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OVERVIEW OF BUSINESS PROCUREMENT PROCESSES IN SOUTH AFRICA

W J (Wessel) Pienaar*

Abstract

The article focuses on the procurement of goods to support the business operations of organisations, with special reference to South African practice. The following aspects are detailed: (1) identifying and specifying procurement needs; (2) selecting suppliers; and (3) controlling suppliers' performance. It is deduced that the procurement management process consists of five principal steps: (1) identifying and specifying a procurement need; (2) supplier survey; (3) investigation and assessment of suppliers; (4) choice of supplier(s); and (5) establishing and developing relationships with suppliers and controlling their performance. Steps 2, 3 and 4 collectively form the supplier selection phase.

Keywords: Control, Need Specification, Procurement Management, Supplier Assessment, Supplier Selection

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1. Introduction

For a manufactured product to reach the market, all or some of the constituent parts for its processing need to be acquired through procurement transactions. It is evident; therefore, that procurement is an indispensable function within the supply chain of all finished products. In this article, procurement management is defined as that part of supply chain management that plans, implements and controls the efficient, effective acquisition of all raw materials, semi-finished goods, finished goods, services and information in order to support the core operations and ancillary activities of the organisation. The article focuses on the procurement of goods to support the operations of organisations, with special reference to South African business practice.

More specifically the article looks at (1) identifying and specifying procurement needs (i.e. exactly *what* must be purchased), which is discussed in Section 2; (2) selecting suppliers (i.e. *who* will supply goods inputs), which is reported on in Section 3; and (3) controlling suppliers' performance (i.e. monitoring and reviewing *how* the goods supply takes place) with reference to South Africa, which is dealt with in Section 4. The conclusions of the study are contained in Section 5 of the article.

The opinion of logistics and procurement professionals from 34 business organisations in the various business sectors in South Africa was sought to determine (1) how they specify input needs; (2) how they select input suppliers; and (3) how they control their input suppliers' performance. Of these

organisations, seven were in the primary (i.e. production) sector; 18 in the secondary (manufacturing) sector; and nine in the tertiary (i.e. service) sector. Of the latter group, four were wholesalers and five were large retail chain stores.

Based on the responses obtained from the above-mentioned group, it can be deduced that the procurement management process consists of five principal steps:

Step 1: Identifying and specifying a procurement need

Step 2: Supplier survey

Step 3: Investigation and assessment of suppliers

Step 4: Choice of supplier(s)

Step 5: Establishing and developing relationships with suppliers, and controlling their performance.

(Steps 2, 3 and 4 collectively form the supplier selection phase.)

2. Need identification and specification

Ten methods of procurement need specification for business purposes dealt with the literature,¹ and which are applied in South Africa, are discussed here: by brand, by brand equivalence, by market grades, by sample, by commercial standards, by performance, by engineering drawing, by physical design, by material and method of manufacture, and by a combination of any of the afore-mentioned methods.

Specification by brand. The brand is the quality ordered. The higher prices paid for branded products

are often offset by less preparation for need specification and lower inspection costs. Brand buying is used when:

- the supplier's production is secret;
- the item is covered by a patent;
- a supplier's workmanship exceeds that of all competitors;
- the quantity of items procured is so small that it renders the formulation of specifications unduly costly; or
- the downstream customers/end users have strong preferences in favour of certain branded items, which cannot be swayed when conforming to their requirements.

Specification by brand equivalence. Many types of branded products sell at price premiums, like certain chemicals (e.g. antiseptics, cleaning compounds, medicines, ointments) and certain vehicle spare parts. For these products, a generic alternative may be preferable. When these products perform effectively, substantial savings may be realised. Medical-aid insurers often make it mandatory for members to make use of approved equivalents as opposed to more expensive prescribed medical remedies.

Specification by market grades. Need specification on the basis of market grades is confined mainly to organic raw materials, i.e. the primary products of agriculture, fishing and forestry. Market grading is a method of determining the quality of these natural products in unison with defined and generally accepted standards. Inspection to verify desired quality is vital if procurers are to obtain raw materials of the characteristics needed to produce a market-ready product with consistent quality.

Specification by sample. Need specification by sample is the submission of a sample of the needed item; however, this manner of need description is favoured only if other methods of need specification are not feasible. Features for which feasible alternative need descriptions often do not exist are (a) colour and texture; (b) printed matter; and (c) appreciation through sense perception. These aspects are addressed below:

- (a) A precise shade of colour is difficult to match without a colour chart, or display of the item itself.
- (b) Lithographic work is best described by proofs of what is desired.
- (c) Sense perception might best be judged by visual appearance (e.g. wood), taste and odour (e.g. wine required for blending to ensure consistent quality), and sound (e.g. musical instruments).

Specification by commercial standards. A commercial standard is a comprehensive description of an item that has been standardised. The description covers aspects like quality of materials/ingredients, workmanship required in manufacture, dimensions, constituent parts/ingredients, tolerances and

containment/packaging required. Recurring needs for the same products have led industry and authorities to develop standards for such products. Components like nuts, bolts, screws, nails, pipes, wire, cables, fishing line, electrical items and building components (e.g. door and window frames) that are manufactured to standard specifications can be expected to fit all standard applications regardless of the manufacturer. Material ordered according to standard specifications leaves no doubt on the part of either the procurer or the supplier as to what is needed.²

Specification by performance. Performance specification is application- and output oriented. The procurement need is specified in terms of the functionality required of the item, i.e. what the item is required to achieve. No mention is made of any design specifications, leaving the supplier with the initiative on how to provide the most effective product. Manufacturers of electronic ware, aircraft, sailing vessels, road vehicles, mechanical handling equipment and machine tools frequently use this method of need specification. There are potentially two primary advantages obtainable through specifying the required quality of output: firstly, ease of formulating desired performance; and secondly, assurance of obtaining desired performance. Supplier compliance under this specification is a prerequisite for the procurer to manufacture a product whose functionality testifies to its high level of technological advancement.

Specification by engineering drawing. Specification by engineering drawing particularly applies to construction projects, machine and job shop work, mechanical components, electric and electronic assemblies, forgings, castings and stampings. Engineering drawings are often supplemented by descriptive text to simplify completion of the required product. Specifying by engineering drawing is the appropriate and most accurate method to describe those subsystems, components and items that require a high level of manufacturing precision. There are four main benefits of specifying by engineering drawing:

- It is both accurate and precise.
- It is the most practical method to specify items that require extremely high tolerances.
- It is amenable to open competition among competent suppliers.
- It establishes definite standards for inspection.

Specification by physical design. Several items and materials required in manufacture are not covered by brands or standard specifications, and for these items and materials procurers prepare their own specifications. By developing their own specifications, procurers can avoid the price premiums of branded products, and infringement of patented, copyrighted and proprietary products. This, however, entails risk, therefore items or materials procured under this method of need specification

normally require special inspection – the cost of which can be high. The method provides definitions of the properties of the materials (the 'recipe's ingredients') that the procurer desires. This method endeavours to state in measurable terms the properties critical for desired use at minimum cost and in line with desired quality. This method of need specification is the opposite of specification by performance. The procurer provides exact chemical, electronic, dimensional or other physical specifications of the product it requires, and assumes full responsibility for the product's performance.

Specification by material and method of manufacture. Under this method of specification, both the material and the method of manufacture (i.e. the complete recipe) are prescribed to potential suppliers. In business this method is used when special needs exist and the procurer is willing to accept responsibility for results. Specifications under this method are costly to prepare, and the ensuing costs of inspection are generally higher than those incurred by other methods of need specification. Consequently relatively little use is made of this form of need specification. It is, however, utilised by large resellers of paint, large retail chains that sell so-called 'no-name brand' products, and large resellers of 'generic' medication and remedies.

Combination of methods of need specification. Businesses often use a combination of the methods described above to specify a need, simply because some needs cannot be sufficiently described by one method alone. A growing number of finished products require more than one method of needs specification. For example, curtain manufacture may require specification by commercial standards to describe the cloth, its density and the fire resistance required; specification by physical design to prescribe the length and width of the drops, and whether it should be lined or unlined; and specification by sample to demonstrate the shade of colour desired.

3. Selecting suppliers

It is necessary for the focal business in every supply chain to collaborate with and coordinate the performance of the suppliers in their chain effectively. This can be done by selecting and appointing the most suitable suppliers and then forming longstanding collaborative relationships with them.

3.1 Steps in the supplier-selection process

The following three steps can be followed in the selection of suppliers:

- Step 1:** Supplier survey
- Step 2:** Supplier investigation and assessment
- Step 3:** Supplier choice

These three steps constitute the second, third and fourth steps in the broad five-step procurement process referred to in Section 1.

3.1.1 Supplier survey

The research indicated that the following sources are used most in the search for potential suppliers in South Africa:

- Trade journals – these often contain indexed sections of different industry sectors
- Trade registers and directories (e.g. the publications of Braby's Directories³)
- The Internet (especially supplier websites that are registered with search engines)
- Telephone directories (e.g. the *Yellow Pages*⁴)
- Suppliers' sales personnel and field representatives
- Suppliers' catalogues, price lists, mail promotions and advertisements
- Trade shows and exhibitions

It was found that the purchasers of fast-moving consumer goods, standard domestic appliances and standard furniture (i.e. products of pure push-oriented supply chains) often make use of, firstly, computer-aided, vendor-managed procurement with input from suppliers' sales personnel, and are made aware of new products and promotions through the field representatives of suppliers and, secondly, from supplier catalogues and standard price lists.

The research showed that the purchasers of customised consumerware (mostly model clothing, stylised and modular furniture, electronic equipment and computers, and recreational vehicles – i.e. the products of combined push-pull-oriented supply chains) typically make use of trade journals, registers and directories, the Internet and trade exhibitions in their search for suppliers.

Apart from merely identifying possible suppliers whose range of outputs may cater for the prospective procuring business's needs, the supplier survey stage can go one step further and identify all parties that are interested in being considered for supplier assessment. In the case of standard items in a push-oriented supply chain, the only required information at this stage may be whether the vendor is capable and willing to supply certain volumes of standard products at certain destinations and at certain times, and a preliminary indication of its price and payment conditions. In the case of non-standard (differentiated) items, more initial information is often required, as desired production lots might become smaller, and more careful goods treatment may be required. The likely approach is to establish whether suppliers of non-standard items are willing to be listed for investigation and assessment upon exact product specifications that will be provided at a later time.

Businesses sometimes also make use of an open pre-qualification tender system, which allows suppliers to tender in response to advertisements and

open invitations in the media and on the Internet. The solicitation of vendor response through an open tender or on invitation is usually used in a pull-oriented supply chain where the objective is to procure specialised and custom-made products. Once a list has been compiled of the vendors that, first, supply similar forms of inputs to those that are mission specific to the procuring business and, second, have indicated during the survey phase a willingness to supply such inputs to the business, the investigation and assessment phase follows.

3.1.2 Supplier investigation and assessment

This phase is usually initiated by an exchange of information. First, exact product specification or tender documents are provided to identify potential suppliers and preferred bidders. Second, sufficient assessable information should be made available to the investigating purchaser. The research showed that purchasing businesses typically consider the following factors when assessing potential suppliers:

- Specific production capability
- Corporate standing
- Specific logistical supply capability

Specific production capability

This refers to whether a supplier has:

- the appropriate facilities and equipment;
- the technical expertise;
- access to the factors of production, coupled with effective resource procurement arrangements;
- healthy labour relations;
- capacity for technological research and product development;
- the ability to supply maintenance and technical after-sales service; and
- adequate operational controls to supply the procuring business with:
 - the specific form of physical goods;
 - to the exact quality specification;
 - at the desired time; and
 - in the required quantity sustainably over the specified period.

It is evident that a failure to identify at least one supplier that passes the assessor's technical standards test terminates the selection process.

