the equation without violating the default value for tolerance. Therefore, no evidence of multicollinearity and singularity among the independent variables was found. None of cases had a Mahalanobis distance value in excess of 16.9. This shows no multivariate outliers in the solution.

> H8a: Innovation resources will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was strongly supported, as the semipartial correlation for the relationship was .356 in the direction hypothesized (β = .366). This indicates that about 12.7 % of variance in product quality is associated with firm's innovation resources even after controlling for competition intensity and service age. Innovation resources are positively related to higher quality of product even when

the firms' competition intensity and service age are constant. Table 30 displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 30 Multiple Regression of Innovation Resources on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	-11.704	76.209		-.154	.878			
Market Size (log)	-1.603	2.704	-.048	-.593	.554	-.043	-.045	-.040
Income (log)	9.631	17.452	.044	.552	.582	.025	.041	.037
Competition Intensity	.259	.173	.105	1.500	.135	.203	.112	.102
Service age	.100	.049	.143	2.029	.044	.161	.151	.137
Innovation resources	.800	.152	.366	5.259	.000	.387	.368	.356

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.435	.189	.166	11.7528

H8b: Innovation resources will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

The semipartial correlation between firm's innovation resources and market growth performance was .331 in the direction hypothesized (β = .340). Therefore, the hypothesis was strongly supported. About 11 % of variance in market growth performance was associated with the firm's innovation resources even after controlling for competition intensity. The result indicates that as the level of innovation resources becomes higher, the firm's market growth performance is likely to be better even when competition intensity is equal. The summary of multiple regression analysis is displayed in Table 31.

Table 31 Multiple Regression of Innovation Resources on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	399.240	221.510		1.802	.073			
Market Size (log)	14.719	7.860	.144	1.873	.063	.053	.139	.121
Income (log)	-104.704	50.726	-.158	-2.064	.040	-.090	-.153	-.134
Competition Intensity	1.928	.503	.258	3.836	.000	.355	.277	.248
Service age	.225	.143	.106	1.570	.118	.097	.117	.102
Innovation resources	2.262	.442	.340	5.116	.000	.399	.359	.331

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.509	.259	.238	34.1607

H8c: Innovation resources will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was again strongly supported, as the semipartial correlation for the relationship was .353 (β = .363), which exceeds the .200 cut-off point (see Table 32). This is consistent with the hypothesized direction. The result explains that a firm's innovation resources account for about 12.5 % of variance in financial growth performance even after controlling for competition intensity and market size. Innovation resources are positively related to higher level of financial growth performance even when the firms' competition intensity and market size are equal.

Table 32 Multiple Regression of Innovation Resources on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	105.570	229.836		.459	.647			
Market Size (log)	16.425	8.155	.161	2.014	.046	.127	.150	.136
Income (log)	-49.580	52.633	-.075	-.942	.347	-.003	-.071	-.063
Competition Intensity	1.089	.521	.146	2.088	.038	.232	.155	.141
Service age	.000	.149	.000	.004	.997	-.017	.000	.000
Innovation resources	2.409	.459	.363	5.250	.000	.398	.367	.353

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.446	.199	.176	35.4446

Competitive Strategies

Scale Strategy

The Mahalanobis distance values for each case showed no multivariate outlier in the solution for the hypothesis 9 and 10. No evidence of multicollinearity among the independent variables was found. All variables entered the equation without violating the default value for tolerance.

> H9a: For Web-based local information service, large-scale entry strategy will be positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was supported, as the semipartial correlation for the relationship equaled .208 (β = .221) in the direction hypothesized, which exceeds the .200 cut-off point. This indicates that a firm's large-scale entry strategy accounts for about 4.3 % of variance in product quality even when firm's competition intensity and service age are constant. A firm's large-scale entry was positively related to higher level of product quality. Table 33 displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 33 Multiple Regression of Large-scale Entry Strategy and Service Age on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	-25.420	80.660		-.315	.753			
Market Size (log)	-1.713	2.840	-.051	-.603	.547	-.043	-.045	-.043
Income (log)	15.015	18.389	.069	.817	.415	.025	.061	.058
Competition	.308	.185	.125	1.666	.097	.203	.124	.118
Service age	.109	.052	.156	2.090	.038	.161	.155	.149
Large-scale entry	.666	.227	.221	2.931	.004	.232	.215	.208

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.325	.106	.080	12.3416

H9b: For Web-based local information service, large-scale entry strategy will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

The semipartial correlation between a firm's large-scale entry and market growth performance was .327 in the direction hypothesized (β = .346). Therefore, the hypothesis was strongly supported. This explains that about 10.7 % of variance in market growth performance is associated with a firm's large-scale entry even when competition intensity and service age are equal. The result of multiple regression analysis is summarized in Table 34.

Table 34 Multiple Regression of Large-scale Entry Strategy and Service Age on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	299.782	223.694		1.340	.182			
Market Size (log)	14.310	7.875	.140	1.817	.071	.053	.135	.118
Income (log)	-80.815	50.998	-.122	-1.585	.115	-.090	-.118	-.103
Competition	1.757	.513	.235	3.426	.001	.355	.249	.222
Service age	.291	.145	.136	2.006	.046	.097	.149	.130
Large-scale entry	3.175	.630	.346	5.039	.000	.409	.354	.327

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.506	.256	.235	34.2270

H9c: For Web-based local information service, large-scale entry strategy will be positively related to the higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was supported, as the semipartial correlation for the relationship equaled .263 (β = .278), which exceeds the .200 cut-off point (see Table 35). This is consistent with the hypothesized direction. The result indicates that about 6.9 % of variance in financial growth performance is associated with large-

scale entry even after controlling for the firms' competition intensity and market size. A firm's large-scale entry strategy was positively related to higher level of financial growth performance.

Table 35 Multiple Regression of Large-scale Entry Strategy and Service Age on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	38.593	239.545		.161	.872			
Market Size (log)	16.052	8.433	.157	1.903	.059	.127	.142	.132
Income (log)	-29.704	54.612	-.045	-.544	.587	-.003	-.041	-.038
Competition	1.105	.549	.148	2.012	.046	.232	.150	.140
Service age	.000	.155	.021	.288	.773	-.017	.022	.020
Large-scale entry	2.552	.675	.278	3.782	.000	.320	.273	.263

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.378	.143	.119	36.6523

H9d: For Web-based local information service, large-scale entry strategy will be positively related to higher level of market share controlling for firm's competition intensity, market size, income, and service age.

As shown in the Table 36, the semipartial correlation did not exceed the cut-off point (β = -.010, sr_i = -.010). The hypothesis was not supported. This indicates that there is little association between a firm's large-scale entry and market share.

Table 36 Multiple Regression of Large-scale Entry Strategy and Service Age on Market Share

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	1.416	4.688		.302	.763			
Market Size (log)	-.485	.176	-.239	-2.761	.007	-.268	-.222	-.203
Income (log)	.000	1.071	.006	.074	.941	-.095	.006	.005
Competition	.000	.011	.213	2.766	.006	.242	.222	.203
Service age	.000	.003	.273	3.547	.001	.341	.281	.260
Large-scale entry	.000	.014	-.010	-.137	.892	-.004	-.011	-.010

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.456	.208	.181	.6942

Time of Entry

H10a: For Web-based local information service, earlier entry into market will be positively related to higher quality of product controlling for market size, income, competition intensity, and scale of entry.

As Table 33 displays, the hypothesis was not supported, as the semipartial correlation for the relationship failed to prove meaningful ($\beta = .156$, $sr_i = .149$). Even if the relationship was positive in the direction hypothesized, only 2.2 % of variance in product quality was associated with a firm's earlier entry after controlling for competition intensity and scale of entry. A firm's entry of time was not related to product quality.

H10b: For Web-based local information service, earlier entry into market will be positively related to higher level of market growth performance controlling for market size, income, competition intensity, and scale of entry.

The hypothesis was not supported, as the semipartial correlation only equaled .130 ($\beta = .136$), which did not exceed the cut-off point, even though the relationship was positive. This indicates that only 1. 7 % of variance in market growth performance is associated with a firm's earlier entry after controlling for competition intensity and other covariates (see Table 34).

H10c: For Web-based local information service, earlier entry into market will be positively related to higher level of financial growth performance controlling for market size, income, competition intensity, and scale of entry.

The hypothesis was also not supported, as the semipartial correlation only equaled .020, which did not exceed the cut-off point (see Table 35). This shows that variance in financial growth performance is least associated with a firm's earlier entry after controlling for competition intensity and scale of entry.

H10d: For Web-based local information service, firm's earlier entry into market will be positively related to higher level of market share controlling for market size, income, competition intensity, and scale of entry.

The hypothesis was supported, as the relationship between a firm's earlier entry and market share was found to be positive ($\beta = .274$, $sr_i = .260$). The result of the regression analysis is summarized in Table 36. This result explains that a firm's time of entry into market accounts for about 6.8% of variance in market share even after controlling for competition intensity. Thus a firm's earlier entry was positively related to the firm's market share.

Product Quality

H11a: For Web-based local information service, product quality will be positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was strongly supported, as the semipartial correlation for the relationship was .358 in the direction hypothesized ($\beta = .370$). This indicates that product quality accounts for about 12.8 % of variance in market growth performance even when firm's competition intensity is constant. Product quality was positively related to higher level of market growth performance. Table 37 displays the result of multiple regression analysis.

Table 37 Multiple Regression of Product Quality on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	442.323	218.497		2.024	.044			
Market Size (log)	16.421	7.767	.161	2.114	.036	.053	.157	.135
Income (log)	-113.974	50.126	-.172	-2.274	.024	-.090	-.168	-.145
Competition	1.990	.492	.266	4.044	.000	.355	.291	.258
Service age	.000	.143	.044	.652	.515	.097	.049	.042
Product Quality	1.124	.201	.370	5.605	.000	.419	.388	.358

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.527	.278	.258	33.7279

H11b: For Web-based local information service, product quality will be positively related to higher level of financial growth performance controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was supported, as the semipartial correlation for the relationship equaled .273 (β = .282), which exceeds the .200 cut-off point. This is consistent with the hypothesized direction. This indicates that about 7.5 % of variance in financial growth performance is associated with product quality even after controlling for firm's competition intensity and market size. Thus as the level of product quality becomes higher, financial growth performance is likely to be better even when competition intensity and market size are equal. Table 38 displays the unstandardized regression coefficients (B), the standardized regression coefficients (β), zero-order correlations (r), the semipartial correlations (sr_i) and R^2.

Table 38 Multiple Regression of Product Quality on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	153.454	236.736		.648	.518			
Market Size (log)	17.666	8.416	.173	2.099	.037	.127	.156	.146
Income (log)	-55.832	54.310	-.084	-1.028	.305	-.003	-.077	-.071
Competition	1.315	.533	.176	2.467	.015	.232	.182	.171
Service age	-.110	.155	-.052	-.710	.479	-.017	-.053	-.049
Product quality	.854	.217	.282	3.930	.000	.299	.283	.273

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.385	.148	.124	36.5433

H11c: For Web-based local information service, product quality will be positively related to higher level of market share controlling for firm's competition intensity, market size, income, and service age.

The hypothesis was not supported, as the semipartial correlation only equaled .085 (β = .088), which did not exceed the cut-off point. This shows that variance in market share is little associated with product quality after controlling for competition intensity, service age and market size (see Table 39).

Table 39 Multiple Regression of Product Quality on Market Share

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	1.122	4.643		.242	.809			
Market Size (log)	-.480	.175	-.236	-2.741	.007	-.268	-.220	-.200
Income (log)	.000	1.064	.006	.071	.943	-.095	.006	.005
Competition	.000	.011	.197	2.619	.010	.242	.211	.191
Service age	.000	.003	.258	3.344	.001	.341	.266	.244
Product quality	.000	.005	.088	1.168	.245	.190	.096	.085

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.464	.215	.188	.6910

Resources and Competition

RQ1a: Are the effects of firm's resources on product quality stronger than those of firm's competition intensity?

Firm resources were far stronger than competition intensity in the strength of association with product quality. As summarized in Table 40, all intangible resources including the quality of human resources (difference = .115), organizational coordination (difference = .080), and innovational resources (difference = .117), are stronger contributors to higher quality of product than competition intensity. The difference exceeded the criteria of .02 except the quantity of human resources. For the quantity of human resources (difference = -.002), there was little difference from competition intensity in the strength of association with product quality.

Table 40 Comparison of Strength of Association with Product Quality Between Four types of Resources and Competition Intensity

	Resources		Competition		Diff.
	sr_i	sr_i^2	sr_i	sr_i^2	$R(sr_i^2)$-$C(sr_i^2)$
Quantity of Human Resources Regression	.132	.017	.137	.019	-.002
Quality of Human Resources Regression	.359	.129	.120	.014	.115*
Organizational Coordination Regression	.315	.099	.139	.019	.080*
Innovational Resources Regression	.356	.127	.102	.010	.117*

* Difference of Squared Semipartial Correlation between Resources and Competition is above .02 (2%).

RQ1b: Are the effects of firm's resources on market growth performance stronger than those of firm's competition intensity?

The quantity of human resources (difference = .031) and innovation resources (difference = .048) were stronger contributors to higher level of market growth performance than competition intensity as displayed in Table 41. However,

there was no difference between other two resources and market growth performance in the strength of association.

Table 41 Comparison of Strength of Association with Market Growth Performance Between Four types of Resources and Competition Intensity

	Resources		Competition		Diff.
	sr_i	sr_i^2	sr_i	sr_i^2	$R(sr_i^2)$-$C(sr_i^2)$
Quantity of Human Resources Regression	.286	.082	.225	.051	.031*
Quality of Human Resources Regression	.277	.077	.277	.077	.000
Organizational Coordination Regression	.279	.078	.288	.083	.-.005
Innovational Resources Regression	.331	.110	.248	.062	.048*

* Difference of Squared Semipartial Correlation between Resources and Competition is above .02 (2%).

RQ1c: Are the effects of firm's resources on financial growth performance stronger than those of firm's competition intensity?

Only the quantity of human resources was found to be weaker than competition intensity in terms of strength of association with financial growth performance. The associations of three resources were stronger than competition intensity. For the quantity of human resources, the difference between resources and competition intensity was only .021. Innovation resources (difference = .105) were far stronger predictor for financial growth performance than competition intensity. Table 42 displays a comparison of the strength of association with financial performance between four types of resources and competition intensity.

Table 42 Comparison of the Strength of Association with Financial Growth Performance Between Four types of Resources and Competition Intensity

	Resources		Competition		Diff.
	sr_i	sr_i^2	sr_i	sr_i^2	$R(sr_i^2)$-$C(sr_i^2)$
Quantity of Human Resources Regression	.109	.012	.181	.033	-.021*
Quality of Human Resources Regression	.264	.070	.176	.031	.039*
Organizational Coordination Regression	.256	.066	.187	.035	.031*
Innovational Resources Regression	.353	.125	.141	.020	.105*

* Difference of Squared Semipartial Correlation between Resources and Competition is above .02 (2%).