Corporate standing

Having found technically capable suppliers of the specific item(s), the assessment proceeds. Given the impact that a supplier can have on a procuring business's performance and the sustainability of its operations, the next selection criteria to assess are, firstly, the likelihood that it will remain in business to fulfil the promises it makes and, secondly, whether it is the kind of organisation that the purchaser would

like to be seen doing business with. In this regard, the respondents pointed out that the following supplier factors are important:

- Reputation
- Quality of management
- Financial stability and viability
- Corporate image

With respect to the supplier's reputation, present and past customers are often willing to provide first-hand information. It may be difficult to investigate the quality of the business's management. However, companies that are listed by the JSE⁵ are easier to investigate, as they must provide financial reporting publicly. Extensive business details and performance measurements of each JSE-listed company (and many non-listed ones) appear in the data register of McGregor BFA.⁶ The McGregor reports are diversified and of a high standard, and supply detailed information on the financial results and business performance of companies. In some cases, visits to a potential supplier's business operations should give the investigators an insight into the quality of management and operational housekeeping. Discussions with the personnel of the supplier can be an effective source of information.

The potential supplier's labour relations are of great importance, as poor labour relations can lead to operational stoppages, erratic supply and inconsistent product quality. Sources of information for investigation are the supplier's strike and turnover records of its labour force.

In addition to a supplier's annual report, website and press releases, the archives of business print media and news-clipping agents are good information sources on a supplier's adherence to sound ethical and good corporate governance principles (like those proposed in the King codes of corporate conduct⁷), its approach with respect to disadvantaged groups, and its support of charities.

Specific logistical supply capability

According to the survey, once the production capability and corporate standing of potential vendors have been established, logistical supply capability of the candidates needs to be determined. Over and above the capability of storing, handling, transporting and containing the required quantity of items safely and securely, logistical supply capability refers to the ability to deliver items timeously. This concerns, firstly, delivery (replenishment) lead time; secondly, delivery reliability; and thirdly, delivery flexibility. As delivery lead time increases, or delivery frequency decreases, the volume of buffer (safety) stock that needs to be held by the purchaser grows.

3.1.3 Supplier choice

During the choice phase, interviews and arm's-length talks are commonly held with the potential suppliers

that have been included in the prioritised shortlist of candidates with a view to choosing the most suitable one. Often, purchasing businesses decide to purchase similar items from more than one supplier to ensure that the required input is always available at an acceptable price and in the required volumes. This is known as dual (or horizontally split) sourcing.

In addition to dual sourcing, supplier choice and appointment can also provide a vertically split supply configuration. This can take place in the following ways:

- A supplier is appointed that conducts both the production and logistical aspects of the sourced item(s).
- The item is purchased from a producer, but all (or most) of the logistical arrangements are procured from a third-party logistics service provider.
- The item is purchased from a producer, and all (or most) of the logistical arrangements are taken care of by the purchasing business.

Whatever vertical supply arrangement is chosen, the procuring business should keep its options open to have deliveries expedited should they not take place on time. The coordination of incoming traffic with a view to rectifying the time performance of the party responsible for deliveries could entail any of the following:

- Tracking and tracing
- Expediting and cross-docking of in-transit shipments
- Shipment diversion and re-consignment

When no suitable supplier is identified, the procurer may have to develop one. Recruitment of a supplier is often based on the rationale that the similarities of the process to manufacture the product that stands to be developed and the current manufacturing process of the prospective supplier will afford the latter the opportunity to apply a common manufacturing process for all products. Through a shared manufacturing process permitting use of the same technology, the newly developed product's manufacturing cost will be less than the cost of manufacturing it separately. Whenever the prospective supplier possesses the research and development capability to fully finish the new product so that all the technical qualifications are met, certain business prerequisites need to be fulfilled. These may entail that, firstly, a sufficiently large and enduring order is guaranteed to elicit the prospective supplier's commitment and, secondly, a sound prospect for mutually beneficial business synergies exists so that a strategic alliance can be established with relative ease.

4. Establishing and developing relationships with suppliers, and controlling their performance

An organisation's desire to satisfy the needs of its customers and to provide continuous improvement in

its customer service is dependent on its suppliers to help accomplish these goals. Research indicates that the two most commonly used measures in supplier performance measurement systems are customer service received and quality of service provided.⁸

Respondents confirmed that in order to determine whether the desired goods, services and information are consistently made available at the designated place and arranged time, and in the required condition and quantity, supplier performance should be quantified at the time work is completed. In so doing, the following measures are judged to be most critical:

- *Percentage of orders delivered at the right (i.e. designated) place*
- *Percentage of orders delivered on time (i.e. at the arranged time)*
- *Percentage of orders delivered damage free (i.e. in the required condition)*
- *Percentage of orders fulfilled (i.e. in the required quantity)*
- *Percentage of orders documented as invoiced accurately*

Supply quality is closely related to the objective of achieving optimal customer service. Whereas customer service refers to how effectively procurers' desires are conformed to, supply quality refers to how efficiently (or cost effectively) procurers' desires are met. From this perspective, the following measures are indicated as being most important:

- *Damage frequency*
- *Frequency of credit claims by a procuring customer*
- *Frequency of product returns by a procuring customer*
- *Ratio of orders sorted, packed, shipped and delivered accurately*
- *Ratio of orders documented and invoiced accurately*

Although certain measures under the criteria 'customer service received' and 'supply quality' appear identical, for example orders documented and invoiced accurately, their relevance under each grouping differs. Under 'supply quality', performance relates to technical efficiency or how well a supplier contributes to cost containment. Under 'customer service', each measure relates to how well a supplier contributes to productivity or output enhancement.

5. Conclusions

Procurement management is the part of supply chain management that plans, implements and controls the efficient, effective acquisition of all raw materials, semi-finished goods, finished goods, services and information in order to support the core operations and ancillary activities of the organisation.

Five principal steps can be identified in the procurement management process: (1) identifying and specifying a procurement need; (2) supplier survey;

(3) investigation and assessment of suppliers; (4) choice of supplier(s); and (5) establishing and developing relationships with suppliers, and controlling their performance. Steps 2, 3 and 4 collectively form the supplier selection phase.

The ten methods of procurement need specification for business purposes that are applied mostly in South Africa are: by brand, by brand equivalence, by market grades, by sample, by commercial standards, by performance, by engineering drawing, by physical design, by material and method of manufacture, and by a combination of any of the afore-mentioned methods.

The following sources are used most in the search for potential suppliers in South Africa: trade journals, trade registers and directories, the Internet, telephone directories, suppliers' sales personnel and field representatives, suppliers' catalogues, price lists, mail promotions and advertisements, trade shows and exhibitions.

Purchasing businesses typically consider the following factors when assessing potential suppliers:

- Specific production capability
- Corporate standing
- Specific logistical supply capability

During the choice phase, talks are commonly held with potential shortlisted suppliers. Businesses often decide to purchase similar items from more than one supplier to ensure availability, acceptable prices and required volumes.

A business's desire to satisfy the needs of its customers and to provide continuous improvement in its customer service is dependent on its suppliers to help accomplish these goals. The two most commonly used measures in supplier performance measurement systems are customer service received and quality of service provided.

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EMPLOYEE PERCEPTIONS OF THE RESTRUCTURING PROCESS IN A HEALTH CARE ENVIRONMENT

Lisebo Ntsatsi, Sanjana Brijball Parumasur*

Abstract

This study assesses the perceptions of employees (in a health care environment that has just undergone a process of restructuring) of the process before restructuring, the impact of the restructuring on service delivery and performance as well as of outcomes, strategies and interventions implemented. A sample of 143 clinical and non-clinical employees from three of the largest regional hospitals within the Ministry of Health in Lesotho was drawn using cluster sampling. Data was collected using a questionnaire whose psychometric properties were statistically determined. Data was analyzed using descriptive and inferential statistics. The results indicate that employees were not convinced that the process of transformation undertaken in the health care organization was effective and, hence recommendations are made in this regard.

Keywords: Change; Change Management, Process of Restructuring/Transformation, Resistance To Change, Change Interventions

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Introduction

Competitive restructuring and change management are becoming increasingly imperative in health care organizations. Health organizations are not immune to change for the reason that there are certain environmental changes that force organizations to change. Robbins, Judge, Odendaal and Roodt (2009) mentioned that forces of change include, but are not limited to, the changing nature of the workforce, technology, economic shocks, competition, social trends and world politics. Edmonds (2011) added that change can be the result of internal influences and external swings in consumer behaviour or a shift in the industry landscape. Edmonds (2011) further noted that some of the causes of change are changes in government legislation, mergers and acquisitions, growth into global markets, structural changes, exit strategies, introduction of new processes as well as strategic re-orientation. This paper assesses the process of restructuring in a health care setting where structural changes were introduced as a result of changes in government legislation.

Change and Change Management

Pradhan (2009) refers to change as an alteration in circumstances or functioning focusing on attaining desirable goals or on avoiding a less desirable goal or situation. According to Nickols (2010), change management refers to the coordination of a structured

period of transitioning from situation A to situation B in order to achieve lasting change within an organization. When an organization engages in the process of restructuring, it means there is change that is taking place in that particular organization. Paton and McCalman (2000) argue that management and change are synonymous and further note that it is impossible to take a journey (which can be taken as what change is), without firstly addressing the purpose of the trip (the route one wishes to travel). Change is all about dealing with the complexities of travel. It can be defined as evaluating, planning and implementing operational, tactical and strategic journeys and ensuring that the journey is worthwhile and the destination is relevant (Paton and McCalman, 2000).

Seel (2008) indicates that change consists of four categories. The first category involves processes whereby individuals within an organization perform activities which are goal oriented, adding value to the organization holistically. Category two is the systems that organizations put in place to bring about change. Seel (2008) mentions that even though changing systems can be good, they are unlikely to bring about fundamental change. Most organizations do not usually take into account the implications for the wider organization. The third category is about structures that the organization may propose to implement during a change process. The last category is an organization and more emphasis is on the change of cultural patterns which seems to be resistant to

change. McGreevy (2008) put forward four approaches to change which are proactive, reactive, transactional and transformational. Proactive in this regard refers to plans that are put in place before the change takes place while reactive constitutes internal changes accommodating external change. Transactional change involves attaining known desired states that varies from the existing state. McGreevy (2008) further notes that organizations may have to apply transformational change where they have to detach from old ways of doing things to the new ways.

Eikenberry and Harris (2011) explain that it is not easy for an individual to change let alone the entire organization. Nevertheless, there are situations whereby an organization will find it necessary to go through change. Change can be both emotional and situational. In the former, change can be associated with loss or be linked to fear of the unknown; change events can be fact-based but normally people's responses are based on emotions. The conclusion given here is that individuals have a different perspective emotionally with regard to change. On the other hand, change can be situational. People accept change differently in different situations. Some people feel comfortable with changes taking place at work, some at home. The manner in which people think and feel about change depends on the context and recent personal experience with change. An individual may be hesitant to experience another change process due to past experiences whereby change was more challenging or was not a success; however, people who are excited and happy about the changes taking place in their lives usually approach and accept change positively (Eikenberry & Harris, 2011). Senior and Swailes (2010) believe that change is inevitable and maintain that it is vital for organizations to strike a balance between both the forces for stability and inactiveness and the forces of change. The right balance will, however, differ from situation to situation thereby making change far from homogenous (Senior and Swailes, 2010).

Paton and McCalman (2000) argue that whenever there is any change situation taking place, be it at work or at home, the nature of change must be analyzed. The analysis of the nature of change will therefore determine its likely magnitude and potential impact. The successful determination of the nature of change at an early stage of the change cycle should indicate the most appropriate means of managing the situation. Paton and McCalman (2000) note that there are six main factors associated with successful change classification. The first one is the role and selection of the problem owner whereby there has to be the right person for the job in terms of their managerial skills, involvement and commitment to the problem project. The second factor is locating change on the change spectrum which involves determining the nature of change in terms of physical and organizational impact. The change spectrum may be purely technical

or more complex people related change. The third factor is the TROPICS (Time scales, Resources, Objectives, Perceptions, Interest, Control and Source) test. By considering the change in relation to the mentioned factors, the manager responsible may determine the optimal route forward through an enhanced knowledge of the nature of the change. The fourth factor is the force field analysis and it acts as a positioning tool that helps the management of change by examining and evaluating the forces for and against change. This is a diagramming technique that helps in responding to questions such as what forces are at the play. What is their likely magnitude? Who is for the change and who is against? Can a proactive stance be adopted? The intention is to determine the nature and magnitude of the forces acting upon the change of the environment (Paton & McCalman, 2000). The fifth factor is success guarantors: commitment, involvement and a shared perception. The success of change management needs understanding of the likely impact of the change on those systems most affected by it, and later on the development of a means of establishing a shared perception of the problem amongst all concerned. Both commitment and involvement are vital in order to achieve effective transition management. The sixth one is managing the triggers. Change can be triggered by either internal or external events. The change agent must understand the nature of the trigger and the means of managing it well for the reason that it influences the reaction of the organization and its staff (Paton & McCalman, 2000).

Lew and Eekhout (2004) contend that change should be managed at both the personal and organizational level. They argue that an individual should be able to manage change at a personal level before he or she can think of managing change at the organizational level. Individuals within an organization have to align their interests, needs and competencies with the existing demands in the organization as well as the ability to create relationships of success. Individuals can adapt to changing environments and situations by incorporating their attitudes and beliefs about change together with the right skills. Managers have to learn to focus on individuals in order to optimize the change management process (Lew & Eekhout, 2004). McDonald (2010) asserts that completion of activities or programs towards change cannot guarantee successful change and emphasizes that a new change approach is grounded on informed individual decision making based on transparency of information. Hence, change becomes a social process that is continuous rather than following a designed program of change. This continuous change will therefore, be driven by social technologies that allow people to work together to understand the new ways of working.

The approach to the nature of change used by Eikenberry and Harris's (2011), Senior and Swailes (2010), Paton and McCalman (2000), Lew and

Eekhout (2004) and McDonald (2010) can enable health care managers to realize the importance of being knowledgeable about the nature of change before engaging in the restructuring process. The emotional aspect of the employees has to be taken into consideration when change takes place. Health care managers have to create an environment whereby employees are able to tell how they feel about the restructuring so that necessary steps can be followed to deal with whatever employees are going through. The employees may experience fear of losing jobs or new assignments; therefore, such emotions have to be dealt with as these may lead to resistance to change. On the other hand, some employees may experience change in their personal life and not at the organizational level; hence, they may feel uncomfortable. Health care managers should not only have a better understanding of change in terms of both the emotional and situational aspects but should also be able to analyze the nature of change and its magnitude to realize their organizational goals.

Planned and unplanned change

Senior and Swailes (2010) explain planned change as deliberate actions designed to move an organization or part of one from one state to another. Pradhan (2009) describes planned change as a conscious initiative made by people to alter the circumstances, situations and factors that will lead to a desired outcome by the actors or initiators of the change process. Robbins *et al.* (2009) view planned change as intentional and goal oriented activity and believe that planned change involves two goals. The first goal seeks to improve the ability of the organization to adapt to changes in its environment. Examples of planned change aimed at responding to changing environments include efforts to stimulate innovation and empowering employees as well as work teams. The second goal is about change in employees' behaviour. The success and failure of an organization results from what employees do or fail to do; hence, planned change is concerned with the changing behaviour of the individuals within an organization (Robbins *et al.*, 2009).

Stable (2009) describes that it has never been easy to implement change in the health care sector. He further explains that the complex nature of the health sector may not allow planned change to be executed in a manner that has been predicted. He points out that planned change comes in whereby an organization wants to focus on how to implement change in a successful manner. This involves arrangements and activities that the organization puts in place to achieve intended outcome as a result of change. Cummings and Worley (2001) advocate that the general model of planned change involves four stages which indicate the sequence of events from entering and contracting, to diagnosing, planning and implementing, to evaluating and institutionalising change. More

explanation is also given that planned change is advantageous for the reason that there is greater assurance of the outcomes and managers are better able to provide support for the employees in the process of change. Conversely, unplanned change results from unexpected events. Unanticipated events occur regardless of how well planned change may be. Patterson and Sorrells (2008) share that unplanned change happens as a result of a major sudden surprise in an organization and this leads to change managers acting in a highly reactive and confused manner. French, Rayner, Rees, and Rumbles (2011) suggest that the proper way of handling or managing unplanned change is to attend to the change as soon as it arises to reduce negative results and make the most of potential benefits. It is, therefore, very important that change managers understand the difference between planned and unplanned change so that they will be able to realise both the internal and external pressures that are affecting the organization (Vitez, 2011).

Resistance to change

Mabin *et al.* (cited in Van Tonder, 2004) define resistance as efforts intended to prevent or block change. Graetz, Rimmer, Lawrence and Smith (2002) emphasise that resistance to change consists of a variety of behaviours such as refusal to engage in joint problem-solving, refusal to seek common ground, the silencing of advocates for change, sabotage, and the use of sanctions and a general lack of cooperation. Some of the reasons why people resist change are unclear reasons for change, fear of the unknown (Schuler, 2003), lack of competence, being connected to the old way of doing things (Essers, Böhm, and Contu, 2009; Robbins *et al.*, 2009), low trust, job insecurity, poor communication and not being consulted (Rick, 2011), new technological challenges, organizational redesign and new ideas challenging old ideas (Paton and McCalman, 2000). Graetz *et al.* (2002) argue that people do not resist change but resist losing what they admire such as status, money or comfort.

Bovey and Hede (2001) observe that more attention is put on organizational issues as compared to individual psychological factors; hence, resistance to change is difficult to manage. Waddell and Sohal (1998) argue that resistance to change cannot be seen as the main reason why changes fail. They emphasize that the main problem is that leaders plan and implement change in a manner that create inactiveness, apathy and opposition; instead, they should first identify the causes of resistance to change before they can look for solutions.

Self (2007) asserts that organizational leaders of change should distinguish between readiness for change and resistance and that this may result in enhancing managers' abilities to lead successful change initiatives. He describes that managers should

create and manage change by firstly, realizing the need for change which implies identifying the gap between the current state and the desired outcome. He emphasizes that change managers should encourage members of the organization and let them know that they have the necessary skills and ability to bring about change. This also includes boosting the individuals' confidence so that they can really make a difference as they participate in change initiatives. It is therefore very vital that the organization supports its members in the process of change and also communicates to them some of the benefits they will get as a result of the change. Likewise, Robbins *et al.*, (2009) point out that resistance to change can be minimized through effective communication and education with the employees to assist them in seeing the logic of change. Many times resistance to change is caused by poor communication or misinformation. Ford and Ford (2009) suggest that past failures should be uncovered because people may resist change due to past failures or unfulfilled promises when change was previously taking place. This could help change leaders to avoid unrealistic promises that might contribute towards resistance to change.

Change interventions

In any change process, employee perceptions of the process of transformation (process before restructuring; perceived impact of restructuring on service delivery and performance; perception of restructuring in terms of outcomes, strategies or interventions implemented) are influenced by the type of change interventions utilized and the manner in which they were implemented.

There are various interventions proposed by a number of authors but the study included those that made significant contribution to the researcher's understanding of change. There are five models that different authors suggest that can lead to a successful change. The discussion on change interventions will not only be based on those five models, but will also include other writers such as, Salahudeen, (2010), Moran and Brightman (1998), Noe (2010), (Bridges, 2011) who have demonstrated their views on how organizations can manage change.

Hayes (2002) in his eight steps of change management argues that the first step should involve recognition. The explanation behind this is that evaluation has to take place before change takes place. In other words, the organization has to identify the reasons or factors that necessitate the change both internally and externally. Recognition in this regard also involves the complex process of perception, interpretation and decision making. Hayes (2002) further mentions that organizations should translate the need for change to desire for change. He mentions that a deeper diagnosis should be done of the need for change as well as what is expected in the future.

Bryant's model (2011) begins with identifying the cast of characters which involves the change agents, change implementers and the change recipients. He explains that change agents normally appears to be senior managers or board of directors as well as project managers while implementers are project coordinators or audit staff. Lastly, recipients usually represent the staff. He believes that for change to be successful the three categories mentioned should buy into the change that needs to take place. In this model, the emphasis is on the importance of dealing with people who resist change and the suggestion is that they should be provided with information and be involved in meetings so that they will be able to voice their concerns. The importance of linking planning and implementation has been stressed as the organization may experience failure if planning is not done properly. Increasing the opportunity to learn has been considered as a very useful tool especially in a health sector whereby more focus is on the patients. The change recipients have to be taught how change will assist the patient (Bryant, 2011).

Kotter and Cohen (2002) demonstrate a model that consists of eight steps, namely, establishing a sense of urgency, building the guiding team, creating a vision for change, communication of vision, removing obstacles, creating a short term win, building on change and anchoring the changes in corporate culture. Kotter and Cohen (2002) argue that many organizations ignore the first stage which is, establishing sense of urgency. They further note that it is very important for change managers to show the employees the prevailing situation that requires the need for immediate change and motivate employees to accept change. The celebration of small successes is essential but managers and staff should not forget to maintain the change that has been made so that the legacy can be sustained. The model also stresses that change managers have to communicate clearly to the employees as to why and how change will take place. Kotter's model concentrates on both situational and psychological approach. This implies that the focus is not only based on organizational needs but on the individuals' as well.

On the other hand, Graetz *et al.* (2002) believe that the theory of Lewin remains relevant to today's changes. Lewin's phases of change involves freezing, moving and refreezing. In this model, the focus is on explaining the stages that individuals go through during the change. Firstly, individuals go through personal transition where they experience shock, denial and anger. In the moving stage, individuals begin to accommodate change as they are assisted to understand the need for change. It also involves cultural change in order to gain acceptance of new norms and values. The refreezing point is whereby individuals accept change and therefore allow the establishment of new norms, values, structures and processes. This is the phase whereby change managers have to ensure cultural reinforcement.

Prosci and ADKAR (2011) contend that change consists of three stages being preparing for change, managing change and reinforcing change. The model shares the concept that analysis of change characteristics and the organizational attributes that impact change management should be done by the change management team. Moreover implementation plans should be in place to indicate how change will take place. The feedback mechanisms have to be executed to ensure sustainability (Prosci & ADKAR, 2011). Salahudeen (2010) considers the result of change management in three aspects: people, culture and processes. She appreciates John Kotter's eight step change process when it comes to change management and believes that it consists of key elements needed to execute change. Salahudeen (2010) expresses that change managers should realize the importance of the SMART (Specific, Measurable, Achievable, Realistic, Time bound) vision and mission statement of an organization. She believes that the SMART vision values key performance indicators and allows the organization to measure and manage fundamental areas that contributes to success which in turn provides the employees with an explicit picture of what the organization expects them to achieve. Moran and Brightman (1998) stress the point that people should be able to integrate change at personal level, otherwise, they will not be able to sustain it both at the personal and organizational levels.

Moran and Brightman (1998) take this concept further by indicating that there are four change levers. The change levers refer to the things that must change, namely, beliefs, values, skills and behaviours. Individuals' change levers respond differently to the four levels which are personal, professional, organizational and structural. Moran and Brightman (1998) further explains that people react differently in different situations. They mentioned that some individuals may change at the personal level faster than at the organization level or structural level. They also mentioned that change managers should set specific targets for the people which will aid in making change tangible in both personal and organizational performance. This will also help in increasing individuals' motivation with regard to change (Moran, & Brightman, 1998).

Bridges (2011) argues that change managers cannot only rely on models that should be applied for a change process but that the organization should pay attention to the transitions process that takes place among individuals. He highlights three stages that are involved which are 'endings', 'neutral zone' and new 'beginnings'. Bridges (2011) demonstrates that 'endings' is all about preparing employees mentally to move on. The preparation of employees mentally can only be done by appreciating what has been lost and accepting the loss. He further illustrates that this stage can be managed by accommodating subjective perceptions of loss and not contesting them. In other

words, employees should be allowed to voice their concerns. Open and honest acknowledgement of pain and loss are essential. The past should be treated with respect to avoid de-motivating survivors of change; this means that the past should be embraced for all the benefits it has brought about. He further explains that 'neutral zone' involves old patterns of habits, behaviours, attitudes and beliefs that are left behind and are no longer appropriate and new patterns are learned. The employees are introduced to the new ways of doing things. This stage is also a period of discomfort and discontinuity whereby anxieties are high, motivation becomes a problem and productivity may also suffer. Conversely, it is the stage where opportunity for creativity exists (Bridges, 2011). The last stage is 'new beginnings' whereby employees are assisted to develop their new identity as well as discovering a new sense of purpose that allows change to work. Bridges (2011) further indicates that to manage new beginnings change managers should communicate the purpose of change, encourage and support people instead of forcing them to engage in 'new beginnings' and, with time, individuals will adapt to the new beginning and start to understand the new processes.