Organizational Goals

RQ2a: What kinds of organizational goals are most likely to be sought through local Web contents service?

Principal components extraction with oblique rotation was performed on 17 organizational goal items after a preliminary extraction to estimate number of factors. Kaiser's measure of sampling adequacy was used to test factorability. The Kaiser's measure of .88 showed that there was no problem of factorability on the final solution. Three factors were extracted. The lowest of Cronbach alphas for three factors was .80. These factors accounted for about 61.8 percent of the variance. Loadings of variables on factors, communalities, and percents of variance are shown in Table 43. Variables are ordered and grouped by size of loading to facilitate interpretation. As can be seen in Table 43, the loadings of factor 3 were reflected during the rotation. Thus to interpret the factor 3, caution is necessary to reverse the direction of the interpretation. Component correlations among factors were shown in Table 44.

Factor 1 included "Providing high quality information," "Improving the information product," "Providing superior information to the community," "Responding to user's needs," "Doing the job well," "Serving the general needs of the community," "Hiring the best employees," and "Maintaining high quality transmission standards." This factor accounts for 37.4 % of total variance. (α = .89). The factor 1 was termed "service quality."

Factor 2 included "Maximizing profits," "Increasing profit," "Increasing the gross revenue," and "Reducing costs." This factor accounts for 15.9 % of total variance. (α = .86). The factor 2 was named "profitability."

Factor 3 was defined by "Beating the competition," "Protecting our franchise in the market," "Maintaining our firm's position in the market," "Attaining a position of leadership in the business community," "Maximizing growth of organization." This factor accounts for 8.49 % of total variance. (α = .80). The factor 3 was termed "business competition."

Principal components extraction with oblique rotation identified three components labeled "service quality," "profitability," and "business competition." All factors were internally consistent and well defined by the organizational items. Factor scores by regression method were used to examine the effects of three factors. The factor 3 scores were transformed to cancel out the reflection for a unified interpretation with other factors.

Table 43 Factor Loadings, Percents of Variance, Reliability For Principal Factor Extraction and Oblique Rotation on Organizational Goal items

Pattern Matrix

	Service Quality	Profitability	Business Competition
Providing high quality information	**.850**	-.128	.000
Improving the information product	**.845**	.000	.000
Providing superior information to the community	**.825**	-.135	.000
Responding to user's needs	**.770**	.000	.000
Doing the job well	**.734**	-.101	.000
Serving the general needs of the community	**.678**	.156	.102
Hiring the best employees	**.570**	.000	-.216
Maintaining high quality transmission standards	**.547**	.248	-.162
Maximizing profits	.000	**.932**	.000
Increasing profit	.000	**.928**	.000
Increasing the gross revenue	.000	**.866**	.000
Reducing costs	.000	**.599**	.000
Beating the competition	.000	.000	**-.833**
Protecting our franchise in the market	.000	.000	**-.808**
Maintaining our firm's position in the market	.000	.110	**-.696**
Attaining a position of leadership in the business community	.000	.000	**-.667**
Maximizing growth of organization	.192	.130	**-.543**
Eigenvalue	6.36	2.70	1.44
% of Variance	37.40	15.88	8.49
Cronbach alpha	.89	.86	.80

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Table 44 Component Correlation Matrix

Component	Service Quality	Profitability	Business Competition
Service Quality	1.000	.230	-.441
Profitability	.230	1.000	-.341
Business Competition	-.441	-.341	1.000

RQ2b: How do firm's organizational goals affect firm resources such as i) quantity of human resources, ii) quality of human resources, iii) organizational coordination, and iv) innovation resources?

No relationship was found between organizational goals and the quantity of human resources (log). Three organizational goals do not seem to affect the quantity of human resources (log). Their semipartial correlations for the association with the quantity of human resources were very low as summarized in Table 45.

Table 45 Multiple Regression of Organizational Goals on Quantity of Human Resources

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	1.336	2.32		.575	.566			
Market size (log)	.250	.08	.255	2.999	.003	.192	.220	.214
Income (log)	-.460	.53	-.072	-.861	.390	.079	-.065	-.061
Service age	.000	.00	.217	2.912	.004	.168	.214	.208
Goal1: Service Quality	.000	.03	-.065	-.812	.418	-.076	-.061	-.058
Goal2: Profitability	.000	.02	.080	1.040	.300	.055	.078	.074
Goal3: Business competition	.000	.03	-.131	-1.576	.117	-.123	-.118	-.112

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.324	.105	.075	.3608

For the quality of human resources, the service quality (β = -.224, sr_i = -.194) and business competition goals (β = -.228, sr_i = -.196) were found to be important predictors. The semipartial correlations of both goals were considerably reduced relatively to zero-order correlations, as can be seen in Table 46. This is due to high correlation (r = .441) between the service quality and business competition, indicating that both variables have a sizable shared variance. A cautious interpretation is also necessary to interpret the standardized regression coefficient and semipartial correlation. Because the organizational items were transformed by a reflected logarithm prior to principal component extraction, the coefficients should

be interpreted in the reverse direction. Thus both goals appeal positively related to the quality of human resources even when service age is constant.

Table 46 Multiple Regression of Organizational Goals on Quality of Human Resources

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	-11.264	25.622		-.440	.661			
Market size (log)	-1.868	.920	-.162	-2.031	.044	-.134	-.151	-.135
Income (log)	8.761	5.894	.117	1.486	.139	.055	.111	.099
Service age	.000	.017	.224	3.216	.002	.214	.236	.214
Goal1: Service Quality	-.965	.332	-.218	-2.906	.004	-.318	-.214	-.194
Goal2: Profitability	-.119	.319	-.027	-.372	.710	-.114	-.028	-.025
Goal3: Business competition	-1.008	.344	-.228	-2.932	.004	-.301	-.216	-.196

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.466	.217	.190	3.9807

The service quality goal was also observed to be a meaningful predictor for the level of organizational coordination (β = -.412, sr_i = -.367) and innovation resources (β = -.328, sr_i = -.291). The service quality goal accounted for about 13.5 % of variance in the level of organizational coordination and about 8.5 % of variance in the level of innovation resources. A positive relationship was found between the service quality and the level of organizational coordination and innovation resources. The profitability and business competition goals, however, did not seem to affect the level of organizational coordination and innovation resources (see Table 47, 48).

The organizational goals appear to affect the level of resource commitment, particularly in intangible resources. Especially, a firm's service quality goal seems to positively affect the level of the quality of human resources, organizational coordination, and innovation resources.

Table 47 Multiple Regression of Organizational Goals on Organizational Coordination

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	48.622	26.510		1.834	.068			
Market size (log)	.502	.952	.043	.527	.599	-.035	.040	.036
Income (log)	-6.722	6.099	-.088	-1.102	.272	-.064	-.083	-.075
Service age	.000	.017	.081	1.148	.253	.039	.086	.078
Goal1: Service Quality	-1.854	.343	-.412	-5.398	.000	-.421	-.377	-.367
Goal2: Profitability	.000	.330	.019	.255	.799	-.080	.019	.017
Goal3: Business competition	-.197	.356	-.044	-.553	.581	-.211	-.042	-.038

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.434	.189	.161	4.1187

Table 48 Multiple Regression of Organizational Goals on Innovation Resources

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	38.841	34.401		1.129	.260			
Market size (log)	.583	1.235	.038	.472	.637	.009	.036	.032
Income (log)	-2.372	7.914	-.024	-.300	.765	-.005	-.023	-.020
Service age	.000	.023	.047	.667	.505	-.015	.050	.045
Goal1: Service Quality	-1.929	.446	-.328	-4.328	.000	-.410	-.310	-.291
Goal2: Profitability	-.581	.428	-.099	-1.359	.176	-.217	-.102	-.092
Goal3: Business competition	-.854	.462	-.145	-1.849	.066	-.320	-.138	-.125

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.449	.202	.175	5.3447

RQ2c: How do firm's organizational goals affect large-scale entry to compete with other firms?

Both service quality and business competition goal were associated with the large-scale entry. The semipartial correlation of service quality goal was -.213 (β = -.239) and business competition goal -.221(β = -.257). Both goals were positively related to the large-scale entry into market. Surprisingly, the profitability goal was found not to affect a firm's scale of entry (β = -.066, sr_i = -.061). Table 49 summarizes the result of multiple regression analysis using factor scores.

Table 49 Multiple Regression of Organizational Goals on Scale of Entry

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	61.927	24.617		2.516	.013			
Market size (log)	.450	.884	.040	.509	.612	-.019	.038	.034
Income (log)	-9.510	5.663	-.132	-1.679	.095	-.114	-.126	-.112
Service age	.000	.016	-.034	-.483	.630	-.106	-.036	-.032
Goal1: Service Quality	-1.020	.319	-.239	-3.198	.002	-.370	-.234	-.213
Goal2: Profitability	-.282	.306	-.066	-.923	.357	-.219	-.069	-.061
Goal3: Business competition	-1.095	.330	-.257	-3.314	.001	-.389	-.242	-.221

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.470	.221	.194	3.8245

RQ2d: How do firm's organizational goals affect i) product quality, ii) market growth performance, iii) market share, and iv) financial growth performance?

As displayed in Table 50, only the service quality goal was positively related to the level of product quality, as the semipartial correlation of service quality was -.243 (β = -.274). For the market growth performance (see Table 51), the business competition goal was found to be a meaningful predictor (β = -.338, sr_i = -.291). Although zero-order correlation between service quality and market growth performance was -.251, the service quality goal did not contribute to the regression. The relationship between service quality goal and market growth performance was mediated by the relationship between business competition goal and market growth performance.

On the other hand, a firm's profitability goal was associated with higher level of financial growth performance (β = -.292, sr_i = -.270). The profitability goal accounted for about 7.3 % of variance in financial growth performance. Even

though the business competition goal showed a positive relationship with a zero-order correlation of -.294, the relationship was mediated by the profitability goal on the multiple regression (see Table 52). Finally, no relationship was found between three organizational goals and market share as shown in Table 53.

Table 50 Multiple Regression of Organizational Goals on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	36.199	78.324		.462	.645			
Market size (log)	-.439	2.812	-.013	-.156	.876	-.043	-.012	-.011
Income (log)	4.229	18.019	.019	.235	.815	.025	.018	.016
Service age	.134	.051	.192	2.617	.010	.161	.194	.183
Goal1: Service Quality	-3.521	1.015	-.274	-3.470	.001	-.306	-.253	-.243
Goal2: Profitability	-.567	.974	-.044	-.582	.561	-.101	-.044	-.041
Goal3: Business competition	-1.016	1.051	-.079	-.967	.335	-.193	-.073	-.068

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.368	.135	.106	12.1687

Table 51 Multiple Regression of Organizational Goals on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	602.633	229.030		2.631	.009			
Market size (log)	16.669	8.224	.163	2.027	.044	.053	.151	.137
Income (log)	-128.220	52.689	-.193	-2.434	.016	-.090	-.180	-.164
Service age	.387	.150	.181	2.577	.011	.097	.191	.174
Goal1: Service Quality	-4.818	2.967	-.123	-1.624	.106	-.251	-.121	-.109
Goal2: Profitability	.377	2.848	.010	.132	.895	-.109	.010	.009
Goal3: Business competition	-13.248	3.073	-.338	-4.311	.000	-.376	-.309	-.291

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.448	.201	.174	35.5828

Table 52 Multiple Regression of Organizational Goals on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	251.977	227.869		1.106	.270			
Market size (log)	19.575	8.182	.192	2.392	.018	.127	.177	.161
Income (log)	-65.306	52.422	-.099	-1.246	.215	-.003	-.093	-.084
Service age	.197	.149	.092	1.317	.190	-.017	.099	.088
Goal1: Service Quality	-6.025	2.952	-.154	-2.041	.043	-.261	-.152	-.137
Goal2: Profitability	-11.406	2.834	-.292	-4.025	.000	-.358	-.290	-.270
Goal3: Business competition	-4.942	3.057	-.127	-1.616	.108	-.294	-.121	-.109

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.453	.205	.178	35.4024

Table 53 Multiple Regression of Organizational Goals on Market Share

Coefficients

	B	S. E	β	t	Sig.	r	pr_i	sr_i
(Constant)	3.073	4.719		.651	.516			
Market size (log)	-.471	.180	-.232	-2.616	.010	-.268	-.212	-.196
Income (log)	-.178	1.085	-.014	-.164	.870	-.095	-.014	-.012
Service age	.000	.003	.309	3.933	.000	.341	.309	.294
Goal1: Service Quality	.000	.065	.012	.138	.890	-.038	.011	.010
Goal2: Profitability	.000	.063	.071	.865	.388	.093	.071	.065
Goal3: Business competition	-.112	.069	-.145	-1.635	.104	-.054	-.134	-.122

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.427	.183	.149	.7075

Venture Origin

Organizational Goals

RQ3a: How does variation in venture origin affect firm's organizational goals?

A firm's service quality goal varied with venture origin, as summarized in Table 54, with an eta squared of .047. Venture origin was defined by daily, weekly newspapers, local television stations, radio stations, and Internet ventures. Internet ventures showed higher service quality goals than any other service (see Table 54-1). The assumption of homogeneity of variance was not violated on this ANCOVA.

Table 54 Analysis of Covariance of Service Quality Goal by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	19.339	7	2.763	2.972	.006	.106
Intercept	.244	1	.244	.263	.609	.001
Market Size (log)	2.134	1	2.134	2.296	.132	.013
Income (log)	.363	1	.363	.391	.533	.002
Competition	12.033	1	12.033	12.946	.000	.069
Venture Origin	8.058	4	2.014	2.167	.075	.047
Error	162.661	175	.929			

Table 54-1 Mean Service Quality Goal for Five Categories of Venture Origin

Origin	M	S.D	N
TV	.000	.93	47
Daily	.230	1.16	43
Radio	.000	.99	49
I-Venture	-.405	.86	21
Weekly	.000	.86	23
Total	.000	1.00	183

Venture origin defined by five media groups was different in the degree of profitability goal (η^2 = .098). The strength of association for the effect was found to be positive. As displayed in Table 55-1, Internet venture and radio groups had a higher profitability goal than the weekly and daily newspaper groups. There was no violation of homogeneity of variance on this ANCOVA. Table 55 reports the results of ANCOVA of profitability goal by venture origin.

On the other hand, the business competition goal did not vary with venture origin (η^2 = .026). The five groups were not different in the strength of the business competition goal (see Table 56).