Noe (2010) explains that organizations have used various change interventions which deemed to be successful in bringing about change. Among those interventions are survey feedback, process consultation as well as group interventions. Survey feedback incorporates identifying issues, solving problems and improving relationships among work group members through discussion of shared problems. Process consultation, on the other hand, is whereby a consultant works with managers and employees in order to help them understand and take action to improve specific events that occur at work. In group interventions, stakeholders, employees from various departments gather together to discuss problems, opportunities and plan for change (Noe, 2010). All the models share the similar view that organizations must first identify the need for change before engaging into the process of change, plan for implementation, reinforce change and ensure proper communication with the affected parties.

This study aims to assess health care employees' perceptions of the process of transformation (process before restructuring; perceived impact of restructuring on service delivery and performance; perception of restructuring in terms of outcomes, strategies or interventions implemented) and to determine whether there is a significant difference in their perceptions based on varying biographical profiles (age, gender, job category, tenure, education) respectively.

Research Design

Respondents

In this study the population comprises of employees from three of the largest regional hospitals within the Ministry of Health in Lesotho who were in the employ of the organization from before the restructuring, making up a population of approximately 800 clinical and support staff. It must be noted that management for clinical and support staff is already included in the population of 800. The researcher used a sample of 143 employees. The adequacy of the sample was determined using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (0.899) and the Bartlett's Test of Sphericity (1223.187, $p = 0.000$) for the three dimensions assessing the process of transformation, which respectively indicated suitability and significance. The results indicate that the normality and homoscedasticity preconditions are satisfied. A computer programme was used to select employees from the Ministry of Health staff list who were in the employ before and after the restructuring took place. Managers of the respective departments distributed the questionnaires to the selected subjects during one of their weekly meetings.

The composition of the sample may be described in terms of age, gender, job category, tenure and education. With regards to age, 36.4% of the participants were between 26-35 years followed by those between 36-45 years (33.6%), thereby indicating that the majority of the sample (70%) was between the ages of 26-45 years old. There were more females (81.1%) than males (18.9%) and more clinical services staff (72%) than non-clinical services employees. The majority of the respondents served the organization for 11-20 years (33.6%), followed by 1-5 years (25.9%), followed by 6-10 years (23.8%) thereby indicating that 83.3% of the sample have a tenure of 1-20 years. The majority of the participants have a diploma (51%) and a further 27.3% hold a degree.

Measuring Instrument

Data was collected using a questionnaire that was adapted from both SERVQUAL developed by Parasuraman, Zeithaml and Berry (1988) and SPUTNIC (undated) and comprised of two sections. Section A comprised of biographical data relating to age, gender, job category, tenure and education and was measured using a nominal scale. Section B consisted of questions pertaining to the perception of employees of the process of restructuring and there are subheadings for every 5 questions in this section namely, process before restructuring, perceived

impact of restructuring on service delivery and performance and the perception of employees in terms of outcome, strategies or interventions implemented. Section B was measured using a five point Likert scale ranging from (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree to (5) strongly agree. In-house pretesting was adopted to assess the suitability of the instrument. Pilot testing was also carried out using 12 subjects, selected using the same procedures and protocols adopted for the larger sample. The feedback from the pilot testing confirmed that the questionnaire was appropriate in terms of relevance and construction.

Measures/statistical analysis of the questionnaire

The validity of the questionnaire was assessed using Factor Analysis. A principal component analysis was used to extract initial factors and an iterated principal factor analysis was performed using SPSS with an Orthogonal Varimax Rotation. In terms of the validity of the section relating to perceptions of the process of transformation, the three dimensions of the process of transformation (process before restructuring, perceived impact of restructuring on service delivery and performance, perceptions of outcomes, strategies and interventions implemented) were generated with eigenvalues greater than unity (4.257, 3.792 and 1.934). The items assessing perceptions of the transformation process were also reflected as having a very high level of internal consistency and reliability, with the Cronbach's Coefficient Alpha being 0.925.

Statistical analysis of the data

Descriptive statistics (means, standard deviations) and an inferential statistic (correlation, t-test, Analysis of Variance) will be used to evaluate objectives and hypothesis of the study.

Results

Descriptive Statistics

The perceptions of health care employees regarding the process of transformation (process before restructuring; perceived impact of restructuring on service delivery and performance; perception of restructuring in terms of outcomes, strategies or interventions implemented) was assessed by asking respondents to rate the various aspects of the transformation process using a 1 to 5 point Likert scale. The results were processed using descriptive statistics (Table 1). The greater the mean score value, the more positive the perceptions of the process of transformation.

Table 1. Descriptive statistics: key dimensions of the process of transformation

Dimension	Mean	95 % Confidence Interval		Variance	Std. Dev.	Min	Max
		Lower Bound	Upper Bound				
Process before transformation	2.779	2.630	2.929	0.819	0.905	1	5
Perceived impact of restructuring on service delivery and performance	2.909	2.766	3.052	0.750	0.866	1	4.6
Perception of outcomes, strategies or interventions implemented	2.640	2.504	2.777	0.682	0.826	1	4.2

From Table 1 it is evident that the respondents have varying views of the process of transformation, which in descending level of mean score value is:

- The impact of restructuring on service delivery and performance (Mean = 2.909)
- Process before transformation (Mean = 2.779)
- Perception of outcomes, strategies or interventions implemented (Mean = 2.640).

Whilst respondents have the most positive view of the impact of restructuring on service delivery and performance, when compared again a maximum attainable score of 5 it is evident that there is a tremendous degree of improvement needed in each of the aspects of the transformation process. In order to assess where these improvements lie, frequency analyses were conducted.

In terms of the impact of restructuring on service delivery and performance, it was found that 38.7% of the respondents agreed and a further 5.6% strongly agreed that the restructuring contributed to the improvement in their performance in the workplace. Furthermore, almost an equal percentage of respondents agreed (40.6%) and disagreed (38.5%) that they were supported by their supervisors in performing their duties at the workplace after the process of restructuring. Also, almost an equal percentage of respondents agreed (37.3%) and disagreed (36.6%) that there is improved quality of service delivery since the restructuring has taken place. A significant percentage of respondents (46.1% and 42% respectively) were uncertain whether barriers that existed during the process of restructuring were sufficiently addressed and whether there is positive feedback from the community about service delivery after the process of restructuring.

In terms of the process before restructuring, it was found that the majority of the respondents disagreed that the scope of the closure plan was announced to employees (53.5%), that there was effective communication from management to employees about the aims of restructuring (56%) and that the employees went for training before the

restructuring took place in preparation for change (45.5%). In addition, the majority of the respondents was uncertain (55.9%) or disagreed (20.3%) that there was a consultant hired in preparation for the restructuring process. Also, the majority of the participants was uncertain (52.1%) or disagreed (19%) that there was a consultation process with all stakeholders prior to the implementation of the restructuring process.

In terms of respondents' perceptions of outcomes, strategies or interventions implemented, it was found that almost an equal percentage of respondents agreed (41.5%) and disagreed (42.2%) that opportunities for career advancement were created for the staff after the restructuring process to motivate them to provide improved health services. Furthermore, the majority of the respondents disagreed that management applied proper interventions to address challenges arising from the restructuring process (52.8%), that there were efforts taken to rebuild staff morale and revitalize work units that were adversely affected by the transition (49.7%) and, that appropriate procedures for managing personal transitions were followed by management (51.8%). In addition, 55.9% of the respondents were uncertain whether, and a further 28% disagreed that, feedback mechanisms were developed to maintain control after the restructuring process.

Inferential statistics

Relationship amongst the sub-dimensions of the process of transformation

Hypothesis 1:

There exists significant intercorrelations amongst the sub-dimensions of the process of transformation (process before restructuring; perceived impact of restructuring on service delivery and performance; perception of restructuring in terms of outcomes, strategies or interventions implemented) respectively (Table 2).

Table 2. Intercorrelations: sub-dimensions of the process of transformation

Dimension	r p	Process before restructuring	Perceived impact of restructuring on service delivery and performance	Perception of restructuring in terms of outcomes, strategies or interventions implemented
Process before restructuring	r	1		
Perceived impact of restructuring on service delivery and performance	r p	0.668 0.000*	1	
Perception of outcomes, strategies or interventions implemented	r p	0.635 0.000*	0.743 0.000*	1

* p < 0.01

Table 2 indicates that the sub-dimensions of the process of transformation (process before restructuring; perceived impact of restructuring on service delivery and performance; perception of restructuring in terms of outcomes, strategies or interventions implemented) significantly intercorrelate with each other at the 1% level of significance. Therefore, hypothesis 1 may be accepted. In particular, a strong and direct relationship was noted between perceptions of outcomes, strategies or interventions implemented and perceived impact of restructuring on service deliver and performance.

Impact of biographical variables

The influence of the biographical variables (gender, job category, age, tenure, qualification) on the dimensions of the process of transformation were evaluated using tests of differences (t-test and ANOVA) respectively.

Hypotheses 2:

There is a significant difference in the perceptions of health care employees varying in biographical profiles (gender, job category, age, tenure, qualification) regarding the sub-dimensions of the process of transformation (process before restructuring; perceived impact of restructuring on service delivery and performance; perception of restructuring in terms of outcomes, strategies or interventions implemented) respectively (Table 3 to Table 5).

Table 3. T-test: sub-dimensions of the process of transformation and gender and job category

Sub-dimensions of the process of transformation	Gender			Job Category		
	t	Df	p	t	Df	p
Process before restructuring	0.889	141	0.376	-1.413	141	0.160
Perceived impact of restructuring on service delivery and performance	0.805	141	0.422	-0.440	141	0.661
Perception of outcomes, strategies or interventions implemented	0.029	141	0.977	0.002	141	0.998

Table 3 indicates that there is no significant difference in the perceptions of male and female health care employees and those varying in job category (clinical and non-clinical staff) regarding the sub-dimensions of the process of transformation (process before restructuring; perceived impact of

restructuring on service delivery and performance; perception of restructuring in terms of outcomes, strategies or interventions implemented) respectively. Hence, hypothesis 2 may be rejected in terms of gender and job category respectively.

Table 4. Anova: sub-dimensions of the process of transformation and age, tenure and qualification

Sub-dimensions of the process of transformation	Age		Tenure		Qualification	
	F	p	F	p	F	p
Process before restructuring	0.884	0.475	0.129	0.972	2.748	0.031**
Perceived impact of restructuring on service delivery and performance	0.390	0.816	0.540	0.706	0.902	0.465
Perception of outcomes, strategies or interventions implemented	0.536	0.710	0.296	0.880	1.097	0.360

** p < 0.05

Table 4 indicates that there is no significant difference in the perceptions of health care employees varying in age and tenure regarding the sub-dimensions of the process of transformation (process before restructuring; perceived impact of restructuring on service delivery and performance; perception of restructuring in terms of outcomes, strategies or interventions implemented) respectively. Hence,

hypothesis 2 may be rejected in terms of age and tenure respectively.

Table 4 indicates that there is a significant difference in the perceptions of health care employees varying in qualification regarding the process before restructuring at the 1% level of significance. In order to assess exactly where these differences lie, mean analyses were conducted (Table 5).

Table 5. Anova: mean differences in terms of process of restructuring and qualification

Sub-dimension	Categories	N	Mean	Std. Dev.	F	p
Process before restructuring	Matriculation	10	2.240	0.735	2.748	0.031**
	Certificate	18	2.411	0.775		
	Diploma	73	2.827	0.961		
	Degree	39	3.031	0.785		
	Masters	3	2.333	1.172		
	Total	143	2.779	0.905		

** p < 0.05

Table 5 indicates that the perceptions of health care employees regarding the process before restructuring became more positive as their qualifications increased up until a Degree qualification. However, the perceptions of employees with a Masters degree became less positive in terms of the process before restructuring.

Table 4 also indicates that there is no significant difference in the perceptions of health care employees varying in qualification regarding the perceived impact of restructuring on service delivery and performance and perception of restructuring in terms of outcomes, strategies or interventions implemented respectively. Hence, hypothesis 2 may be rejected in terms of qualification and these two sub-dimensions.

Discussion of Results

The sub-dimensions of the process of transformation

The results reflect that employees were not convinced that the process of transformation undertaken in the health care organization was effective (Mean scores ranged from 2.640 to 2.909 against a maximum attainable score of 5). In terms of their perceptions of

the impact of restructuring on service delivery and performance, employees expressed that there was a lack of support by supervisors in performing their duties at the workplace after the restructuring. Several researchers have emphasized the importance of providing employees with support during any change management process (Bridges, 2011; Cummings & Worley, 2001; Ford & Ford, 2009; Robbins *et al.*, 2009; Self, 2007). Furthermore, a significant percentage of employees doubted that service delivery improved after the restructuring and that barriers that existed during the process of restructuring were adequately addressed.

In terms of the process before restructuring, employees felt that the scope of the closure plan was not announced, there was poor communication from management regarding the aims of the restructuring, and a lack of a proper consultation process and a consultant to prepare for the restructuring process. Clearly, communicating the purpose/goals of the change process is imperative (Nickols, 2010; Paton & McCalman, 2000; Pradhan, 2009; Robbins *et al.*, 2009) and researchers have continuously highlighted the importance of open and effective channels of communication throughout the change process (Ford

& Ford, 2009; Kotter & Cohen, 2002; Rick, 2011; Robins *et al.*, 2009).

In terms of perceptions of outcomes, strategies and interventions implemented, staff expressed that there were insufficient opportunities for career development to motivate them to deliver improved health services, a lack of proper interventions by management to address challenges arising from the restructuring process, poor efforts to rebuild staff morale and revitalize work units, a lack of appropriate procedures by management for managing personal transitions and poor feedback mechanisms to maintain control after the restructuring. Change management researchers have reiterated the importance of employee motivation (Kotter & Cohen, 2002), proper interventions (Bridges, 2011; Bryant, 2011; Graetz, 2002; Hayes, 2002; Kotter & Cohen, 2002; Moran & Brightman, 1998; Noe, 2010; Salahudeen, 2010) managing transitions and feedback (Bridges, 2011; Lew & Eekhout, 2004; Prosci & ADKAR, 2011; Self, 2007) in the process of transformation.

Furthermore, the three sub-dimensions of the process of transformation reflect a direct, significant and fairly strong ($r = 0.635$) to strong ($r = 0.743$) intercorrelation with each other, thereby indicating that mechanisms designed and adopted to improve each sub-dimension of the transformation process individually has the potential to snowball and improve employee perceptions of the entire process of

transformation. Stimulating such perceptions has the potential to enable employees to accept the change positively thereby enhancing perceptions of outcomes, strategies and interventions implemented as well as service delivery and performance. The converse is also true: failure to manage each of the dimensions of the transformation process can perpetuate negative perceptions of the restructuring and bring about a failed process.

The impact of biographical variables

The results also indicate that none of the biographical variables (gender, job category, age, tenure, qualification) influence employee perceptions of the transformation process, except for qualification which only influences employee perceptions of the process before restructuring, which became more positive as qualifications increased from matriculation to holding a degree.

Recommendations and Conclusion

The results of the study reflect obvious recommendations which when implemented have the potential to result in greater happiness and a more successful restructuring process (Table 6).

Table 6. Recommendations to Enhance Each of the Sub-Dimensions of the Transformation Process

Sub-dimensions of the transformation process	Recommendation
Process before restructuring	<ul style="list-style-type: none"> • Management must: <ul style="list-style-type: none"> ✓ Timeously announce the scope of the closure plan. ✓ Ensure that the aims of the restructuring are clearly and succinctly communicated and understood by all stakeholders. ✓ Appoint a consultant or someone/a team to prepare for the restructuring and ensure a proper consultation process.
Perceived impact of restructuring on service delivery and performance	<ul style="list-style-type: none"> • After the restructuring, supervisors must provide employees with support in performing their duties. • Every attempt must be made to ensure that the prescribed aims/goals of the restructuring process are measureable at various points of the process and that clear feedback is provided to employees in order to stimulate success, for example, improved service delivery. • Ensure that barriers that existed during the process of restructuring are sufficiently addressed.
Perception of outcomes, strategies or interventions implemented	<ul style="list-style-type: none"> • Provide adequate opportunities for career development to motivate employees to reach transformation aims/goals, for example, delivering improved health services. • Management must ensure that proper interventions are implemented to address challenges arising from the restructuring process. • Genuine efforts must be made to rebuild staff morale and revitalize work units. • Management must design and effectively implement appropriate procedures for managing personal transitions and, continuously provide employees with feedback to maintain control after the restructuring.
Overall	<ul style="list-style-type: none"> • The change manager must be alert to specific biographical influences or groups of employees who are falling behind or who did not buy-into the aims/goals of the transformation process and may lack optimism so that these perceptions may be managed before they become damaging to the success of the transformation process.

Evidently, change is never easy but will be increasingly and forever present in the health care sector as new technology, advanced equipment and diseases continuously emerge. All these issues force employees to be conversant with the need for potential changes. Change is not simple because whilst some employees embrace the process others resist it. Effective change management, therefore, becomes critical to the success of the process. With proper goal identification and effective communication of the need for change, implementation of change management models that suit the needs of an organization, assessment of goal accomplishment at various points of the process, proper interventions for managing transitions, employee support and motivation, and constructive and timeous feedback, change may be accomplished successfully.

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CORPORATE GOVERNANCE QUALITY, INCENTIVE FACTORS AND VOLUNTARY CORPORATE GOVERNANCE DISCLOSURES IN ANNUAL REPORTS OF MALAYSIAN PUBLICLY LISTED COMPANIES

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Abstract

This paper investigates the relationship between corporate governance quality and voluntary disclosure of corporate governance information for listed companies in Malaysia. The moderating impacts of incentive factors (capital market transactions and stock-based incentives) on this relationship are also examined. Corporate governance quality is measured using a comprehensive index. The empirical evidence of this study is broadly consistent with the notion that high corporate governance quality is positively related to a greater extent of voluntary disclosure. Stock-based compensation significantly influences the relationship between corporate governance quality and voluntary disclosures; however the other incentive factors examined do not appear to influence the relationship.

Keywords: Corporate Governance Quality, Voluntary Disclosure, Incentive Factors, Malaysia

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1. Introduction

This paper investigates the relationship between corporate governance quality and voluntary disclosure of corporate governance information in Malaysia. High quality corporate governance cannot generally be directly observed because it is a set of activities within an organisation. However, it may be signalled to investors through mandatory and voluntary disclosures in annual reports. Hence it is important to understand the incentive factors that motivate some companies to voluntarily disclose extended corporate governance information. The research question addressed is: what are the incentive factors that influence the voluntary disclosure of corporate governance information in annual reports of Malaysian publicly listed companies?

Malaysia is chosen as the empirical setting for the research since it has a mandatory and non-mandatory corporate governance disclosure environment and as such provides an opportunity to test the applicability of voluntary disclosure theory (Dye, 1985; Verrecchia, 1983) in a developing country. Like other developing countries, Malaysia has an emerging capital market and is characterised by having weak legal protection (La Porta et al. 2002), highly concentrated ownership (Claessens et

al. 2000; Thillainathan 1999) and strong cultural factors (Haniffa & Cooke 2002a). One of the major implications of the Asian financial crisis in 1997-1998 is that foreign investors shied away from the affected countries including Malaysia (Claessens & Fan 2000). Investors and managers have long debated whether poor corporate governance is an important contributor to economic downturns. Leuz, Lins and Warnock (2009) provide evidence that foreigners do invest less in poorly governed firms that reside in countries with weak legal institutions. The findings of the above study suggest that a high standard of corporate governance practices, including their disclosure, is a potential lever to attract more foreign investment.

Companies with more effective corporate governance can use their annual report disclosures to provide assurance to investors of the firm's commitment to corporate governance and hence potentially lower investment risks (Kanagaretnam et al. 2007). According to Coombes and Watson (2000), investors are increasingly basing their investment decisions on companies' corporate governance information. As such the need to rate companies' corporate governance has become increasingly important with investors seeking indicators of good governance.

According to Beekes and Brown (2006, p. 422) “a company’s corporate governance quality increases as additional, common corporate governance standards are met”. Hence, a company with high corporate governance quality is defined as one that possesses and meets the common corporate governance standards set by authorities. Many independent local and international agencies have developed tools to measure companies’ corporate governance quality (Van den Bergh & Levrain 2003), while several prior studies have used corporate governance indexes or ratings as measures of corporate governance quality (Durnev & Kim 2005; Beekes & Brown 2006; Brown & Caylor 2006; Randers et al 2010).¹ In this study, a company with high corporate governance quality is defined as a company that conforms to all or most of the basic mandatory requirements of Bursa Malaysia Listing Requirements (BMLR) and Malaysian Codes on Corporate Governance (MCCG).

In Malaysia, the Minority Shareholder Watchdog Group (MSWG) developed the corporate governance scorecard, which facilitates the assessment and rating of the quality of companies based on their corporate governance practices (Appendix 1). A recent study by the MSWG and the University of Nottingham Malaysia Campus (UNMC) (2007) found that more publicly listed companies in Malaysia are voluntarily disclosing information in accordance with international best practices in their annual reports. This result implies that Malaysian companies are now not only complying with minimum mandatory corporate governance disclosure requirements but are also disclosing more information voluntarily, especially in relation to corporate governance. However, there is considerable variation in the extent of voluntary disclosure of corporate governance information between publicly listed

companies in Malaysia (MSWG & UNMC 2007). Voluntary disclosure of corporate governance information is defined as corporate governance information which is over and above the MCCG recommendations and BMLR guidelines.

A broad corporate governance quality index that captures the four main factors of effective corporate governance is adopted from the Minority Shareholder Watchdog Group (MSWG) in Malaysia. It consists of two main components: basic compliance score (BCS) and international best practices score (IBP). In this research, the BCS component is used to measure the level of a company’s corporate governance quality and the IBP component is a proxy for voluntary disclosure of extended corporate governance information.

This study makes a number of contributions to the literature on corporate governance and voluntary disclosure. First, using a sample of 275 publicly listed Malaysian companies, it provides evidence on the extent of both mandatory and voluntary corporate governance disclosures. The results indicate that while there is a high level of compliance with mandatory reporting requirements, voluntary disclosure still falls well below international best practices. Further, the results suggest that the Best Practices in Corporate Disclosure (BPCD) initiative has not been entirely successful as yet, because none of the study’s sample firms has implemented all of the voluntary disclosures suggested by international best practices. Hence, while the BPCD’s main purpose is to encourage companies to improve voluntary disclosures (IBP) practices, and at the same time guide companies in complying with the mandatory disclosures (BCS) of Bursa Securities Listing Requirements (BSLR), there is room for expansion of the corporate commitment if the BPCD’s goals are to be met.

Second, the results provide support for the contention that effectively governed Malaysian companies signal their superior governance quality using voluntary disclosures. The results suggest that voluntary disclosure of corporate governance practices is a useful indicator of a company’s actual corporate governance quality. The study demonstrates the applicability of voluntary disclosure theory to developing countries such as Malaysia. Further, compared with prior research, this study uses more comprehensive measures of corporate governance quality and voluntary disclosure of corporate governance practices.

Third, an examination of several potential incentive factors related to voluntary disclosure differs from prior research in that it evaluates these incentives in the context of a firm’s underlying corporate governance quality. In particular, capital market transactions (issuance of new equity and debt capital) and stock-based incentives (stock-based compensation and CEO shareholdings) are examined to determine whether these disclosure incentives

¹ The majority of these studies have explored the relationship between corporate governance indices/ratings and firm performance or value. There are considerable similarities between the way that this study measures corporate governance quality and the index from International Shareholder Services (ISS) used by Brown & Caylor (2006), Deminor Ratings (Europe) used by Randers et al (2010), Howarth Corporate Governance Report (Australia) used by Beekes and Brown (2006) and the majority of the self-constructed corporate governance ratings and indices used in prior research. This is especially the case for the categories of Board of directors, Directors remuneration, and Accountability and audit. The Howarth Corporate Governance Report is quite similar to this study since it is based on annual report and web based disclosures of the companies. However some other ratings cover a broader range of issues such as fairness, social awareness, accounting policies, executive pay, takeover defences and shareholder rights (e.g. CLSA Corporate Governance Ratings, GovernanceMetrics International, Investor Responsibility Research Centre).

moderate the relationship between corporate governance quality and voluntary disclosure. The findings suggest that stock-based compensation statistically and positively affects the association between corporate governance quality and voluntary disclosures. However the other incentive factors do not affect the relationship.