Table 55 Analysis of Covariance of Profitability Goal by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	18.093	7	2.585	2.760	.010	.099
Intercept	.000	1	.000	.000	.996	.000
Market Size (log)	.274	1	.274	.293	.589	.002
Income (log)	.000	1	.000	.003	.953	.000
Competition	.727	1	.727	.776	.380	.004
Venture Origin	17.774	4	4.443	4.744	.001	.098
Error	163.907	175	.937			

Table 55-1 Mean Profitability Goal for Five Categories of Venture Origin

Origin	M	S.D.	N
TV	-.128	.886	47
Daily	.211	1.078	43
Radio	-.257	.930	49
I-Venture	-.256	.968	21
Weekly	.651	.947	23
Total	.000	1.000	183

Table 56 Analysis of Covariance of Business Competition Goal by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	24.677	7	3.525	3.921	.001	.136
Intercept	.211	1	.211	.235	.629	.001
Market Size (log)	.000	1	.000	.091	.763	.001
Income (log)	.000	1	.000	.032	.858	.000
Competition	23.004	1	23.004	25.589	.000	.128
Venture Origin	4.208	4	1.052	1.170	.326	.026
Error	157.323	175	.899			

RQ3b: How does variation in venture origin affect firm's i) quantity of human resources, ii) quality of human resources, iii) organizational resources, and iv) innovation resources?

Quantity of Human Resources

Untransformed data of the quantity of human resources showed gross violations of homogeneity mainly due to the nonnomality of variance as checked at the data cleaning stage. ANCOVA of the quantity of human resources, nevertheless,

was performed using the untransformed data because of the difficulty in interpreting means from the transformed data. Instead, more stringent eta squared level of .06 cut-off point was applied to the interpretation of the result. With more conservative criteria, the quantity of human resources varied in venture origin defined by five media groups (η^2 = .252). Table 57 reports the result of the ANCOVA. In particular, the Internet venture and daily newspaper groups employed more people dedicated to the WLIS than the local television, radio, and weekly newspaper groups, as displayed in Table 57-1.

Table 57 Analysis of Covariance of Quantity of Human Resources by venture origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	2757.049	7	393.864	12.854	.000	.340
Intercept	32.483	1	32.483	1.060	.305	.006
Market Size (log)	287.289	1	287.289	9.376	.003	.051
Income (log)	5.254	1	5.254	.171	.679	.001
Competition	157.400	1	157.400	5.137	.025	.029
Venture Origin	1804.384	4	451.096	14.722	.000	.252
Error	5362.236	175	30.641			

Table 57-1 Mean Quantity of Human Resources for Five Categories of Venture Origin

Origin	M	S.D.	
TV	2.600	1.569	4
Daily	10.121	8.879	4
Radio	3.295	3.845	4
I-Venture	10.564	8.136	2
Weekly	4.113	4.916	2
Total	5.658	6.679	18

Quality of Human Resources

No difference in the quality of human resources was found, as the eta squared of venture origin equaled .028 (see Table 58). Venture origin does not seem to be associated with the quality of human resources.

Table 58 Analysis of Covariance of Quality of Human Resources by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	362.624	7	51.803	2.834	.008	.102
Intercept	20.801	1	20.801	1.138	.288	.006
Market Size (log)	174.395	1	174.395	9.542	.002	.052
Income (log)	87.531	1	87.531	4.789	.030	.027
Competition	153.665	1	153.665	8.408	.004	.046
Venture Origin	90.669	4	22.667	1.240	.296	.028
Error	3198.423	175	18.277			

Organizational Coordination

Venture origin was different in the level of organizational coordination (η^2 = .072). As displayed in Table 59-1, the Internet venture group has a higher level of organizational coordination than the daily newspaper group. There was no violation of homogeneity of variance on this ANCOVA. Table 59 reports the results of ANCOVA of organizational coordination by venture origin.

Table 59 Analysis of Covariance of Organizational Coordination by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	357.185	7	51.026	2.688	.011	.097
Intercept	29.012	1	29.012	1.528	.218	.009
Market Size (log)	8.803	1	8.803	.464	.497	.003
Income (log)	3.654	1	3.654	.192	.661	.001
Competition	118.465	1	118.465	6.241	.013	.034
Venture Origin	256.608	4	64.152	3.379	.011	.072
Error	3322.002	175	18.983			

Table 59-1 Mean Organizational Coordination for Five Categories of Venture Origin

Origin	M	S.D.	N
TV	20.809	4.184	47
Daily	18.442	4.295	43
Radio	20.302	4.423	49
I-Venture	21.907	3.778	21
Weekly	20.565	5.476	23
Total	20.212	4.496	183

Innovation Resources

As summarized in Table 60, innovation resources varied with venture origin with an eta squared of .091. The Internet venture and television groups showed a higher level of innovation resources than the daily newspaper group (see Table 60-1). The assumption of homogeneity of variance was not violated on this ANCOVA.

Table 60 Analysis of Covariance of Innovation Resources by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	861.841	7	123.120	3.963	.000	.137
Intercept	7.625	1	7.625	.245	.621	.001
Market Size (log)	10.170	1	10.170	.327	.568	.002
Income (log)	3.007	1	3.007	.097	.756	.001
Competition	437.736	1	437.736	14.088	.000	.075
Venture Origin	542.793	4	135.698	4.367	.002	.091
Error	5437.464	175	31.071			

Table 60-1 Mean Innovation Resources for Five Categories of Venture Origin

Origin	M	S.D.	N
TV	32.657	5.705	47
Daily	28.975	5.364	43
Radio	31.892	5.960	49
I-Venture	33.381	5.104	21
Weekly	31.182	6.560	23
Total	31.485	5.883	183

RQ3c: How does variation in venture origin affect firm's i) product quality, ii) market growth performance, iii) financial growth performance and iv) market share?

Product Quality

Five groups were different in the level of product quality (η^2 = .076). As reported in Table 61-1, the Internet ventures were evaluated the highest in product quality (M = 64.71, S.D. = 8.98). The radio group (M = 60.49, S.D. = 14.63) was

ranked the second highest in product quality among the five categories of venture origin. Table 61 summarized the result of the ANCOVA of product quality by venture origin.

Table 61 Analysis of Covariance of Product Quality by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	3597.427	7	513.918	3.388	.002	.119
Intercept	23.629	1	23.629	.156	.694	.001
Market Size (log)	534.858	1	534.858	3.526	.062	.020
Income (log)	249.283	1	249.283	1.643	.202	.009
Competition	1501.323	1	1501.323	9.897	.002	.054
Venture Origin	2169.155	4	542.289	3.575	.008	.076
Error	26545.954	175	151.691			

Table 61-1 Mean Product Quality by Five Categories of Venture Origin

Origin	M	S.D.	N
TV	55.936	13.707	47
Daily	58.349	10.179	43
Radio	60.490	14.630	49
I-Venture	64.714	8.979	21
Weekly	54.522	12.763	23
Total	58.552	12.870	183

Market Growth Performance

Market growth performance varied in venture origin defined by five media groups (η^2 = .090). Venture origin accounted for about 9% of variance in market growth performance. Table 62 reports the result of ANCOVA of market growth performance. The Internet venture group (M = 132.52, S.D. = 39.98) was ranked first in market growth performance and the daily newspaper group (M = 111.02, S.D. = 29.80) was the second highest, as displayed in Table 62-1.

Table 62 Analysis of Covariance of Market Growth Performance by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	61150.587	7	8735.798	7.022	.000	.219
Intercept	3695.139	1	3695.139	2.970	.087	.017
Market Size (log)	1159.019	1	1159.019	.932	.336	.005
Income (log)	2938.475	1	2938.475	2.362	.126	.013
Competition	25500.196	1	25500.196	20.499	.000	.105
Venture Origin	21506.337	4	5376.584	4.322	.002	.090
Error	217697.043	175	1243.983			

Table 62-1 Mean Market Growth Performance by Five Categories of Venture Origin

Origin	M	S.D	N
TV	93.065	34.48	47
Daily	111.023	29.79	43
Radio	97.979	44.51	49
I-Venture	132.524	39.98	21
Weekly	89.605	36.11	23
Total	102.694	39.14	183

Financial Growth Performance

Five groups were different in financial growth performance. The strength of association for the effect, however, was relatively weak, with $\eta^2 = .043$. As displayed in Table 63-1, the Internet ventures (M = .85.24, S.D. = 39.76) held higher level of financial growth performance than any other group. There was no violation of homogeneity of variance on this ANCOVA. Table 63 reports the results of ANCOVA of financial growth performance by venture origin.

Table 63 Analysis of Covariance of Financial Growth Performance by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	31418.055	7	4488.294	3.191	.003	.113
Intercept	412.188	1	412.188	.293	.589	.002
Market Size (log)	2726.135	1	2726.135	1.938	.166	.011
Income (log)	600.247	1	600.247	.427	.514	.002
Competition	13054.579	1	13054.579	9.282	.003	.050
Venture Origin	10941.446	4	2735.362	1.945	.105	.043
Error	246118.723	175	1406.393			

Table 63-1 Mean Financial Growth Performance for Five Categories of Venture Origin

Origin	M	S.D	N
TV	60.085	37.91	47
Daily	59.714	39.77	43
Radio	62.722	39.11	49
I-Venture	85.238	39.75	21
Weekly	50.826	33.92	23
Total	62.427	39.05	183

Market Share

Even if untransformed data of market share showed gross violations of homogeneity, the ANCOVA of market share was performed using the untransformed data because of the difficulty in interpreting means from the transformed data. Instead, a more stringent eta squared level of .06 cut-off point was applied to the interpretation of the result. Market share varied in venture origin defined by five media groups ($\eta 2$ = .223). Variation in venture origin accounted for about 22.3 % of variance in market share. Table 64 reports the result of ANCOVA of market share by venture origin. As can be seen in Table 64-1, the daily newspaper group showed market share index of 5.47%, Internet venture group 5.42%, television station group 1.40%, weekly newspaper group 1.29%, and radio station group .60% for their Web-based local information service.

Table 64 Analysis of Covariance of Market Share by Venture Origin

Source	Adjusted SS	df	MS	F	Sig.	Eta Squared
Corrected Model	821.251	7	117.322	8.704	.000	.296
Intercept	10.733	1	10.733	.796	.374	.005
Market Size (log)	101.916	1	101.916	7.561	.007	.050
Income (log)	27.930	1	27.930	2.072	.152	.014
Competition	17.360	1	17.360	1.288	.258	.009
Origin	561.015	4	140.254	10.406	.000	.223
Error	1954.388	145	13.479			

Table 64-1 Mean Market Share for Five Categories of Venture Origin

Origin	M	S.D.	N
TV	1.404	1.708	39
Daily	5.469	5.276	39
Radio	.604	.676	41
I-Venture	5.420	6.892	18
Weekly	1.289	2.192	16
Total	2.686	4.273	153

Additional Analysis: Intangible Resources

The present research also tested the effects of tangible and intangible resources on firm performance even if the hypotheses were not addressed at the research design stage. Hall (1993) explained variation in firm performance by proposing a broad set of organization factors that are intangible. A firm's unique resources must be difficult to replicate, because they are either tacit or socially complex. Such resources are invisible assets based on learning by doing that are accumulated through experience and refined by practice. Grant (1991) also argued that financial balance sheets are inadequate in identifying and appraising a firm's resources, because they disregard intangible resources and people-based skills. The intangible resources such as the quality of human resources, organizational coordination, and innovation resources are probably more strategically important resources of the firm than tangible resources

For the testing of the relationship, tangible resources were operationalized by the quantity of human resources. Intangible resources were defined by three types of resources: the quality of human resources, organizational coordination, and innovation resources. For the intangible resources measure, the standardized scores

of three resources variables were combined with equal weighting. The standardized item alpha for the intangible resources scale was .78.

No evidence of multicollinearity among the independent variables for the hypotheses was found. All variables entered the equation without violating the default value for tolerance. The highest correlation among the independent variables was .503. None of cases had the Mahalanobis distance score in excess of 18.04. This shows no multivariate outliers in the solution for the hypothesis 9. Pearson Product Correlations between the independent variables are displayed in Table 65.

Table 65 Pearson Product Moment Correlations of Independent Variables for Intangible Resources Hypotheses

Correlations

	Market size (log)	Income (log)	Comp	Service age	Tangible (log)	Intangible resources
Market size (log)	1.000	.503*	.005	-.146	.192*	-.067
Income (log)	.503*	1.000	-.046	.085	.079	-.006
Competition	.005	-.046	1.000	.122	.330*	.223*
Service age	-.146	.085	.122	1.000	.168	.099
Tangible resources (log)	.192*	.079	.330*	.168	1.000	.133
Intangible resources	-.067	-.006	.223*	.099	.133	1.000

* Correlation is significant at the 0.01 level (2-tailed).

H12a: The effects of firm's intangible resources on product quality will be stronger than those of tangible resources.

The semipartial correlation of intangible resources was .401(β = .414) while the tangible resources equaled only .103 (β = .113). The difference between two semipartial correlations explains that the strength of association with product quality is found to be different on each resources variable. Therefore, the hypothesis was strongly supported. A firm's intangible resources account for more

15 % variance in product quality than the tangible resources, which did not contribute to the regression. The association of intangible resources was stronger than the association of tangible resources with product quality. Information from this analysis is summarized in Table 66.

Table 66 Multiple Regression of Tangible and Intangible Resources on Product Quality

Coefficients

	B	S. E	β	t	Sig.	r	sr_i	sr_i^2
(Constant)	-10.268	73.948		-.139	.890			
Market Size (log)	-1.452	2.695	-.043	-.539	.591	-.043	-.035	.001
Income (log)	8.000	16.962	.037	.472	.638	.025	.031	.001
Competition	.159	.175	.065	.907	.365	.203	.060	.004
Service age	.000	.049	.084	1.207	.229	.161	.079	.006
Tangible resources (log)	3.881	2.483	.113	1.563	.120	.198	.103	.011
Intangible resources	1.983	.325	.414	6.099	.000	.455	.401	.161

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.490	.240	.214	11.4080

H12b: The effects of firm's intangible resources on market growth performance will be stronger than those of tangible resources.

The hypothesis was supported. Both types of resources were associated with market growth performance. However, the semipartial correlation of intangible resources (β = .343, sr_i = .332) was higher than the semipartial correlation of tangible resources (β = .288, sr_i = .261). Intangible resources account for more 4% variance in market growth performance than tangible resources. Table 67 reports the result of multiple regression analysis of market growth performance on two types of resources.

Table 67 Multiple Regression of Tangible and Intangible Resources on Market Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	sr_i	sr_i^2
(Constant)	406.968	209.428		1.943	.054			
Market Size (log)	10.433	7.632	.102	1.367	.173	.053	.084	.007
Income (log)	-103.448	48.038	-.156	-2.153	.033	-.090	-.132	.017
Competition	1.296	.496	.173	2.610	.010	.355	.160	.026
Service age	.000	.138	.022	.346	.730	.097	.021	.001
Tangible resources	30.006	7.031	.288	4.268	.000	.401	.261	.068
Intangible resources	4.990	.921	.343	5.418	.000	.416	.332	.110

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.584	.341	.319	32.3086

H12c: The effects of firm's intangible resources on financial growth performance will be stronger than those of tangible resources.