The paper is organised as follows: The next section provides a description of the Malaysia's institutional setting. The relevant literature is then reviewed, and the hypotheses are presented. Section 4 describes the research methods used in this paper. The results of the study are detailed and discussed in Section 5, while the final section presents the conclusions of the study and the implications for theory and practice.

2. Development of corporate governance in Malaysia

Progress in reforming corporate governance in Malaysia started in 1998 when an independent committee was established to conduct a detailed study on corporate governance and to make recommendations for improvements. The committee released a Report on Corporate Governance, which laid the basis for the drafting of a set of corporate governance codes that applicable to the Malaysian capital market environment (Finance Committee Report on Corporate Governance 1999). The codes were published in 2000 and known as the Malaysian Codes on Corporate Governance (MCCG). The MCCG was initially issued as a guideline for enhancing corporate governance practices amongst Malaysian listed companies (Rahman 2006). The MCCG contains the principles and best practices for corporate governance. The principles for corporate governance consist of four main parts including: board of directors, directors' remuneration, shareholders, and audit and accountability.

Bursa Securities Malaysia Berhad (BSMB) has also played a major role in efforts to enhance corporate governance in Malaysia. For, instance Chapter 15 of the Revamped Listing Requirements addresses issues on corporate governance and one of the major requirements is that a listed company must ensure that its board of directors discloses the level of compliance and explains any deviation from the MCCG's recommendation in its annual report (Bursa Malaysia Berhad 2001). These revised Listing Requirements became effective in 30 June 2001, making reporting against the MCCG mandatory.

The BSMB conducts front line monitoring of the compliance of publicly listed companies with their reporting requirements through monitoring their announcements, market trading activity, the media in general, public complaints, and, in the case of reporting, through internal review of documents furnished (The World Bank June 2005). Non-compliance with the listing requirements could

expose listed companies, their directors and/or officers to penalties under the Bursa Malaysia Listing Requirement (BMLR) and Securities Industry Act (SIA) 1983. The BSMB may impose a range of actions and penalties for breach. These include the issuance of caution letters, reprimands, fines (not exceeding MYR 1 million), directions for rectification, imposition of condition(s) for compliance, the non-acceptance of applications or submissions, mandate education or training program for directors and management, suspension of trading and de-listing (Bursa Malaysia Berhad 2001). In addition, Section 11 of SIA 1983 also empowers the Securities Commission (SC) to enforce the BMLR directly.

In July 2004, BSMB launched the BPCD with the aim of raising the standards of corporate governance amongst Malaysian companies. These BPCD were a set of guidelines aimed at assisting companies to move beyond minimal compliance into exemplary levels of disclosure with the hope of cultivating and instilling the spirit of disclosure and best practices as voluntary behaviour (Bursa Malaysia Berhad 2004). The BPCD set out to provide guidance and assistance to companies in complying with their disclosure obligations under the BMLR. Compliance with the BPCD guidelines is purely voluntary. However, BSMB strongly recommended that companies adopt these BPCD and integrate them into their own disclosure practices, policies and procedures. The BPCD are intended to aid in building and maintaining corporate credibility and investor confidence in Malaysia's capital markets (Bursa Malaysia Berhad 2004).

In addition, the government of Malaysia and the regulatory bodies have made reforms to other related laws. These include the *Securities Commission Act 1993 (SCA)*, *Securities Commission (Amendment) Act 2000*, *Securities Industry Act 1983 (SIA)*, *Securities Industry (Compliance with Approved Accounting Standards) Regulations 1999*, *the Malaysian Code on Take-overs and Mergers 1998*, and *Companies (Amendment) Act 2007* (Tie 2003). These initiatives were established with the aims of embedding a good corporate governance culture among publicly listed companies and obtaining market efficiency and a level playing field for investors.

The development of corporate governance in Malaysia is also supported by two independent organisations, the Malaysian Institute of Corporate Governance (MICG) and the Minority Shareholders Watchdog Group (MSWG). The MICG was established by Malaysian government with the aim of raising the awareness and practice of good corporate governance. It was established in March 1998 by the High Level Finance Committee of Corporate Governance. The MSWG was established in July 2001 with the purpose of enhancing shareholder activism and protecting minority interests. It has evolved into an independent corporate governance

research and monitoring organisation which provides advice to both individual and institutional minority shareholders on voting at companies general meetings. The MSWG has since 2005 published a survey report on corporate governance compliance of listed companies in Malaysia. The findings from these reports reveal that the requirements of the MCCG have been met with a high level of compliance. Further, Wahab, How & Verhoeven (2007) found a significant improvement in corporate governance practices subsequent to the MCCG governance reforms.

3. Literature review and hypotheses

3.1 Corporate governance quality and voluntary disclosures

Voluntary disclosure theory proposes that high quality companies will disclose more information voluntarily than poor quality companies to signal to investors that they are high quality (Dye 1985; Verrecchia 1983). In relation to corporate governance, high quality companies have incentives to inform investors about their superior corporate governance practices in order to avoid the adverse selection problem. That is, companies with high quality corporate governance are expected to signal their corporate governance quality “type” by voluntarily disclosing a greater extent of objective corporate governance information in annual reports.

Verifiable disclosures about high quality corporate governance practices are difficult to replicate by poor quality companies. Poorly governed firms will choose to disclose less or to be silent about their weaker corporate governance practices, thus being placed in a pool of firms where investors and other report users assign the “average type” to that pool. What sustains this partial disclosure equilibrium is the potential for proprietary costs associated with extended voluntary disclosure about corporate governance quality (Verrecchia, 1983). Thus, voluntary disclosure theory predicts a positive relationship between corporate governance quality and the voluntary disclosure of corporate governance information.

Agency theory can also explain why managers voluntarily disclose information. The agency conflicts that occur between managers and shareholders are due to the separation of ownership and control. Managers may have incentives to adopt better governance mechanisms such as voluntarily disclosure practices to reduce agency conflicts and the possibility of bonding and monitoring activities imposed by shareholders to control their behaviour (Jensen & Meckling 1976). Dey’s (2008) study provides evidence in support of the argument that the extent of corporate governance mechanisms in a firm is a function of the firm’s level of agency conflicts. Hence, both theory and evidence support the

contention that firms with high levels of agency conflicts are likely to adopt effective corporate governance mechanisms to reduce agency costs borne by firms and managers. For example, higher costs of debt and equity and lower compensation to executives through price protection (Smith and Watts 1992; Hermalin & Weisbach 1998, 2003). A firm with high corporate governance quality is therefore expected to increase voluntary disclosure in order to reduce agency conflicts.

There are several studies that link corporate governance and voluntary disclosures (Ajinkya et al. 2005; Eng & Mak 2003; Ho & Wong 2001; Karamanou & Vafeas 2005; Laksmana 2008; Stephens 2009). The results of these studies suggest that promoting stronger governance encourages firms to be more transparent in their reporting. Further, companies with better corporate governance will use voluntary disclosures as a way to eliminate agency conflicts and reduce the information asymmetry problems that exist between managers and shareholders. All of the above studies used either one or more corporate governance mechanisms to measure companies’ corporate governance quality. In contrast, Beekes and Brown (2006) used a broader set of corporate governance mechanisms to investigate the links between company corporate governance quality and informativeness of disclosures by Australian companies in relation to price sensitive announcements to the share market. They used a corporate governance index developed by the Horwath Report 2002 as the measure for corporate governance quality of 250 Australian companies. The results of their study confirm their prediction that “better-governed” Australian companies, as reflected in adherence to national and international best practices, do make more informative announcements. Thus, their empirical analysis is consistent with the belief that effective corporate governance is related to a greater extent of voluntary disclosures.

In accordance with voluntary disclosure and agency theories, this study predicts that companies with high quality corporate governance practices have incentives to voluntarily disclose a greater extent of corporate governance information in their annual reports. Hence this study hypothesises that:

H1: There is a positive relationship between corporate governance quality and voluntary disclosure of corporate governance information.

3.2 The moderating role of issuance of new shares and debt capital

Firms that are planning on making capital offerings (issuance of new equity or debt) have incentives to provide voluntary disclosures to reduce information asymmetry between managers and investors (Lang & Lundholm 2000). If investors are unable to determine the governance quality of firms issuing capital, they are unable to differentiate between high and low

quality firms or to accurately value a firm's securities; thus leading to problems of adverse selection (Akerlof 1970). High quality firms have incentives to make credible voluntary disclosures to capital providers to signal their superior corporate governance quality. This argument is based on the seminal work of Spence (1973a) who demonstrates that informed economic agents in markets characterised by information asymmetry have incentives to take observable and costly actions to credibly signal their private information to uninformed agents. Signals that are not costly lack credibility.

Lower information asymmetry will reduce the risk for investors in forecasting future payoffs from their investment (Akerlof 1970). As such, issuance of new shares or debt capital provides an extra incentive to the firm to signal the high quality of its corporate governance via increased voluntary disclosure of corporate governance information. De Nicolo, Laeven and Ueda (2008) find that companies with high corporate governance quality are in a better position to be able to attract outside financing. This finding is consistent with the above argument that companies with high quality corporate governance have incentives to signal this information to capital providers. There is empirical evidence to suggest that high quality firms that are planning an issuance make more voluntary disclosures. Lang and Lundholm (1993) found that disclosure scores were higher for companies that were issuing new securities. Seppanen (2000) suggests that managers make disclosures to facilitate capital raising. Collet and Hrasky (2005) also found consistent results that suggest that companies planning to issue new shares in the future have an incentive to make voluntary disclosures.

The theory and evidence presented in this section suggests that problems of adverse selection and information asymmetry can be reduced by signalling firm quality through voluntary disclosures. Thus, high corporate governance quality firms that are planning to raise external financing have incentives to voluntarily disclose information about their superior corporate governance practices. The decision to issue capital rather than to rely on internal funding conveys a signal about the firm's value and investment opportunities. Further, the choice to issue debt versus equity provides a signal to capital providers since the incentives and costs related to issues of debt are different to those for equity issues (Myers 1977, Myers & Majluf, 1984). Corporate governance adoption and disclosure incentives may also be different for debt and equity issues. Indeed, disclosure incentives differ between types of debt since private and syndicated debt are relationship lending with strong information flows to the lenders, while public debt has similar potential for information asymmetry problems as equity. We therefore focus on issues of equity and public debt in the hypothesis, and consider them separately to allow for differences in corporate governance adoption and disclosure.

H2 (a): Voluntary corporate governance disclosure is positively associated with the interaction of corporate governance quality and equity issues in the following two years.

H2 (b): Voluntary corporate governance disclosure is positively associated with the interaction of corporate governance quality and public debt issues in the following two years.

3.3 The moderating role of stock-based incentives

Agency theory suggests that agency problems occur because of conflicting interests between managers and shareholders. This conflicting interest discourages managers from disclosing their private information because such disclosure reduces their private benefits (Nagar, 1999). One possible approach to overcome this agency conflict is to link managers' compensation directly to their disclosure activity; however this is difficult to do. On the other hand, stock-based incentives can have the impact of both aligning managers' incentives with those of shareholders and providing incentives for managers to increase disclosure. Stock-based incentives are suggested by agency theory to be able to reduce agency conflicts and improve managers' decision ability from the shareholders perspective (Fama & Jensen 1983; Jensen & Murphy 1990).

This research considers two forms of stock-based incentives: stock-based compensation and CEO shareholdings. By stock-based compensation we mean the proportion of CEO compensation tied to the stock price. It is viewed as an outcome-based incentive that is likely to influence managers to act in the best interest of shareholders as opposed to cash form incentive (goals-based). Smith and Watts (1992) argue that the use of stock-based compensation lowers monitoring costs of shareholders by providing managers with incentives to maximize shareholders' value. This result suggests that stock-based compensation has the potential to increase the level of alignment between managers and shareholders' interests which then lowers the agency costs. Several other studies have found a positive association between stock-based compensation and future firm performance (Hanlon et al 2003; Kuang & Qin 2009; Henry 2010). However, stock-based compensation is not a perfect solution. For example, Guay (1999) shows excessive risk taking by managers in response to stock options.