The hypothesis was strongly supported. The semipartial correlation of intangible resources (β = .349, sr_i = .338) was higher than the semipartial correlation of tangible resources (β = .094, sr_i = .085). A firm's intangible resources account for more 10% variance in financial growth performance than tangible resources. Even the tangible resources were not related to financial growth performance. The association of intangible resources with financial growth performance was far stronger than the association of tangible resources. Table 68 reports the result of multiple regression analysis of financial growth performance on two types of resources.

Table 68 Multiple Regression of Tangible and Intangible Resources on Financial Growth Performance

Coefficients

	B	S. E	β	t	Sig.	r	sr_i	sr_i^2
(Constant)	117.232	230.234		.509	.611			
Market Size (log)	16.826	8.390	.165	2.005	.046	.127	.135	.018
Income (log)	-53.378	52.811	-.081	-1.011	.314	-.003	-.068	.005
Competition	.931	.546	.125	1.706	.090	.232	.115	.013
Service age	-.110	.152	-.052	-.725	.469	-.017	-.049	.002
Tangible resources	9.748	7.730	.094	1.261	.209	.198	.085	.007
Intangible resources	5.070	1.012	.349	5.008	.000	.374	.338	.114

Model Summary

R	R^2	Adjusted R^2	S. E of the Estimate
.447	.200	.173	35.5183

Chapter V

SUMMARY AND DISCUSSION

Financial Commitment

The first purpose of the present research was to assess the relationship between competition intensity and a firm's financial commitment to the Web-based local information service (WLIS). This reflected an important theoretical issue about whether the financial commitment theory is applicable to the monopolistic competitive market of WLIS, since the theory was based on oligopoly markets of daily newspapers and local television stations. Three aspects of financial commitment were hypothesized to examine the claim of the financial commitment theory: the quantity of human resources, the quality of human resources, and large-scale strategy.

First, a firm's competition intensity was positively related to a larger quantity of human resources controlling for market size, income, and service age. As WLIS firms perceive stronger competitive pressure, they tend to employ more people. This is consistent with the results of previous research for newspapers and television stations.

The WLIS provides a more comprehensive breadth of product line including banner advertising, premium archives, Web page services, and electronic commerce merchandize which traditional media do not or cannot provide. With a variety of products in WLIS, marketing and sales promotion areas seem to become more essential to achieve higher performance for the firms. This result is consistent with the theory of monopolistic competition (Chamberlin, 1933). In the monopolistic competitive market,

advertising is considered an important method by which a firm could help differentiate its product from the products of other firms (Ekelund, Jr. & Saurman, 1988). Firms entering newly developing markets must differentiate themselves to survive. Survival is accomplished through product differentiation and advertising (Lacy, 2000).

Another interesting point is that competition intensity affects the size of the design staff more than the size of the editorial and technical staffs. This result is consistent with newspaper research. Kenny and Lacy (1987) found that intense competition results in spending more money on the visual aspects of a newspaper. The visual aspects of WLIS are also perceived to be very critical to WLIS product competition by top management.

Second, a firm's competition intensity was expected to have a strong impact on the quality of human resources since the higher quality of human resources also presents another dimension of financial commitment. It was assumed firms should allocate more money for higher quality people in order to compete with other products. However, there seems to be no strong relationship between competition intensity and the quality of human resources. Considering the conservative criterion of the present research for hypothesis supporting, caution is necessary in rejecting the relationship since the result showed moderate positive effect of competition intensity ($sr_i = .173$, $\beta = .175$). This moderate effect may reflect a limited factor market of human resources in the WLIS. Even if a competitive environment impacts a firm's desire to employ higher quality staff, quality persons might not be available on the market.

The third hypothesis of financial commitment was also supported. A firm's competition intensity was positively associated with larger scale conduct in advertising,

customer service, specialty products, and large-scale entry into market. As a firm's competition becomes stronger, WLIS firms are likely to conduct larger scale strategies. The results of three hypotheses confirm the claim of financial commitment theory in developing monopolistic competitive markets. Firms in mature oligopoly markets have abnormal profits to invest in product differentiation, while WLIS firms are not making abnormal profits. WLIS firms, however, can attract investment capital that gives them money for financial commitments (Lacy, 2000).

Competition and Performance

The second purpose of the competition hypotheses was to evaluate how competitive industry conditions impact firm performance and product quality. These hypotheses were intended to test the classical connection between market structure and firm performance derived from the industrial organization model.

First, intensely competitive WLISs were expected to have higher quality ratings for their products in terms of editorial, aesthetic, and functional quality. However, the result showed only moderate effects for the relationship (sr_i = .188, β = .190). There are several possible explanations for the moderately positive effects. First, the measure of product quality may not be reflected in all scopes of product differentiation even if higher quality of products means differentiating the product from other competing products. Second, product quality may be more a function of the firm's resources and capabilities to exploit any given market than the firm's competition intensity.

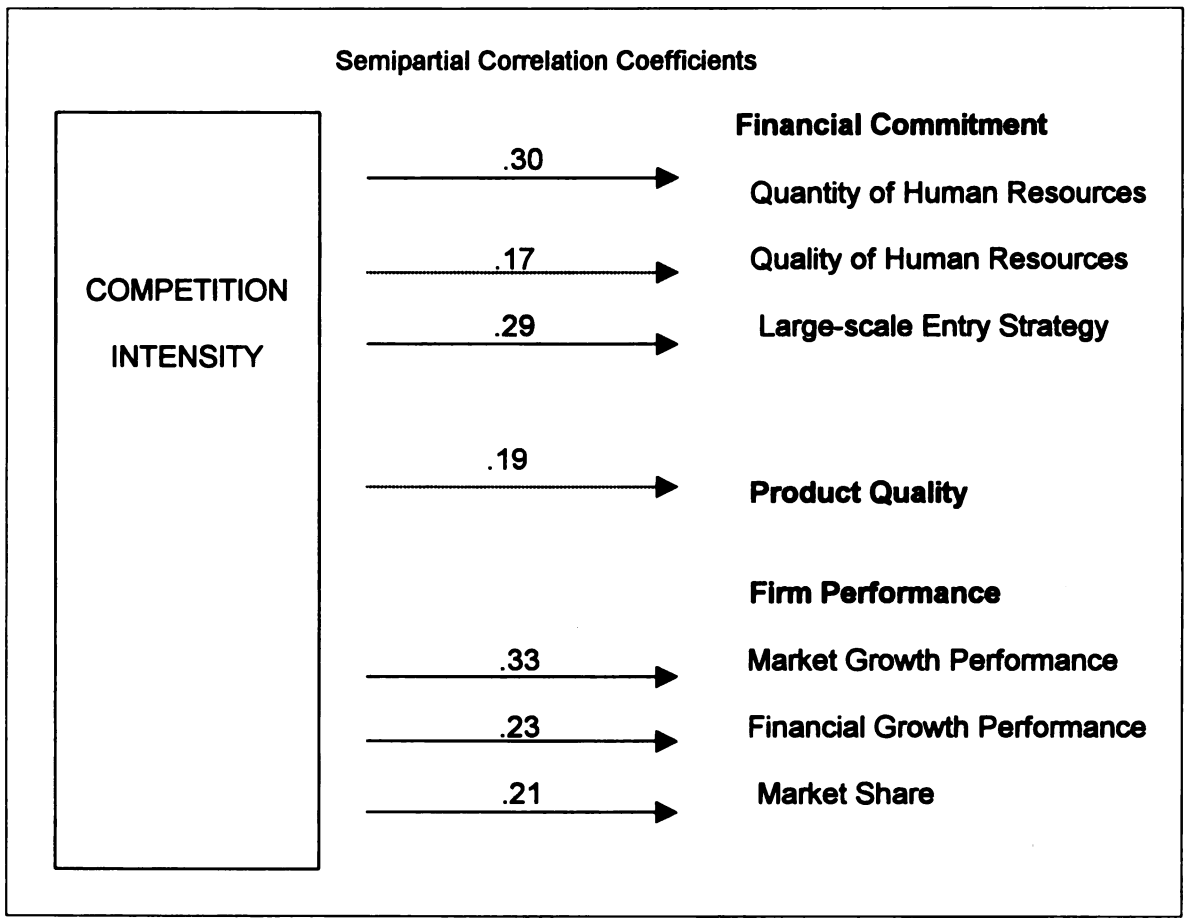
Second, a firm's competition intensity was positively related to market growth performance including advertising sales, e-commerce sales, brand

identification, and market share, controlling for market size, income, and service age. As a firm's competition intensity becomes stronger, the firm's market growth performance is likely to be better. This result suggests that industry conditions considerably impact a firm's market performance

Finally, the hypothesis of financial growth performance was also supported. A firm's competition intensity has a significant effect on financial growth performance in return on investment, return on equity, and net profit margin. The explanation is that the current WLIS market did not arrived at the equilibrium of market demand and supply because it is still underdeveloped. Competition intensity does not have a negative effect on a firm's financial growth performance even in the short run. This situation was also found in the effects of competition intensity on market share. A firm's competition intensity was also positively related to the market share because of the unique feature of an underdeveloped market. In other words, competition affects the increase of absolute WLIS market size. Figure 3 describes a model of competition intensity on the relationship with financial commitment, product quality, and firm performance based on the results of competition intensity hypotheses.

Figure 3

Model of Competition Intensity on Relationship with Financial Commitment, Product Quality, and Firm Performance Controlling for Market Size, Market Income, and Service Age



Firm Resources

The purpose of firm resource-based hypotheses was to provide evidence that valuable and unique firm resources and capabilities provide the key sources of competitive advantage. Four categories of firm resources were examined to verify the resource–based theory: quantity of human resources, quality of human resources, organizational coordination, and innovation resources.

Human Resources

First, the quantity of human resources was not related to perceived quality of product controlling for firm's competition intensity, market size, income, and service age. The finding of this research suggests that staff size has no direct impact on product quality in the WLIS industry. Hiring more people does not guarantee a higher quality of WLIS product.

The quantity of human resources had a strong impact on WLIS market growth performance and market share. The quantity of human resources was related to higher level of market growth performance and market share. However, the quantity of human resources was not associated with financial growth performance. This indicates that the WLIS ventures still do not recover their sunk costs for hiring employees.

On the other hand, the quality of human resources was strongly related to higher quality of product. Product quality in WLIS seems to be more a function of staff quality than the number of staff. Specifically, the quality of design staff was a more important contributor to higher quality of product than was editorial and technical staff. With a smart design, the capability to motivate customers to

investigate WLIS contents is considered to be the most decisive source of product quality by managers in the industry.

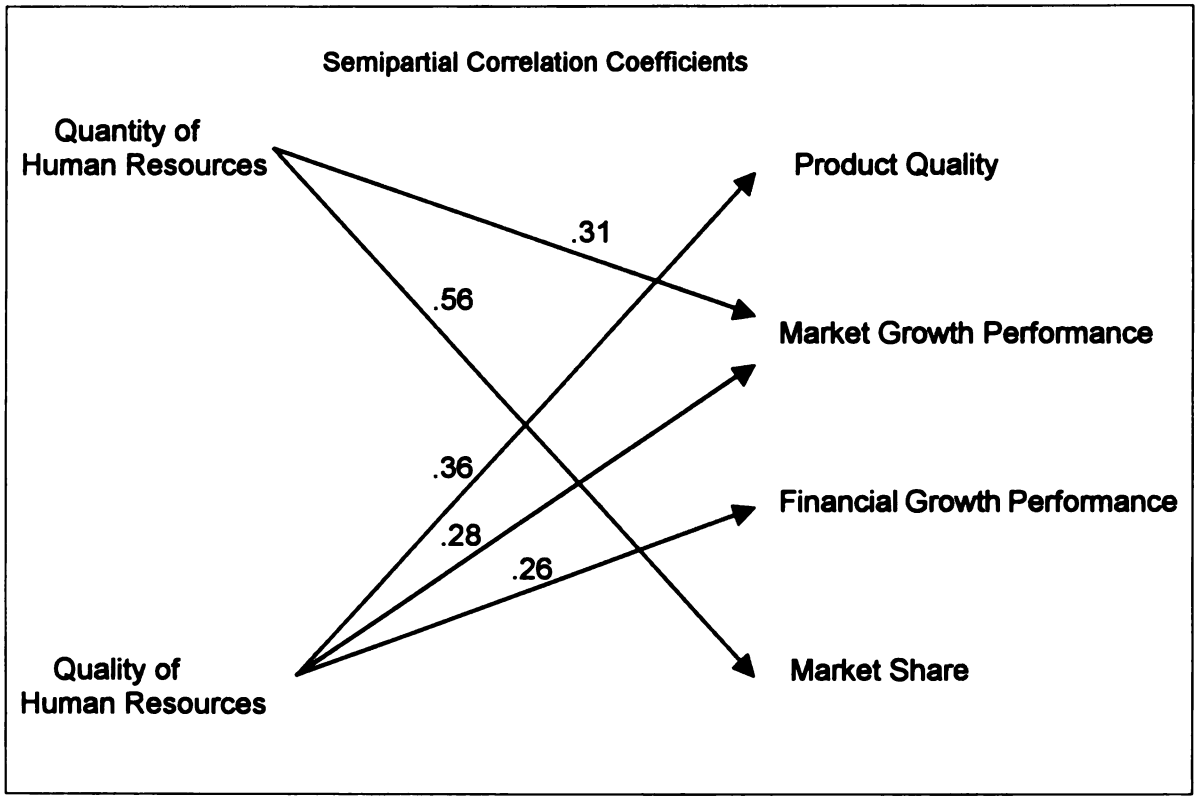
The quality of human resources was also positively related to higher level of market growth performance controlling for firm's competition intensity, market size, income, and service age. In particular, the quality of editorial staff was found to be the most important contributor to market growth performance. In other words, resources to contribute to the breadth and depth of information are more related to the higher level of market growth performance.

As for financial growth performance, the quality of human resources had a positive impact. As the quality of human resources becomes higher, financial growth performance is likely to be better even when the firms' competition intensity and market size are equal. It is important that human quality resources were defined in financial terms. Specifically, both quality of design and marketing staff had a stronger impact on financial growth performance while the quality of editorial and technical staff were not related to financial performance. For financial performance, the quality of marketing staff should be emphasized because WLIS is more business-oriented than traditional media.

The results of human resources hypotheses support the notion of Brush and Chaganti (1991), suggesting that the quantity of resources is less important than the combination or quality of resources relative to the opportunity for competitive advantages in a start-up company. Figure 4 summarizes the results of the human resources hypotheses.

Figure 4

Model of Human Resources on Relationship with Product Quality and Firm Performance Controlling Competition Intensity, Market Size, Market Income, and Service Age



Organizational Coordination and Innovation Resources

All three hypotheses to test the effects of organizational coordination were supported. Organizational coordination was defined as teamwork within the business unit, coordination between departments, and organizational flexibility. A firm's organizational coordination had a strong impact on product quality and firm performance such as market growth and financial growth performance. WLIS product activity is more than a simple assembly of design, editorial, and technical resources. The ability to organize and synthesize the productive capacity of human resources appears to be of key importance. The result supports that sustainable competitive advantage involves complex patterns of coordination between people and between people and other resources (Grant, 1991).

The hypotheses of innovation resources were intended to examine whether innovation in combining or deploying resources can lead to a competitive advantage, thus superior performance. The innovation resources were defined as innovative ideas, creative marketing, new service development, innovative staff, and firm reputation for innovativeness. Innovation resources were positively and strongly related to product quality, market growth performance, and financial growth performance. As expected in the hypothesis stage, the strength of association with dependent variables was the highest of other resources examined for the present research. Companies that competed based on innovative resources were in the best position to take advantage of opportunities in the rapidly changing WLIS industry. For superior performance, it is essential to have the capability to create a new and innovative applications that others will want to imitate.

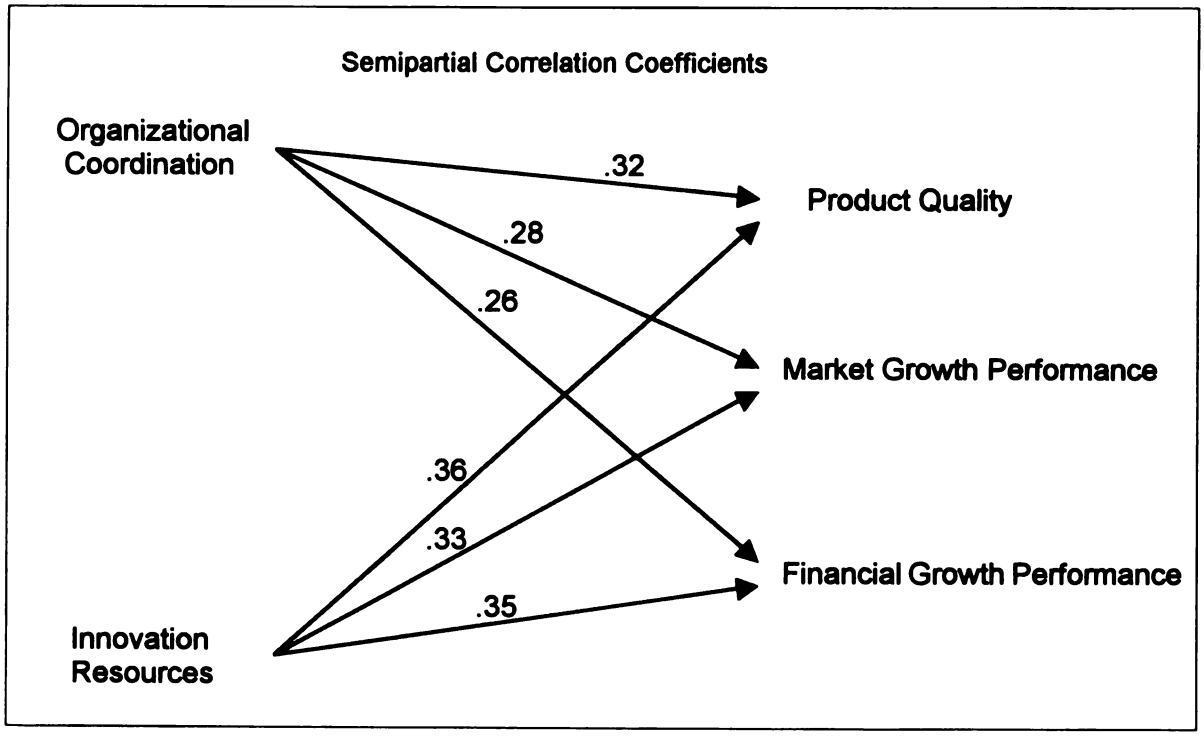
It is important to recognize the internal connection between organizational coordination and innovation resources. Both firm resources are involved in creating and exercising strategic flexibility (Sanchez, 1995). Dynamic product markets such as Web information service require frequent adjustments in product strategies and coordinating the uses of product creation resources. Thus, organizational coordination can provide capabilities to respond to various demands from a dynamic competitive market. Without organizational coordination and cooperation, change in product strategies could take a longer time and more effort. In other words, the flexibility reduces the difficulty of making an innovational shift in the organization. The uncertainty of the WLIS market requires more of a firm's strategic flexibility to exploit new market opportunities. According to the results of the hypothesis testing, Figure 5 describes a model of organizational coordination and innovation resources in relationship with product quality and firm performance.

In addition, the present research tested the effects of tangible and intangible resources on firm performance. For the testing of the relationship, tangible resources were operationalized by the quantity of human resources. Intangible resources were defined by three types of resources: the quality of human resources, organizational coordination, and innovation resources. The effects of a firm's intangible resources on product quality were stronger than those of tangible resources controlling for competition intensity. The results are consistent with the argument of resource-based theory. Invisible assets based on learning by doing that are accumulated through experience are more important for product quality in WLIS. A firm's intangible resources also had a stronger association with market

growth and financial growth performance than tangible resources such as the number of employees. Although a firm's resource-based capabilities are shaped by a combination of tangible and intangible resources, the higher levels of intangible resources seem to determine the capabilities of WLIS firms to build sustainable competitive advantages.

Figure 5

Model of Organizational Coordination and Innovation Resources on Relationship with Product Quality and Firm Performance Controlling Competition Intensity, Market Size, Market Income, and Service Age



Competitive Strategies

The present research assumed that the large-scale strategy would be more appropriate to drive success in product quality and firm performance because WLIS is an increasing return business. A firm's large-scale strategy was positively related to higher quality of product controlling for firm's competition intensity, market size, income, and service age. Product quality is a function of a firm's large-scale strategy including specialty services, advertising, customer services, and large-scale entry. A firm's large-scale strategy had a stronger impact on market and financial growth performance. The exception to these hypotheses was the lack of a relationship between large-scale strategy and market share. Thus market share seems to be more a function of service age rather than of large-scale strategy.

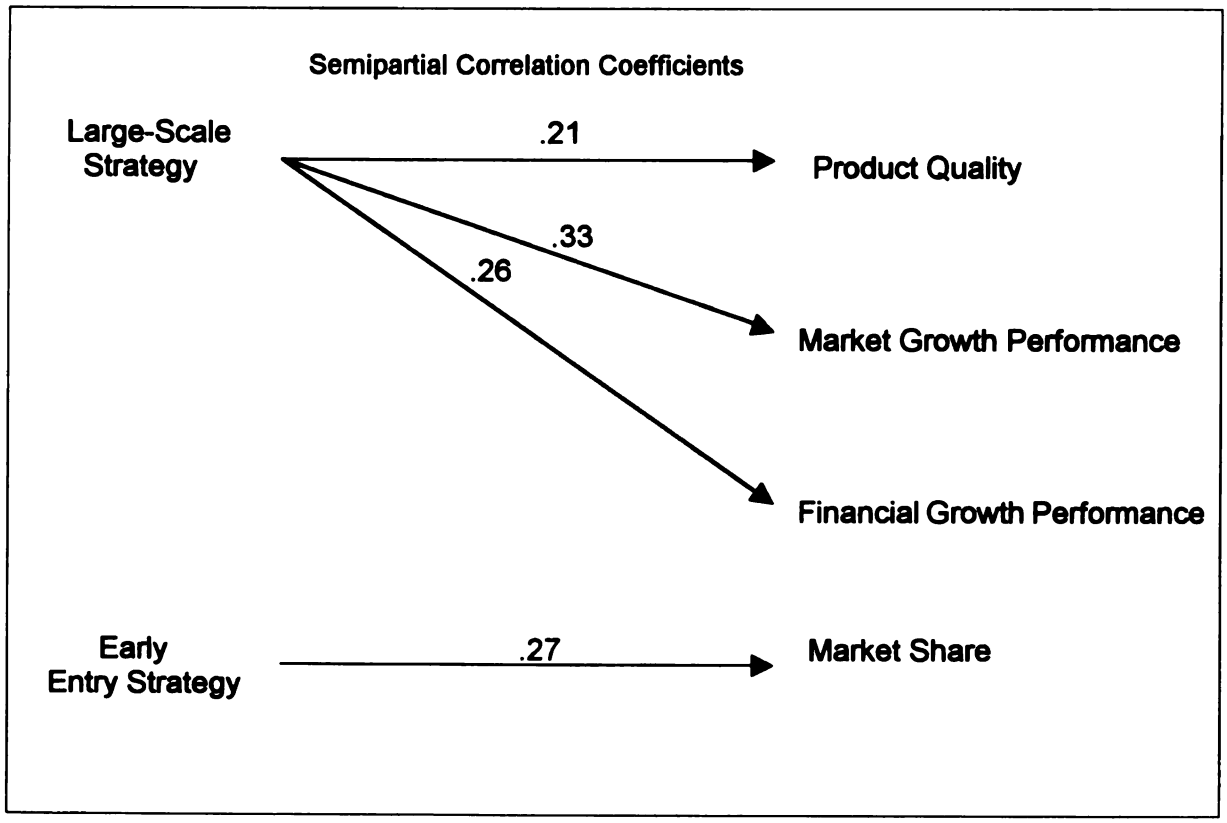
A firm's earlier entry into market was not related to higher quality of product, market growth performance, and financial growth performance controlling for market size, income, competition intensity, and strategy of scale. There seems to be no pioneer advantage for product quality and firm growth performance. A firm's earlier entry into market was only positively related to market share. However, growth performance is a more important measure for firm success in an immature industry than current market share.

As Covin, Slevin, and Heeley (1999) noted, market pioneers are often outperformed by later market entrants. Kerin, Varadarajan, and Peterson (1992) stated that the overall magnitude of positional advantages accruing to the first mover depends on the comprehensive competitive strategies employed by the pioneer and followers. Thus, the tactics associated with early entry and later entry

can have a strong impact on the ultimate effectiveness of the market entry order decision. As discussed earlier, large-scale strategy attenuated the overall magnitude of the first mover's competitive advantage. In the WLIS industry, without effective strategies such as large-scale strategy and intangible resource commitment, first mover advantage has no effects on product quality and firm growth performance. Figure 6 summarizes the testing results of the competitive strategy hypotheses.

Figure 6

Model of Large-scale and Early Entry Strategy on Relationship with Product Quality and Firm Performance Controlling Competition Intensity, Market Size, Market Income, and Service Age



Product Quality

Perceived product quality was positively related to higher level of market and financial growth performance. The finding that quality enhances firm performance is consistent with the premise that customers are drawn to quality products. With loyal customers, WLIS firms have some market power to charge more than market price for their premium services.

It is interesting that product quality was not related to higher level of market share. In a mature industry, a firm's product quality directly impacts its relative market share (Kroll, Wright, & Heiens, 1999). The increasing demand for high-quality products may result in a larger market share. The WLIS, however, subscribes to an immature industry. In an infant industry such as WLIS, product quality does not seem to be directly related to market share. A considerable time frame may be needed in order for product quality to materialize market share.

Resource and Competition

The first research question was intended to compare the relative strengths of the effects on performance and product quality for two different levels of predictors, market and firm resources. The results suggest that the effects of a firm's intangible resources are more important than market effects on product quality. The difference in the strength of association was substantial. The results are consistent with previous research about firm-specific effects and market effects on firm performance (McGahan & Porter, 1997; Roquebert, Phillips, & Westfall, 1996; Rumelt, 1991).

For market growth performance, the effects of a firm's quantity of human resources and innovation resources were stronger than the effects of competition intensity and market size. However, human resources quality and organizational coordination showed no stronger effects compared with the effects of competition intensity. The results suggest that firm resources can somewhat better explain the mechanism of market growth performance than can industry conditions such as competition intensity and market size. Market-level effects that promote homogeneity among firms coexist with firm-level effects that generate heterogeneity (Mauri & Michaels, 1998). The results provide evidence of the complementarity between resource-based theory and industrial organization, because the degree of difference was not substantial. In other words, both effects of market and firm should be examined to explain the mechanism of market growth performance.

The effects of a firm's intangible resources were stronger than the effects of industry conditions on financial growth performance. Especially, innovational resources had substantially stronger impacts on financial growth performance than competition intensity. The findings support that a firm's resource effects are more important than market competition effects on product quality and firm performance, even if a complementarity between resources and market competition effects was found on market performance. Moreover, market effects actually work through a manager's perceived frame of a competitive market. Porter (1980) argued that a viable competitive strategy is dependent on the manager's understanding of a competitive market.

Organizational Goals

The present research identified three organizational goals in the WLIS: service quality, profitability, and business competition. The unique dimension of organizational goals in the WLIS is business competition. The business competition goal was characterized by beating the competition, protecting the franchise, maintaining the firm's position, and attaining business leadership. The business competition goal reflects the facts that the WLIS firms are concerned not only with the present profitability, but also with their future positions to survive in an emerging market.

First, the service quality goal was related to the higher level of intangible resources and large-scale strategy. The goal seems to strongly affect financial commitments to achieve a higher quality of service. As a result, the service quality goal had a positive impact on product quality. The interesting point is that the service quality goal is not directly related to firm performance. Without business orientation, a simple service quality goal does not seem to affect higher market and financial performance.