Several prior studies have examined a link between stock-based compensation and voluntary disclosures. Nagar, Nanda & Wysocki (2003) find that firms' disclosures are positively related to the proportion of CEO compensation affected by stock price. Neo (1999) found that managers take advantage of voluntary disclosures to ward off the appearance of impropriety when dealing with insider transactions. However, there is also the potential for stock-based

compensation to have unintended accounting and disclosure related consequences. Bartov and Mohanram (2004) find that earnings are managed to increase cash payouts when managers exercise their options. Furthermore, CEOs have been found to make voluntary disclosure decisions that maximise their stock option compensation (Aboody & Kasznik 2000). More recently, Brockman, Martin and Puckett (2010) show that the timing and content of voluntary disclosures reflect CEO private incentives. Therefore managers' with stock-based compensation have increased incentives to make voluntary disclosures, however the timing of these disclosures are likely to be impacted by CEO incentives to maximize stock-based compensation.

CEO shareholdings can also help alleviate agency conflicts because managers' interests are closely aligned with shareholders' interests. This is because managers who own a large portion of shares in a company will bear the same consequences of losses as shareholders if they make poor business judgments that destroy company value (Jensen & Meckling 1976). However, Guay (1999) finds that the incentive effects provided by common stock are much lower than those for stock options, and of little economic importance to most CEOs in relation to risk taking. If this is also the case for disclosure incentives, it may be the case that CEO shareholdings do not provide such a strong incentive to increase disclosure compared to stock-based compensation such as stock options.

Nagar, Nanda and Wysocki (2003) examine the association between managers' disclosure practices and CEO shareholdings. They find that firms' disclosure practices are positively related to the value of shares owned by CEOs. This result suggests that CEO shareholdings can influence voluntary disclosure decisions. In contrast, most of studies in Southeast Asian countries for example in Singapore (Eng & Mak 2003), Hong Kong (Chau & Gray 2002) and Malaysia (Ghazali & Weetman 2006) have found that CEO shareholdings are associated with less voluntary disclosures. They argue that when CEOs hold a higher proportion of company issued share capital, the traditional conflicts of interest between managers and shareholders become conflicts between larger shareholders and smaller shareholders. CEOs who are also large controlling shareholders will make decisions that benefit them rather than for the best interest of the firm. This agency conflict becomes more apparent especially in Southeast Asian countries where weak legal institutions and high concentration of ownership structures are common (Claessens et al. 2000).

Overall, we expect that for a company with high quality corporate governance, stock-based incentives encourage management to disclose more information voluntarily. This is particularly expected to be the case prior to managements' exercise of stock options. However we expect the opposite effect for CEO share

ownership in the Malaysian setting where large controlling shareholders are less likely to voluntarily disclose information if the benefits are expected to flow to smaller shareholders. To test this proposition the study hypothesises that:

H3 (a): The relationship between corporate governance quality and voluntary disclosure of corporate governance information is moderated by stock-based compensation incentives.

H3 (b): The relationship between corporate governance quality and voluntary disclosure of corporate governance information is moderated by CEO share ownership.

We expect the influence of stock-based compensation incentives to be positive and that of CEO share ownership to be negative.

4. Research methods and data collection

4.1 The sample

Panel A of Table 1 reports the total population of companies listed on the Bursa Securities Malaysia (BSM) and articulates how the final sample is derived. The population from which the initial sample was drawn consists of 987 Malaysian companies listed on the BSM with financial years ending during 2007. The top 350 of these listed companies have their corporate governance quality data published in the Minority Shareholder Watchdog Group (MSWG) 2008 corporate governance survey report, which is based on 2007 annual reports. There is no corporate governance quality data available for a large sample of Malaysian companies before this date.² Companies, whose shares were suspended, deleted, acquired or became privatised as well as those in the finance sector were excluded from the population prior to selecting the sample. Consequently, 275 companies remained from the top 350 and represent the final sample.

Panel B of Table 1 provides the sample distribution by industry. The majority (49.1%) of sample companies are from the trading/services and

² The same corporate governance reporting requirements were in place in Malaysia between 2001 and 2008. However the MCCG was revised in October 2007, effective 31 January 2009, by strengthening the requirements for director appointments, audit committees and the internal audit function. We only have consistent data for 2007 due to costs and changing rules. If we were to extend our analysis to the 2009 and 2010 years, the impact of these revisions on our research would be an increase in the requirements to achieve a high CGQ score and a decrease in the number of items considered to be voluntary disclosures from 35 to 30. However we would still expect to observe a significant positive relationship between CGQ and VDCG since high CGQ companies are likely to be either already complying with these additional requirements or more likely to comply with them once they became mandatory.

industrial sectors. The property sector accounts for 15.3%, followed by consumer products (11.6%) and plantations (10.9%). Construction, infrastructure, technology, hotel and closed-end fund sectors represent 6.5%, 2.9%, 2.5%, 0.7% and 0.4% of the sample respectively. As can be seen in Table 1, the 275 companies are a reasonably representative sample based on industry sector.

4.2 Data collection and sources

Both the corporate governance quality and voluntary disclosure data are obtained directly from the MSWG. This data comprises the Basic Compliance Score (BCS) and the International Best Practices (IBP) score for each of the sample companies in 2007. In addition, the MSWG provided data for the four sub-categories for each of these scores (board of directors, directors' remuneration, shareholders, accountability and audit).³ The remaining data for the study is hand collected from company annual reports and includes data for moderating (issuance of new shares and debt and stock based incentives) and control variables. This study uses the BSMB website's link to companies' websites as well as the OSIRIS database as its sources for companies' annual report data.

Data on stock-based incentives are obtained from 2007 company annual reports,⁴ while data for the issuance of new shares and debt capital relate to the 2008 and 2009 financial years. This approach is chosen because it identifies voluntary disclosures that are available to capital providers at the time of any financing activity. Prior studies have found evidence that suggests that companies increase disclosure in their annual reports prior to financing activities (Bujaki & McConomy 2002; Collett & Hraskey 2005; Lang & Lundholm 2000).

4.3 Voluntary disclosure of corporate governance (VDCG) index

This construct is measured as the score obtained by a company for the International Best Practices (IBP) component of the Corporate Governance Scorecard used by the MSWG. Details of this Scorecard are

provided in Appendices 1 to 3. As depicted in Appendix 1, the total score available for each company is the sum of its Basic Compliance Score (BCS), which is based on required disclosures, and its IBP score. The corporate governance scorecard includes disclosure information in relation to four main sub-categories: board of directors; directors' remuneration; additional shareholder information; and accountability and audit.

The IBP comprises 35 items depicting selected international best practices that are drawn from other influential principals, guidelines or codes of corporate disclosure and governance. These include those of the Organisation for Economic Co-operation and Development (OECD) Principles, the International Monetary Fund (IMF) Principles and the California Public Employees' Retirement System (CalPERS) Guidelines on corporate governance (MSWG & UNMC 2007). Companies are free to choose whether to conform to the international best practice recommendations relating to reporting on corporate governance information in their annual reports. As such disclosures captured under this IBP component are considered to be voluntarily. Appendix 2 provides details of the 35 voluntary disclosure items that make up the IBP component of the Corporate Governance Scorecard. We use the IBP score to measure voluntary disclosure of corporate governance (VDCG).

4.4 Corporate governance quality (CGQ) index

The corporate governance quality index is measured as the total score obtained by a company for the BCS component of the MSWG's Corporate Governance Scorecard. The BCS assesses a company's compliance with 40 key requirements of the Malaysian Code on Corporate Governance and the Bursa Securities Listing Requirement (MSWG & UNMC 2007). The total score of the BCS component is used to capture the company's corporate governance quality. The higher the score the better is the company's corporate governance quality (Appendix 3).

There are two main reasons for using this BCS construct as a proxy for corporate governance quality. First, recent studies on corporate governance have developed a set of corporate governance indices and this particular index has been developed for Malaysian companies. The corporate governance construct that is represented by the BCS component is customised to the local corporate environment and addresses the governance issues that are relevant to the Malaysian context. Second, no single corporate governance variable is sufficient to evaluate the quality of corporate governance structures of a company (Beekes & Brown 2006; Brown & Caylor 2006; Larcker et al. 2007). An individual or combination of several corporate governance variables (for example, directors, auditors and audit

³ We purchased this data directly from the MSWG since it is not publically available. All that is included in the MSWG corporate governance survey report is a ranking of companies based on their overall score. The scores are not publically disclosed, nor are their rankings for the BCS and IBP components of the overall score.

⁴ There is a concern that stock options and stock pay are associated with excessive compensation relative to performance of the CEO and firm, especially in the year of our study which is at the cusp of the global financial crisis and the start of major concerns about the pay-performance link. It is possible that these concerns have impacted the tendency of our sample firms to use stock-based compensation.

committee) approach can create measurement errors (Larcker et al. 2007). Furthermore, these variables are likely to be interrelated and ignoring such correlations can lead to spurious inferences (Agrawal & Knoeber 1996; Bowen et al. 2005).

It is possible that our measure captures ‘box-ticking’ rather than corporate governance quality per se (Ismail et al 2011). To assess this possibility, we conduct some analysis on the annual reports of the highest and lowest scoring firms in the sample. We find that there are significant differences between low and high CGQ firms in relation to the contents of their corporate governance statement. That is, the extent of detail provided in relation to various aspects of the report including the board of directors; directors’ remuneration; shareholders; and accountability and audit is vastly different. The high scoring firms have much longer and more detailed corporate governance statements. It illustrate, high CGQ companies generally disclose detailed information about board of directors, directors’ remuneration, shareholders, and accountability and audit in their corporate governance statement and tend to take 30 pages or more. On the other hand, companies with low CGQ provide very brief information in their corporate governance statement and it takes only 10-12 pages. Further, companies with low CGQ fail to comply fully with MCCG requirements. These companies do not provide explanations as to the reasons why they fail to comply with the MCCG, nor do they provide strategies to improve. However they do provide details on which aspects of the MCCG they have failed to comply with. Overall, these findings appear to indicate that our measure is capturing more than just box-ticking. To further explore this contention, an additional test using a benchmark corporate governance quality indicator is included in section 5.4.2.

4.5 Issuance of new shares and debt capital

A similar scale to the one used by Collet and Hrasky (2005) is used to proxy the issuance of new shares and public debt. In this study, a five percent increase of equity or non-current liabilities is considered to be an issuance. A value of one is assigned if the company’s issued shares or non-current liabilities increases by five percent or more in the two years following the disclosure, and zero otherwise (Stock splits, bonus share issues and restructuring of share capital due to mergers and acquisitions were ruled out when measuring the issuance of new shares).

4.6 Stock-based compensation and CEO shareholdings

This research uses Nagar, Nanda and Wysocki’s (2003) scale to determine stock-based compensation. The sum of the total value of stock option grants plus the value of the restricted stock grants divided by the total value of direct compensation is used to measure stock price-based compensation. Nagar, Nanda and Wysocki argue that by using stock price, managers can observe directly investors’ reactions to disclosures. In this research, a similar approach is employed to measure CEO shareholdings (the market value of shares held by the CEO) except that the market value of CEO shareholdings is not averaged by year (sample period) but divided by the total market value of issued share capital at financial year end. This technique is more suitable to measure CEO shareholdings because the study is based on one year of data rather than multiple years.