Second, the business competition goal was associated with the higher level of quality of human resources and large-scale strategy. However, unlike the service quality goal, the organizational goal of business competition had a strong impact on market growth performance. Thus, there seems to be interaction effects between the business competition goal and financial commitment on market performance. In other words, when a firm has a stronger goal for business competition, its financial commitments may materialize market performance in the WLIS industry. The

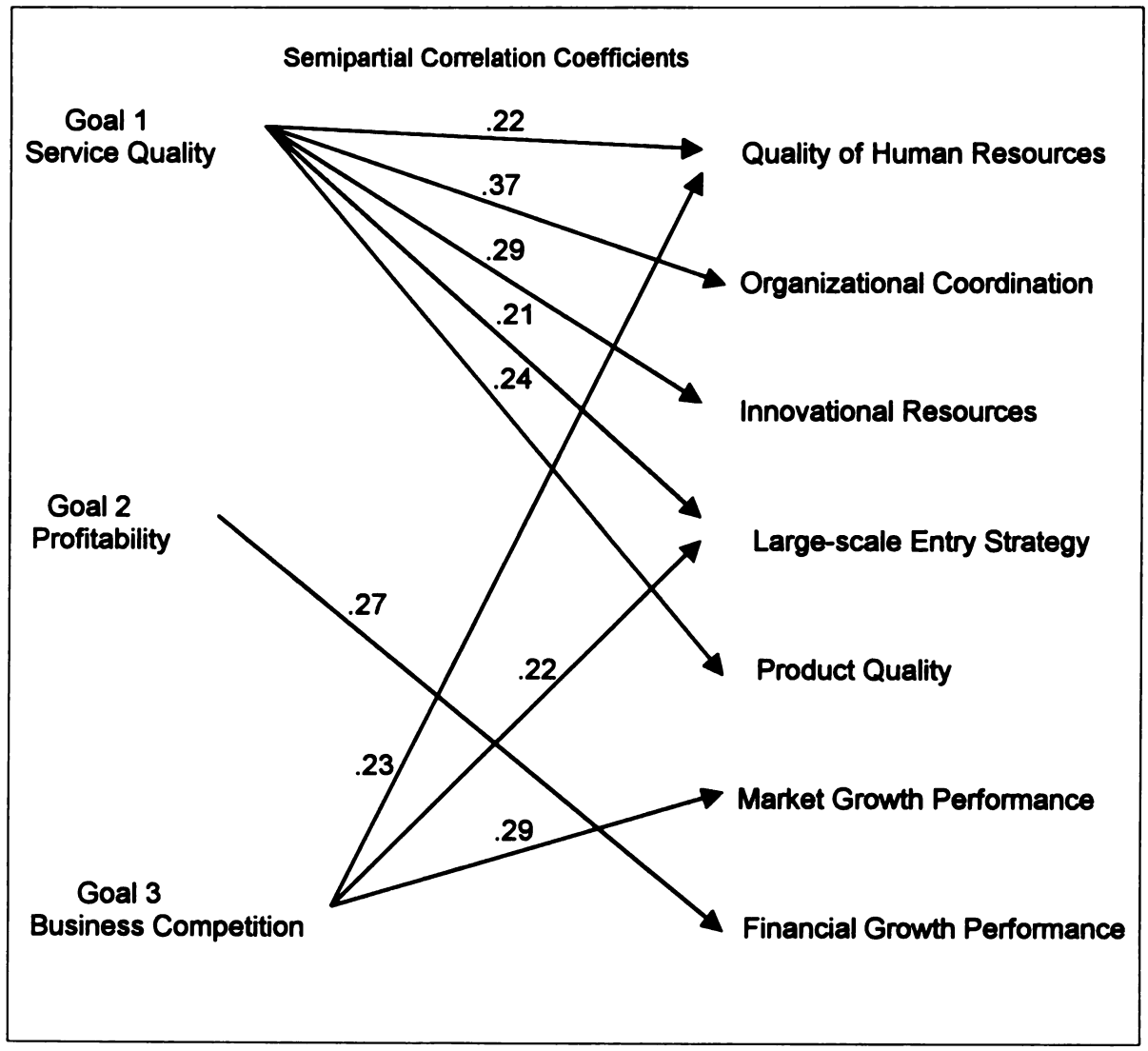
pursuit of the business competition goal is more important in the WLIS industry than in the traditional media industry.

Finally, the profitability goal was not related to resource commitments, but the goal was related to higher level of financial growth performance. This is a very interesting phenomenon in that firms with a strong profitability goal can achieve high financial performance without valuable resources. Porter (1980) proposed two kinds of strategies for competitive advantages: cost-leadership and differentiation. The resource commitments are related to competitive advantage of differentiation in product and service.

On the other hand, having a low-cost position can yield the firm above-average returns in its industry. Cost-leadership is often pursued as a strategy by firms without resources (Chandler & Hanks, 1994). For example, in the initial stage of WLIS market growth, even if a firm did not provide a higher quality of content and services, the firm could achieve above-average return with minimum costs by providing only classifieds. This may be a viable short-term strategy for a small start-up firm due to the current market condition, in which an average WLIS firm has no success in financial performance. Figure 7 illustrates a model of organizational goals in relationship to firm resources, product quality, and firm performance.

Figure 7

Model of Organizational Goal on Relationship with Firm Resources, Strategies, Product Quality, and Firm Performance Controlling Market Size, Market Income, and Service Age



Venture Origin

A firm's service quality goal varied with venture origin defined by daily, weekly newspapers; local television stations; radio stations; and Internet ventures. Internet ventures pursued higher service goals than any other service. Venture origin also affected the pursuit of the profitability goal. Internet venture and radio groups had a higher profitability goal than the newspaper group.

The research question also examined the impact of venture origin on resource commitments. Internet venture and daily newspaper groups had more dedicated staffs than TV, radio, and weekly newspaper groups even if there was no difference in quality of human resources. For organizational coordination, the Internet venture group had a higher level than the daily newspaper group. Internet venture and television groups also showed a higher level of innovation resources than the daily newspaper groups. Thus the Internet venture group was found to have more human resources and higher organizational and innovational resources than other origin groups. In particular, although the daily newspaper group was found to have the same level of human resources as the Internet venture group, it has the lowest level of organizational coordination and innovation resources among the five groups.

The next research question attempted to identify how variation in venture origin affects a firm's product quality and performance. Five groups were different in product quality. Internet venture and radio groups had a higher quality of product than other groups. For market growth performance, Internet venture was ranked first and daily newspaper was the second highest. Market share index varied in venture origin. Daily newspaper held a market share of 5.47%, Internet venture

5.42%, local television station 1.40%, weekly newspaper 1.29%, and radio station .60%. Considering the market share and market growth performance, the current WLIS market seems to be characterized by strong competition between daily newspapers and Internet ventures.

On the other hand, financial growth performance was different according to venture origin. Internet venture had higher level of financial growth performance than any other group. Thus, although daily newspaper has a higher market share than other groups, only Internet venture achieves financial success in the WLIS industry. There are several reasons for the superior performance of the Internet venture group. First, Internet ventures including independent Internet firms, media subsidiaries, and joint ventures might have greater managerial and strategic autonomy to exploit resources leading to superior performance. In other words, they seem to have operational and market flexibility to react to strategy by competitors and changing environments. The newspaper group may have low flexibility because resources are shared with the parent service. Second, in the Internet venture group, WLIS is defined as an independent business unit with distinctive organizational goals. Thus the Internet venture group does not have supplemental goals to directly protect or help a parent service. The priority of business goal pursuit seems to affect firm performance.

Synthetic Model and Implications for the WLIS industry

Eight factors were found to be important contributors to higher level of market growth performance: competition intensity, four firm resource variables,

large-scale strategy, business competition goal, and product quality. The model of market growth performance in the WLIS is summarized in Figure 8. As can be seen in Figure 9, seven factors were found to affect higher level of financial growth performance: competition intensity, three firm resource variables, large-scale strategy, profitability goal, and product quality. Six factors were important contributors to higher quality of product: competition intensity, three firm resource variables, large-scale strategy, and service quality goal. The model of product quality is showed in Figure 10.

Competitive market condition impacts both market growth and financial growth performance. A firm's human resource quality, organizational coordination, and innovation resources affect the level of both performances. However, the quantity of human resources impacts only market growth performance. Strategically, large-scale strategy was positively related to higher level of market and financial growth performance. However, earlier entry strategy does not affect the level of either performances. Finally, as a firm strongly pursues the business competition goal, its market growth performance tends to be higher.

Figure 8

Model of Market Growth Performance in the Web-based Local Information Service

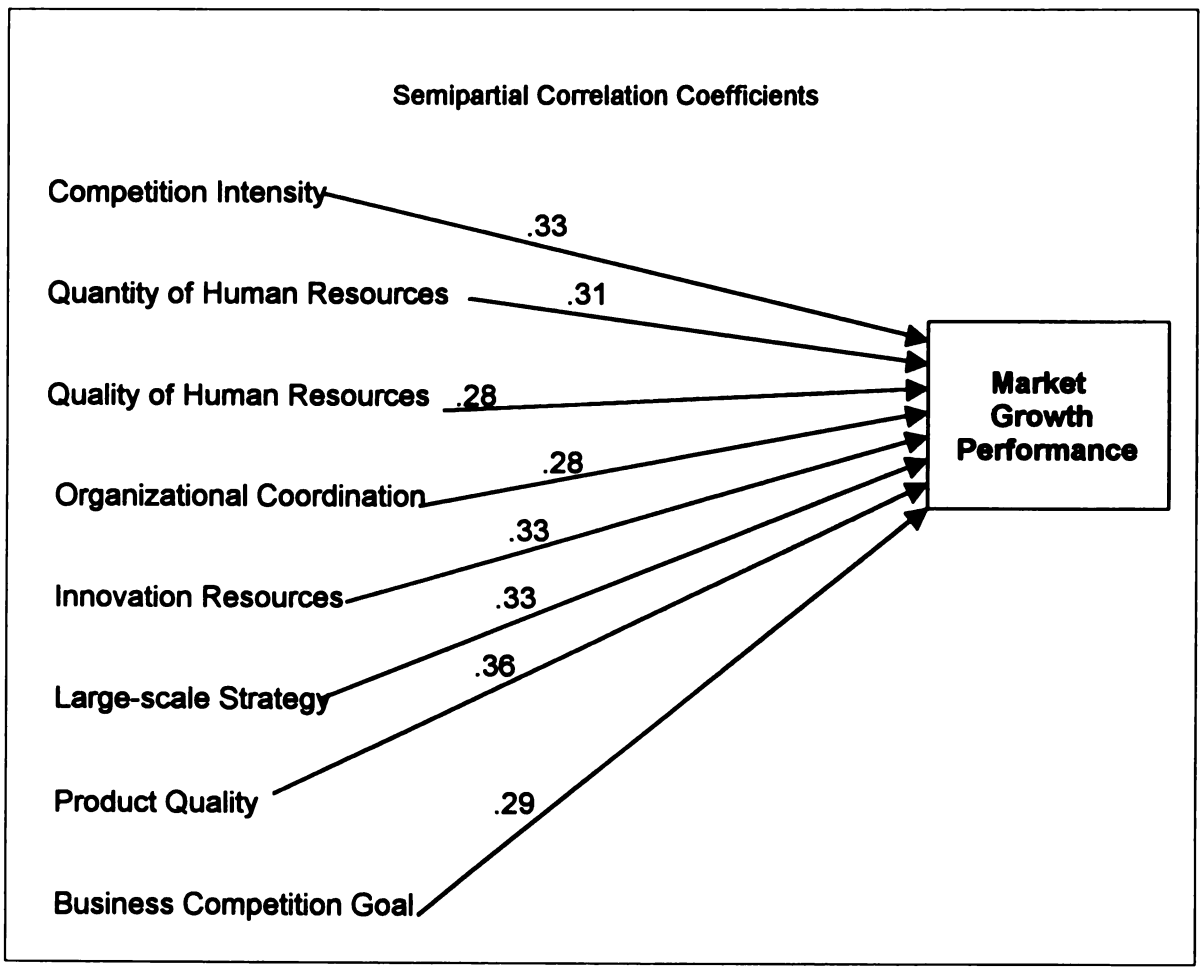


Figure 9

Model of Financial Growth Performance in the Web-based Local Information Service

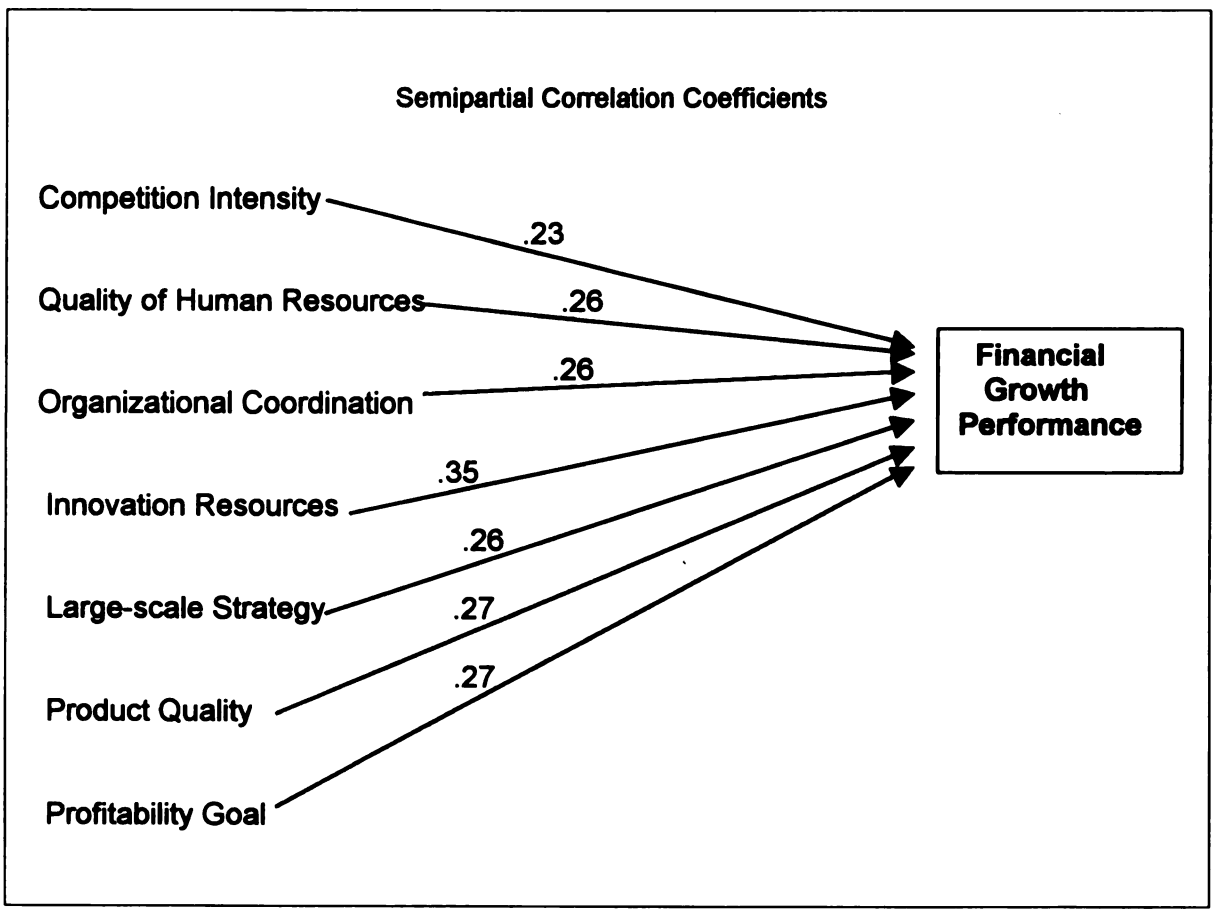
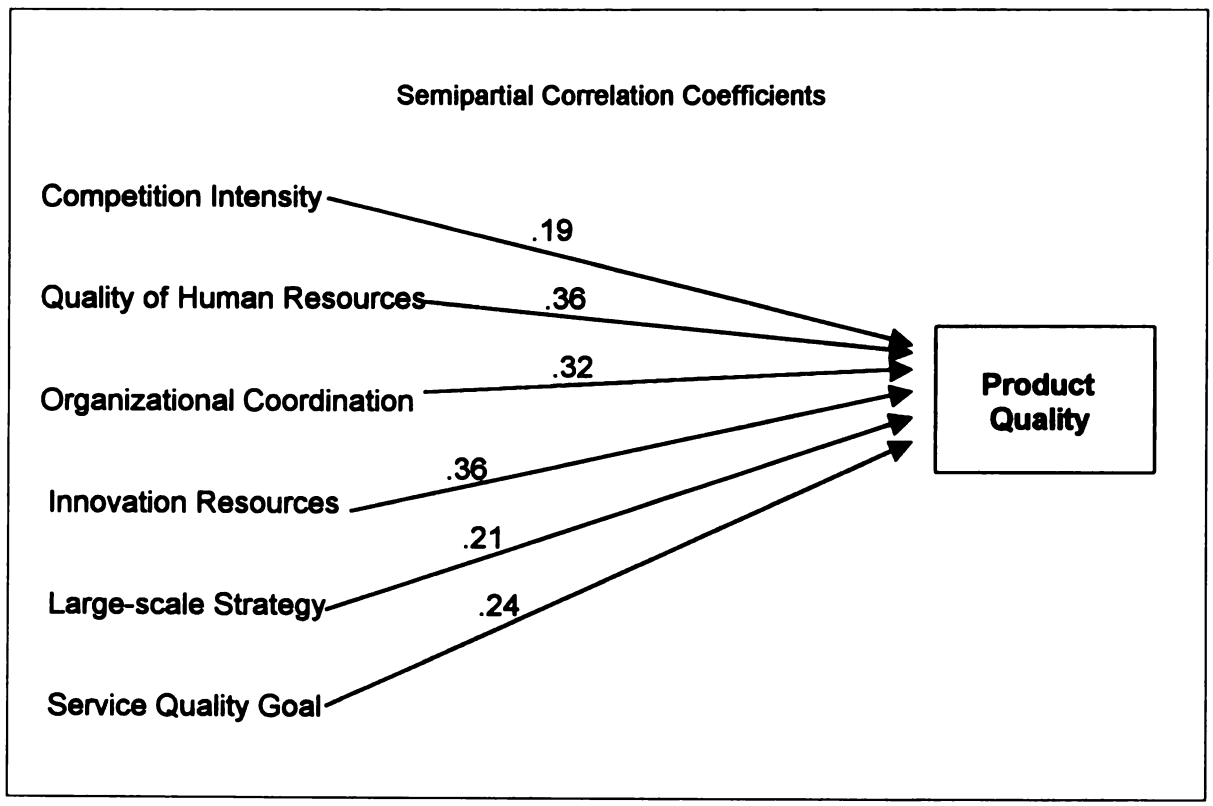


Figure 10

Model of Product Quality in the Web-based Local Information Service



There are several implications and suggestions for the WLIS industry in these results.

1. Competitive market condition positively affects the level of market growth performance. Even the competitive market was related to a higher level of financial growth performance. Competition is currently acting to increase absolute market size. Even if there are more than twenty WLISs in a metropolitan market, the market is still underdeveloped. This indicates that many opportunities are open to both entrant and incumbent firms to exploit the market even in intensively competitive conditions.

2. As WLIS firms perceive stronger competitive pressure, the firms tend to employ more people. A WLIS firm seems to perceive that quality of people is more important for Web information services. As the result showed a moderate relationship between quality of human resources and competition intensity, however, a firm's desire to employ higher quality people does not exactly match with real employment. The quality of human resources directly affects financial growth performance. Specifically, a higher quality of design and marketing staffs was found to be very important in achieving higher financial performance.

3. Even if quality of human resources affects firm performance, a firm's organizational coordination and innovation resources are more critical for firm performance. A firm's efforts should be focused on developing coordination between design and editorial staff, teamwork within the business unit, organizational flexibility, innovative ideas and innovative staff, creative marketing, and new services.

4. Mainstream theory has emphasized the first mover advantage in Internet business. However, there seems to be no pioneer advantage for firm performance in the WLIS. Thus, no firm seems to achieve critical mass to realize economy of scale and scope. Large-scale strategy is critical to achieve higher firm performance than earlier entry. Without large-scale strategy and intangible resource commitment, first mover advantage has no effects on firm performance.

5. There are three main organizational goals in the WLIS firms: service quality, profitability, and business competition. A WLIS firm's service quality goal is not directly related to firm performance. Only the business competition goal affects a higher level of market performance. If a firm has a strong goal for business competition, its resources may materialize market performance. The pursuit of the business competition goal is very important in the WLIS industry in the long run. The profitability goal seems to be currently pursued by small firms with limited resources. This may be a viable short-term strategy for very small firms.

6. The daily newspaper group holds an average market share of 39%; Internet venture group 38%; local television station group 10%; weekly newspaper group 9%; and radio station group 4% in 81 metropolitan markets. Thus, the current WLIS market is characterized by competition between daily newspapers and Internet ventures. There are distinctive differences in resource commitment and firm performance between the two groups. Even if daily newspaper has the same level of human resources as Internet venture, the daily newspaper group has the lowest level of organizational coordination and innovation resources. This difference of

resource commitment results in lower firm performance than the Internet venture group. Daily newspapers should focus on developing organizational coordination between task areas and an innovative organizational climate to achieve financial performance and compete with Internet ventures in the WLIS.

Limitations and Recommendation for Future research

This study contributes to literature on media economics and management. The results of the present research are consistent with previous media economic research on market structure and competition. It confirms the claim of financial commitment theory even in a monopolistic competitive market. This research elaborated the link between market structure and firm performance by analyzing the effects of firms' resource commitments, organizational goals and behavior. The results also confirm the argument of the resource-based theory focusing on firms' uniqueness to explain the performance. The present research reveals how market-level effects are mediated by firm-level conduct for firm performance and product quality.

Nevertheless, the research has some inherent limitations. First, this research employed perceptual measures of product quality and firm performance constructs. There is a possibility that the results may be contaminated by the perceptual measures of firm performance. For example, the respondent's position and task could affect the assessment of the firm's resources, product quality, and performance. In addition, the statistical results of the present research showed low squared multiple correlations for individual predictor tests because measures with a

seven-point scale have a limited amount of variance. A future study could be strengthened by using continuous industry data when the industry becomes more mature. In addition, firm-level measures could be improved by aggregating multiple responses in the same firm.

Second, the present research only investigated the firm's internalized resources including human resources, organizational, and innovation resources. However, the resources available to a firm could include its relational resources owned or controlled by other firms which the firm can access, and market resources which the firm can obtain through market transactions (Sanchez, 1995). Further research needs to develop the effects of relational resources and market resources for sustainable competitive advantage.

Third, the nature of the relationship with the parent company may influence the objectives with which the firm is managed, the resources available to it, and determine some operations or functions that it shares with other units (Porter, 1980). The relatedness in venturing refers to the degree to which a new venture shares important resources with the parent firm. Future research needs to explore how the relatedness in venturing affects firm resource commitments, competitive strategies, and firm performance.

Fourth, the resource base for the present research focused on Ricardian rents which are based on the possession of scarce and valuable resources. In venturing, Schumpeterian rents may be derived from successful entrepreneurship (McGrath et al., 1996). In a Schumpeterian view, firms develop resources that are unique for a significant period of time although the resources do not yield rents in the long run

(Bogner, Mahoney, & Thomas, 1998). In the WLIS business, like in other Internet businesses, Schumpeterian entrepreneurship could have a strong impact on firm performance in the short-run.

Finally, the results of the present research reflect the early stage of the WLIS market. The relationships between market and firm variables may change over time. As the WLIS industry matures, the market structure may be more concentrated with a few dominant players. Therefore future research is needed to examine possible changes in relationships between market and firm variables. The product content may also change reflecting better knowledge of consumer demand and usage. This suggests ongoing content analysis to describe the evolving WLIS product.

APPENDICES

APPENDIX A

MISSING VALUE ANALYSIS

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
GL_1	183	6.3716	.9629	0	.0	14	0
GL_2	182	6.2088	1.0301	1	.5	15	0
GL_3	183	6.1585	1.1054	0	.0	13	0
GL_4	183	5.8525	1.2861	0	.0	4	0
GL_5	183	6.2186	1.0251	0	.0	11	0
GL_6	182	4.8956	1.7225	1	.5	7	0
GL_7	183	6.2842	.9055	0	.0	10	0
GL_8	183	6.1475	1.0509	0	.0	16	0
GL_9	183	5.5301	1.5994	0	.0	11	0
GL_10	183	5.8525	1.3927	0	.0	7	0
GL_11	183	5.6940	1.2728	0	.0	3	0
GL_12	183	6.0546	1.0931	0	.0	2	0
GL_13	183	5.6175	1.3852	0	.0	6	0
GL_14	183	5.7049	1.4974	0	.0	6	0
GL_15	183	6.3825	1.0088	0	.0	9	0
GL_16	182	6.3132	1.0594	1	.5	12	0
GL_17	181	6.2541	1.0009	2	1.1	10	0
GL_18	182	4.0275	1.8311	1	.5	0	0
GL_19	183	6.0710	1.2316	0	.0	18	0
GL_20	182	5.5330	1.4206	1	.5	7	0
GL_21	183	6.2678	1.1190	0	.0	16	0
GL_22	183	5.7158	1.3733	0	.0	6	0
RE_1	182	67.72%	41.95%	1	.5	0	0
RE_2	182	61.68%	38.05%	1	.5	0	0
RE_3	181	58.70%	40.27%	2	1.1	0	0
RE_4	182	55.36%	41.33%	1	.5	0	0
RE_5	182	60.30%	37.81%	1	.5	0	0
RE_6	181	58.29%	38.37%	2	1.1	0	0
QOE1	181	5.6243	1.4307	2	1.1	5	0
QOE2	181	5.5028	1.5078	2	1.1	0	0
QOE3	182	5.3571	1.4485	1	.5	6	0
QOE4	181	4.9558	1.7056	2	1.1	6	0
OR1	179	5.2626	1.3834	4	2.2	1	0
OR2	181	4.6906	1.5178	2	1.1	4	0
OR3	181	5.2818	1.4233	2	1.1	1	0
OR4	181	4.9890	1.5705	2	1.1	5	0
IR1	181	6.0110	1.0593	2	1.1	1	0
IR2	180	4.8667	1.5259	3	1.6	3	0
IR3	180	4.8111	1.4094	3	1.6	3	0
IR4	179	5.0559	1.3099	4	2.2	1	0
IR5	179	5.0894	1.4889	4	2.2	1	0
IR6	179	5.6480	1.2012	4	2.2	6	0
ST1	179	5.1285	1.4689	4	2.2	2	0
ST2	181	4.0829	1.7635	2	1.1	0	0
ST3	181	5.2320	1.6704	2	1.1	0	0
ST4	180	5.4944	1.3474	3	1.6	7	0

	N	Mean	Std. Deviation	Missing		No. of Extremes	
				Count	Percent	Low	High
ST5	175	3.7657	1.6213	8	4.4	0	0
ST6	178	4.1629	1.7439	5	2.7	0	0
IPF1	182	5.9615	1.5710	1	.5	30	0
IPF2	182	4.5769	1.9587	1	.5	0	0
IPF3	183	6.1421	1.2005	0	.0	16	0
IPF4	182	5.9121	1.4539	1	.5	7	0
IPF5	183	5.3169	1.7691	0	.0	0	0
IPF6	182	5.0934	1.8107	1	.5	0	0
IPF7	182	5.4396	1.6468	1	.5	0	0
SPF1	179	4.2961	1.9736	4	2.2	0	0
SPF2	176	3.0511	1.8586	7	3.8	0	0
SPF3	181	5.1602	1.4764	2	1.1	6	0
SPF4	179	4.8547	1.5904	4	2.2	9	0
SPF5	179	3.8603	1.8383	4	2.2	0	0
SPF6	178	3.6798	1.8392	5	2.7	0	0
SPF7	178	3.7978	1.8937	5	2.7	0	0
SQR1	182	5.3681	1.6086	1	.5	0	0
SQR2	182	5.5824	1.5382	1	.5	9	0
SQR3	182	5.4780	1.5113	1	.5	0	0
SQR4	182	5.3242	1.4752	1	.5	0	0
SQR5	182	4.7143	1.6134	1	.5	0	0
SQR6	182	5.1813	1.5142	1	.5	2	0
SQR7	182	5.0604	1.5562	1	.5	1	0
SQR8	182	5.1923	1.4722	1	.5	1	0
SQR9	182	4.8516	1.6933	1	.5	5	0
SQR10	182	4.1429	1.9444	1	.5	0	0
SQR11	182	4.2088	2.0275	1	.5	0	0
SQR12	182	3.4945	2.0991	1	.5	0	0
COM1	182	4.9286	1.7465	1	.5	10	0
COM2	182	4.8626	1.6480	1	.5	8	0
COM3	182	5.3571	1.5588	1	.5	0	0
COM4	182	4.8132	1.8171	1	.5	13	0
COM5	181	4.1989	1.9219	2	1.1	0	0
START	180	35.66	18.31	3	1.6	0	0
NOE1	177	2.7839	3.7346	6	3.3	0	23
NOE2	177	1.4319	1.9569	6	3.3	0	9
NOE3	177	1.4090	2.0813	6	3.3	0	14
NOE4	177	1.8828	2.8719	6	3.3	0	20
ECH	175	4.41	1.67	8	4.4	0	0
USER	153	20051.26	31292.75	30	16.4	0	18

a Number of cases outside the range (Q1 - 1.5*IQR, Q3 + 1.5*IQR).

APPENDIX B

MARKET CHARACTERISTICS

(Sorted by market size)

Metro	Population	Income/hrs.	Education	Market Size*	Response
New York	8,712,127	70,507	75.60	6,882,580	3
Chicago	8,078,169	68,958	81.76	4,951,918	3
Los Angeles	9,297,896	65,408	72.38	3,998,095	3
Boston	5,985,439	68,453	85.05	3,591,263	2
Washington DC	4,794,945	73,138	89.14	3,188,638	4
Philadelphia	5,055,780	68,216	81.71	2,467,221	4
Detroit	4,424,187	68,676	80.86	2,433,303	3
Riverside, CA	3,185,622	50,963	77.32	2,229,935	1
Atlanta	3,926,961	57,619	84.20	2,159,829	3
Dallas	3,263,944	63,207	82.24	1,840,864	7
Nassau NY	2,710,066	90,927	89.58	1,761,543	1
Minneapolis	2,915,783	63,961	92.30	1,370,418	3
Seattle	2,338,368	66,257	94.24	1,227,643	4
San Jose	1,632,382	81,423	84.79	1,224,287	1
Baltimore	2,553,142	66,930	77.97	1,148,914	2
San Diego	2,740,077	61,612	84.68	1,115,211	3
Cleveland	2,256,895	62,560	81.49	1,112,649	4
Portland	1,884,047	54,048	88.13	1,079,559	8
Pittsburgh	2,388,733	59,265	82.41	1,058,209	3
St. Louis	2,634,547	64,619	76.54	1,053,819	5
Tampa	2,300,477	51,844	81.33	1,035,215	2
Denver	2,026,581	56,902	91.93	952,493	2
Phoenix	2,964,296	50,734	83.59	939,682	3
Norfolk, VA	1,621,878	51,723	85.00	932,580	2
Fort Worth	1,628,691	56,170	82.16	918,582	2
Milwaukee	1,492,229	64,370	86.55	895,337	1
San Francisco	1,681,221	87,424	85.32	840,611	1
New Haven, CT	1,643,928	86,336	84.37	821,964	2
Columbus	1,527,880	56,310	85.97	779,219	1
Austin	1,153,433	48,979	84.46	767,033	4
Salt Lake City	1,311,798	55,109	90.10	764,778	3
Cincinnati	1,660,813	58,913	80.56	758,992	3
Las Vegas	1,424,325	46,945	81.55	750,619	3
Sacramento, CA	1,561,669	56,105	85.85	702,751	1
Kansas City	1,752,413	58,444	88.61	700,965	2
Nashville	1,218,637	57,847	81.60	661,720	4
Orlando	1,531,503	51,035	85.16	638,637	3

Metro	Population	Income/hrs.	Education	Market Size*	Response
New Orleans	1,356,430	56,088	72.51	623,958	1
Oklahoma City	1,073,175	48,817	85.71	622,442	1
Fort Lauderdale	1,535,978	57,259	83.25	614,391	1
Buffalo	1,174,216	59,404	82.16	587,108	1
Indianapolis	1,573,568	58,488	83.26	577,499	3
Tucson	847,607	44,609	83.40	550,945	1
Hartford, CT	1,125,446	72,230	84.28	545,841	3
San Antonio	1,600,968	51,758	75.43	536,324	2
Honolulu	898,398	78,194	84.45	516,579	2
Charlotte. NC	1,422,683	54,703	77.35	497,939	1
Greensboro. NC	1,206,425	53,814	76.11	482,570	2
Providence, RI	911,074	61,129	76.18	423,649	2
Scranton PA	633,805	52,566	77.69	411,973	1
Louisville	1,024,323	56,577	81.07	409,729	1
Greenville. SC	939,973	49,367	70.45	404,188	1
Jacksonville, FL	1,046,115	55,270	84.02	392,293	2
Dayton	970,362	57,053	83.67	388,145	1
Tacoma, WA	701,157	51,299	89.52	373,717	1
Fresno, CA	905,956	49,749	68.08	371,442	4
Memphis, TN	1,143,631	59,250	80.52	362,531	3
Albany	884,888	63,864	86.01	353,955	2
Colorado Spring	525,360	47,209	90.01	351,991	2
Omaha	707,575	58,189	90.50	346,712	1
Wilmington DE	576,295	65,579	82.45	345,777	2
Rochester, NY	1,106,032	65,110	85.07	331,810	1
El Paso	744,633	41,221	66.31	279,237	1
Little Rock	578,451	52,639	83.62	267,823	5
Bakersfield, CA	669,363	46,987	69.90	267,745	1
Mobile, AL	549,447	46,345	76.19	264,284	1
Columbia	508,984	56,957	83.24	259,582	2
Toledo	619,653	58,172	83.84	258,395	3
Harrisburg, PA	635,454	57,674	82.09	254,182	1
Albuquerque	730,069	51,288	84.82	240,923	4
Allentown, PA	632,844	57,584	78.39	240,481	4
Akron, OH	699,621	55,544	84.57	230,875	1
Knoxville	693,503	49,626	78.29	221,921	1
Tulsa	780,085	51,121	85.61	214,523	2
Sarasota FL	564,807	61,241	85.41	211,803	2
Fort Wayne	490,336	57,162	84.40	210,844	1
Baton Rouge, LA	594,891	55,169	82.14	208,212	1
Youngstown, OH	601,607	52,299	80.02	180,482	1
Springfield, MA	595,436	56,447	80.44	178,631	1
Wichita KS	526,218	56,291	86.43	157,865	2
Charleston, SC	493,767	57,322	80.23	148,130	1

* Estimates based on responses of WLIS managers.

APPENDIX C

SURVEY INVITATION E-MAIL LETTER

Dear Web Site Manager:

We are conducting research that can contribute to an understanding of how the Internet shapes a new model for local information service. The enclosed survey is part of the academic research project being conducted at Michigan State University. Your Web site has been specially selected as a participant in this research. Your response is very important to its success. Your participation is voluntary and your privacy will be protected.

We have tried to keep the survey short so it will take only about 10 minutes to complete. The success of this study depends on your willingness to share your thoughts. You indicate your voluntary agreement to participate by completing and returning this questionnaire. Data will be reported in aggregate and reports of research findings will not associate subjects with specific responses or findings.

We will acknowledge your valuable response by providing you with a copy of the final report. Please click through the following link now or enter the URL in your web browser to complete the questionnaire and submit your response to us.

http://www.msu.edu/~nohgheey/issurvey.htm

Sincerely,

Thomas Baldwin, Distinguished Professor
Department of Telecommunication

Ghee Noh, Researcher
Mass Media Ph. D. Program

College of Communication Arts and Sciences
Michigan State University
East Lansing, MI 48824
517-333-6696
nohgheey@pilot.msu.edu

If you have any questions or concerns about participants' rights as human subjects of research, please contact to UCRIHS Chair, David E. Wright (517-355-2180).

APPENDIX D

FIRST FOLLOW UP E-MAIL

Dear Web Site Manager:

Two weeks ago you received a survey invitation letter on your local information service on the Web. If you have already completed and submitted the questionnaire, thank you! If you have not done so, then please take a few minutes now to complete it and submit it. We need your answers in order to present a true picture of how the Internet shapes a new model for local information service. We are sure you will find the questionnaire stimulating and interesting to answer. Data will be reported in aggregate and reports of research findings will not associate subjects with specific responses or findings.

We will acknowledge your valuable response by providing you with a copy of the final report. Please click through the following link now or enter the URL in your web browser to complete the questionnaire and submit your response to us.

http://www.msu.edu/~nohgheey/wissur.htm

Sincerely,

Thomas Baldwin, Distinguished Professor
Department of Telecommunication

Ghee Noh, Researcher
Mass Media Ph. D. Program

College of Communication Arts and Sciences
Michigan State University
East Lansing MI 48824
517-333-6696
nohgheey@pilot.msu.edu

APPENDIX E

SECOND FOLLOW UP E-MAIL

Dear Web Site Manager:

Three weeks ago you received a survey invitation letter on your local entertainment and information service on the Web. If you have already completed and submitted the questionnaire, thank you! If you have not received the letter or have not yet had time to complete it, then please take a few minutes now to complete it and submit it. Please be assured that your responses will be anonymous and aggregated with other respondents.

As academic researchers, we rely on the cooperation of people like you in order to find out more about how the Internet shapes a new model for local information service.

We will acknowledge your valuable response by providing you with a copy of the final report. Please click through the following link now or enter the URL in your web browser to complete the questionnaire and submit your response to us.

Questionnaire: **http://www.msu.edu/~nohgheey/issurvey.htm**

Sincerely,

Thomas Baldwin, Distinguished Professor
Department of Telecommunication

Ghee Noh, Researcher
Mass Media Ph. D. Program

College of Communication Arts and Sciences
Michigan State University
East Lansing MI 48824
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APPENDIX F

WIS SURVEY---------- MICHIGAN STATE UNIVERSITY

We would like you to consider the ways that your business unit competes with other services in **local information services on the Web.** These services include newspapers, local TV and radio stations, and city guide Web sites. Your business unit may not be a whole organization but a department or section involved in production, sales and promotion for Web-based information service. Please respond to the following statements as completely as possible.

1. The following statements represent **organizational goals** that a business unit may pursue. Please indicate how much importance top management at your Web-based service places on the following beliefs or values by selecting the number that best represents the importance.

Not at all important 1 2 3 4 5 6 7 Extremely important

	1	2	3	4	5	6	7
Doing the job well	○	○	○	○	○	○	○
Improving the information product	○	○	○	○	○	○	○
Responding to the user's needs	○	○	○	○	○	○	○
Serving the general needs of the community	○	○	○	○	○	○	○
Increasing the number of impressions on our site	○	○	○	○	○	○	○
Reducing costs	○	○	○	○	○	○	○
Promoting your firm and brand	○	○	○	○	○	○	○
Providing superior information to the community	○	○	○	○	○	○	○
Maximizing profits	○	○	○	○	○	○	○
Increasing the gross revenue	○	○	○	○	○	○	○
Maintaining high quality transmission standards	○	○	○	○	○	○	○
Keeping the service growing and expanding	○	○	○	○	○	○	○
Hiring the best employees	○	○	○	○	○	○	○
Increasing profit	○	○	○	○	○	○	○
Maintaining our firm's position in the market	○	○	○	○	○	○	○
Being the best	○	○	○	○	○	○	○

Providing high quality information	○	○	○	○	○	○	○
Supporting local community leaders	○	○	○	○	○	○	○
Beating the competition	○	○	○	○	○	○	○
Attaining a position of leadership in the business community	○	○	○	○	○	○	○
Protecting our franchise in the market	○	○	○	○	○	○	○
Maximizing growth of organization	○	○	○	○	○	○	○

2. Think about the relationship between your Web business unit and parent organization or company. Roughly what proportion of your business resources are shared with the parent company? Please circle the percentage that applies to your unit. For example, if you are located entirely in the parent building you would respond 100%.

	0%	25%	50%	75%	100%
Building	○	○	○	○	○
Equipment	○	○	○	○	○
Production	○	○	○	○	○
Personnel	○	○	○	○	○
Advertising Program	○	○	○	○	○
Sales Promotion	○	○	○	○	○

3. Compared to the top competitor in your city market, how do you evaluate **the quality of your employees** working on the following areas? Please select the number that best describes your Web business unit.

Much Worse 1 2 3 4 5 6 7 Much Better

	1	2	3	4	5	6	7
Editorial staff	○	○	○	○	○	○	○
Design staff	○	○	○	○	○	○	○
Technical staff	○	○	○	○	○	○	○
Marketing staff	○	○	○	○	○	○	○

4. To the best of your knowledge, how do you evaluate **your organizational routines** in the following areas?

Very Poor 1 2 3 4 5 6 7 Excellent

	1	2	3	4	5	6	7
Coordination between editorial staff and design staff	○	○	○	○	○	○	○
Coordination between advertising staff and production staff	○	○	○	○	○	○	○
Teamwork within our business unit	○	○	○	○	○	○	○
Flexibility of organization structure in response to the signals of market	○	○	○	○	○	○	○

5. The following statements deal with specific resources that a business unit may have. To the best of your knowledge, please select the number that represents how much you agree with the following statements. Our business unit:

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

	1	2	3	4	5	6	7
Is very eager to try fresh ideas.	○	○	○	○	○	○	○
Is very creative at marketing the service.	○	○	○	○	○	○	○
Has expertise in new service development.	○	○	○	○	○	○	○
Has a staff which suggests a concept that is perceived as original by your unit.	○	○	○	○	○	○	○
Is respected by our industry for successful use of new ideas.	○	○	○	○	○	○	○
Has innovative employees.	○	○	○	○	○	○	○

6. Each of the following items represents different methods by which businesses may compete. Please select the number that best describes the emphasis your business unit has placed on **the means of competition**.

Never Emphasized 1 2 3 4 5 6 7 Always Emphasized

	1	2	3	4	5	6	7
Producing specialty services	○	○	○	○	○	○	○
High level of advertising and promotion spending	○	○	○	○	○	○	○
Serving limited or specific geographic markets	○	○	○	○	○	○	○
Providing high level of customer service	○	○	○	○	○	○	○
Providing a narrow range of services	○	○	○	○	○	○	○
Entering the market on a large scale with immediate growth objective	○	○	○	○	○	○	○

Now we would like to ask you a few questions about how your unit conducts on business. Please select the number that best describes your Web business unit.

7. How much importance does the top management at your organization place on the following performance areas?

Not at all important 1 2 3 4 5 6 7 Extremely important

	1	2	3	4	5	6	7
Advertising sales growth	○	○	○	○	○	○	○
E-commerce sales growth	○	○	○	○	○	○	○
Brand identification	○	○	○	○	○	○	○
Market share	○	○	○	○	○	○	○
Return on investment	○	○	○	○	○	○	○
Return on equity	○	○	○	○	○	○	○
Net profit margin	○	○	○	○	○	○	○

8. How successful was your Web service in the following performance areas during the last 12 months?

Not at all successful 1 2 3 4 5 6 7 Extremely successful

	1	2	3	4	5	6	7
Increasing advertising sales growth	○	○	○	○	○	○	○
Increasing e-commerce sales growth	○	○	○	○	○	○	○
Increasing brand identification	○	○	○	○	○	○	○
Increasing market share	○	○	○	○	○	○	○
Increasing return on investment	○	○	○	○	○	○	○
Increasing return on equity	○	○	○	○	○	○	○
Increasing net profit margin	○	○	○	○	○	○	○

9. Compared to the top competitor in your city market, how would you rate **your service quality** in the following areas?

Much Worse 1 2 3 4 5 6 7 Much Better

	1	2	3	4	5	6	7
Depth of the information	○	○	○	○	○	○	○
Original content	○	○	○	○	○	○	○
Immediacy of the information	○	○	○	○	○	○	○
Breadth of the information	○	○	○	○	○	○	○
Visual effects	○	○	○	○	○	○	○
Aesthetic design	○	○	○	○	○	○	○
Vividness of images	○	○	○	○	○	○	○
Layout	○	○	○	○	○	○	○
Ease of searching	○	○	○	○	○	○	○
Degree of customization	○	○	○	○	○	○	○
Security of transaction	○	○	○	○	○	○	○
Bulletin board function	○	○	○	○	○	○	○

Finally, we would like to know a little about your business unit for Web-based information service.

10. At your Web site, how much concern do you have for competition from other local Web sites? Please select the number that best describes your approach.

Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

	1	2	3	4	5	6	7
Intensity of competition with other similar services is strong.	○	○	○	○	○	○	○
Our site overall is very different from others in the Web service.	○	○	○	○	○	○	○
We are constantly attentive to what other services are doing in our area.	○	○	○	○	○	○	○
We are likely to make adjustments in our service in response to our competitors.	○	○	○	○	○	○	○
Our budget has increased as competition develops.	○	○	○	○	○	○	○

11. Please provide **the percentage of Internet users** in your city market. If you are not sure of the percentage, provide your best estimate.

City Name _____ **Estimated %**: _____

12. Please provide your Web site URL?

Http:// _____

13. At what date was you Web site first operational as a service (after any trial periods)?

Month _____ **Year** _____

14. Please provide your full banner advertising rate on the main page per month.

$ _____

15. Usually how many people visit your Web site a day?

_____

16. In the following areas, how many full-time employees are employed by your Web site unit? (Please estimate if exact number is not known. Consider two half-time staff as one full-time staff)

Editorial staff :

Design staff :

Technical staff :

Marketing staff :

17. How much has your Web business unit changed in total employment during the last two years? Please select from one of the dropdowns that best describes your organization.

18. Finally, please provide **your email address** to get a final report.

19. If you have any comments about or additions to the information provided here, please use the space below.

THANK YOU VERY MUCH FOR COMPLETING THIS FORM! Select **Submit Survey** now to send your responses to us.

Submit Survey | Clear All Answers

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