4.7 Regression model

Ordinary least squares regression analysis is used to test the hypotheses. The multiple regression model is shown below.

$$\begin{aligned}
 \text{VDCG} = & \beta_0 + \beta_1\text{CGQ} + \beta_2\text{S-ISS} + \beta_3\text{CGQ}*\text{S-ISS} + \beta_4\text{D-ISS} + \\
 & \beta_5\text{CGQ}*\text{D-ISS} + \beta_6\text{SC-OPTIONS} + \beta_7\text{CGQ}*\text{SC-OPTIONS} + \\
 & \beta_8\text{SH-OWN} + \beta_9\text{CGQ}*\text{SH-OWN} + \beta_{10}\text{SIZE} + \beta_{11}\text{LEV} + \beta_{12}\text{FMB} + \\
 & \beta_{13}\text{BOARD-M} + \beta_{14}\text{ROE} + \beta_{15}\text{TRA} + \beta_{16}\text{LIST} + \epsilon_i
 \end{aligned}
 \tag{1}$$

where VDCG represents voluntary disclosure of corporate governance information. The model includes interaction effects between corporate governance quality and each of the moderator variables. Prior to multiplication, the continuous variables are centred by subtracting the mean for each continuous variable from each observation. The main advantage of centring is that it can improve statistical validity and interpretation of regression results by reducing multicollinearity problems between the product of the two variables that are multiplied (Keith 2006).

In addition to the independent and moderator variables, a number of control variables are included in the model to test the hypotheses. The control variables are company size, leverage, family members on the board, proportion of Malay directors, return on equity, type of industry and cross listing. These control variables have been commonly tested in prior studies of voluntary disclosure (Collett & Hrasky 2005; Deumes & Knechel 2008; Ghazali & Weetman 2006; Haniffa & Cooke 2002; Ho & Wong 2001; Hossain et al. 1995; Meek et al. 1995).

Company size (SIZE) has consistently been associated with increases in voluntary disclosure. Larger firms are suggested not to have difficulty complying with governance issues and are better able to provide corporate governance information in annual reports compared to smaller firms (Bujaki & McConomy 2002; Hossain et al. 1994). A firm with a high gearing ratio (LEV) will generally have higher agency problems because the potential for wealth transfers from debt holders to shareholders increases (Jensen & Meckling 1976). Thus, voluntary disclosure is expected to increase as leverage increases.

The presence of family members on the board (FMB) is considered to be the main factor that hinders voluntary disclosure especially for firms that operate in Asian countries (Chen & Jaggi 2000; Ghazali & Weetman 2006; Ho & Wong 2001). Thus, it is expected that companies with a high proportion of family members on the board are less likely to disclose information voluntarily. In the Malaysian context, family membership on the board is a measure of how closely held is the firm. Another factor considered to be a contributor to decisions to disclose voluntarily is a cultural factor (race). Haniffa and Cooke (2002) show that race, which is measured by the proportion of Malay directors on the board (BOARD-M), significantly influences the level of voluntary disclosure. Companies reporting high profitability are expected to have more incentive to disclose voluntarily as good performance (profit) is considered to be good news (Watson et al. 2002). Since total assets have been used to measure firm size, return on equity (ROE) is adopted as a measure of firm performance to reduce the possibility of multicollinearity problems.

An industry dummy (TRA) is included to control for industry effects. This variable captures whether the firm is in the trading or services sectors. Most prior studies that examine the association between type of industry and voluntary disclosure have found a significant association between the type of industry and voluntary disclosure practices (Collett & Hraskey 2005; Deumes & Knechel 2008; Meek et al. 1995). Finally, whether a company's shares are listed (LIST) on both international and domestic stock exchanges is another determinant of voluntary disclosure. Firms whose shares are listed on an international stock exchange face additional listing requirements in relation to corporate disclosure in their annual reports (Gray et al. 1995; Hossain et al. 1994). Table 2 provides a summary of the regression equation components and how they are measured.

5. Results and discussion

5.1 Descriptive statistics

Table 3 presents descriptive statistics for dependent, independent, and other continuous and dichotomous

variables for the sample of 275 companies. Data in relation to overall voluntary disclosures of corporate governance information (VDCG) and its sub-categories is shown in Panel A. From a minimum possible score of zero to a maximum of 35, Table 3 reveals that there is a wide range in VDCG scores. These scores range between 1 and 25, with a mean of 9.18 and median of 9.00. The maximum score of 25 out of a possible 35 suggests that the BPCD has not been entirely successful yet, as none of the sample firms has implemented all of the voluntary disclosures suggested by international best practices. It may be that companies are unaware of these best practice guidelines, or that they consider it unnecessary to expend effort to adopt them (MSWG & UNMC, 2008). Mean and median values for each sub-category of VDCG indicate low scores in relation to boards of directors and directors' remuneration, with higher scores for shareholders and accountability and audit.

Descriptive statistics for the overall measure of corporate governance quality (CGQ) and its sub-categories are presented in Panel B. The highest score achieved by a company is 39 out of 40 points and the lowest score is 18 points. The mean and median values for the total CGQ score are 29.67 and 30 respectively. Again, shareholders and accountability and audit are the sub-categories with the highest scores; while directors' remuneration is the sub-category with the lowest compliance level. Overall, companies' CGQ scores in the sample are at relatively high levels. Companies score more than three times as high in the CGQ than in the VDCG aspects of disclosure suggesting that companies are more likely to comply with the mandatory requirements of corporate governance disclosure than to the voluntary corporate governance disclosures.

Panel C of Table 3 shows the descriptive statistics for other continuous variables. The proportion of stock-based compensation offered to CEOs as part of their total compensation packages ranged from 0.00 to 0.95. The mean and median are 0.15 and 0.00 respectively. These results indicate that the majority of companies in the sample do not offer stock-based compensation. CEOs on the whole owned in average 0.17 of the total issued share capital of sample companies, with the highest proportion of shares owned by a CEO in the sample of 0.75. This suggests that majority of the sampled companies are less closely held. The distribution of the total assets to book value was normalised using a log transformation. The leverage level for the sample companies is quite high with a mean of 0.43. The lowest gearing level is 0.00 and the highest is 1.95. The proportion of family members on boards ranges from 0.00 to 0.83. The average proportion of Malay directors on boards is 0.43 of which the minimum and maximum proportion is zero and 1.00 respectively. The return on equity ratio is used to measure the profitability of a company. The statistics of ROE indicate that a small number of companies exhibit

negative ROE. Mean and median ROE are 0.18 and 0.16 respectively.

Descriptive statistics for dichotomous variables are presented in Panel D. Only 44 companies (16%) issued new shares. Out of these, 27 (10%) of the new issuances are for Employee Share Options Schemes (ESOS) and 16 (6%) are in the form of a rights issue. There are 43 companies (16%) that issued new debt capital. Overall, these results indicate that there are only a small number of companies in the sample that issued new shares or debt capital during the period 2007 to 2009. As shown in Table 3, there are 10 listed companies where shares are cross listed in other stock exchanges. The sub-sample of companies that belong to the trading/services sector is 72 which represent 26% of the sample.

Pearson and Spearman's rho correlations are shown in Table 4. All of the independent and control variables are significantly correlated with VDCG in the expected directions for both types of correlations. These results provide preliminary support for the study hypotheses and choice of control variables. Several of the moderator and control variables are also correlated with CGQ. These are SH-OWN, SIZE, FMB and BOARD-M, further highlighting the importance of controlling for these effects. There are also some significant correlations between the moderator and control variables. However none of these are high enough to indicate potential multicollinearity problems for the regression analysis.

5.2 Regression analysis results

Table 5 reports the regression results for voluntary disclosure of corporate governance information. The model has an adjusted R^2 of 51.1%, suggesting that the model explains variation in the voluntary disclosures quite well. Since there is potential for the interaction terms to be correlated with each other, we first run the model with all interaction terms included and then with only CGQ*SC-OPTIONS which is the only interaction term that is significantly associated with VDCG. Thus, Hypothesis 3(a) that stock-based compensation moderates the relationship between companies' corporate governance quality and voluntary disclosure of corporate governance information is supported. On the other hand, the results indicate that the interaction terms CGQ*S-ISS, CGQ*D-ISS and CGQ*SH-OWN are not statistically significantly related to VDCG. These results suggest that H2(a), H2(b) and H3(b) are not supported.⁵

⁵ To check the robustness of this result that CGQ*SC-OPTIONS is the only interaction term that is significantly related to VDCG, we run a series of regressions where CGQ*SC-OPTIONS is replaced with each of CGQ*S-ISS, CGQ*D-ISS and CGQ*SH-OWN. The results confirm that these interaction terms are not significantly related to VDCG.

The regression coefficient for CGQ ($\beta = 0.362$) is positive and statistically significant ($p < 0.001$) in explaining all categories of voluntary disclosures of corporate governance information. This result provides strong support for Hypothesis 1 that there is a positive relationship between companies' corporate governance quality and voluntary disclosures of corporate governance information.⁶ SC-OPTIONS has a positive and statistically significant effect on VDCG ($\beta = 0.188$, $p < 0.001$). On the other hand, issuance of new shares and debt capital and CEO shareholdings are not statistically significant in explaining voluntary disclosures.

As predicted, company size is positively and highly significantly associated with the voluntary disclosure of corporate governance information. Similar to prior studies, return on equity is also found to be significantly and positively associated with voluntary disclosures of corporate governance information (Ghazali & Weetman 2006; Haniffa & Cooke 2002)⁷, while the percentage of family members on the board is negatively associated with companies' voluntary disclosures of corporate governance practices. (Chen & Jaggi 2000; Ghazali & Weetman 2006; Haniffa & Cooke 2002; Ho & Wong 2001)

We do not find a significant relationship between leverage and voluntary disclosure of corporate governance information, suggesting that corporate governance disclosures are not perceived as an effective way to reduce the agency costs of debt in the Malaysian setting. This result may be due to a high proportion of the liabilities taking the form of relationship lending such as bank loans and syndicated debt where strong information flows exist between borrower and lender. Another possible explanation is the high proportion of family owned companies in Malaysia leading to a reduced emphasis on communications between companies and investors. Previous research has found inconsistent results for the relationship between leverage and voluntary disclosure (Barako et al. 2006; Bujaki & McConomy 2002; Ho & Wong 2001). Our results are similar to those of Ho and Wong (2001) who studied listed Hong Kong companies, which is a similar setting in that it has a high proportion of family owned companies.

The cultural factor (race) which is measured by the proportion of Malay directors on the board is marginally significant at the 0.1 level and positively

⁶ Multicollinearity diagnostics using variance inflation factors (VIFs) indicate that multicollinearity is not driving the results.

⁷ To test whether both positive and negative ROE are associated with voluntary disclosure, we added a LOSS dummy variable to our regression as well as an interaction term LOSS*ROE. Neither LOSS nor the interaction term is significantly related to VDCG indicating that only positive ROE is associated with voluntary disclosure.

related with corporate governance disclosure. However the coefficient value is very small. This positive coefficient means voluntary disclosures of corporate governance practices by companies that have higher proportions of Malay directors on boards are marginally better than those without Malay directors. This result is in line with expectations and consistent with a prior study in Malaysia that found one of the cultural factors (race) to be positively related with the extent of voluntary disclosures (Haniffa & Cooke 2002). Wan-Hussin (2009) study also found that a Malay CEO is associated with superior segmental disclosures prior to the introduction of the segment reporting standard in Malaysia.

The industry sector (trading/services) has an insignificant association with voluntary disclosures. This result is consistent with the result from Haniffa and Cooke's (2002) study. Finally, using a dummy variable to represent a company which is cross listed on more than one stock exchange, the coefficient produced is insignificant although prior studies have consistently found that a cross listed company has a higher level of voluntary disclosures (Collett & Hraskey 2005; Meek et al. 1995). This inconsistency may be because a very small number of sample companies (4%) had their shares listed on more than one stock exchange.

Table 6 shows results for each of the sub-categories of disclosures that make up VDCG. The amount of explained variation in voluntary disclosure for the sub-category models ranges from 10.4% in the case of the board of directors' category to 39.3% in the directors' remuneration category. Corporate governance quality is significantly positively related to all of the sub-categories of voluntary disclosure of corporate governance information. SIZE and ROE are also significant explanatory for most disclosure sub-categories. Board of director disclosures are also related to stock based compensation and having family members on the board. Indeed, the strong result for CGQ*SC-OPTIONS appears to suggest that managers of high governance quality firms that have stock-based compensation incentives choose board of director disclosures to signal their firm's superiority.

Disclosures about directors' remuneration are also positively related to stock based compensation, regardless of corporate governance quality. This result seems intuitive since these disclosures include executive as well as directors' remuneration. On the other hand, shareholder related disclosures are negatively related to CEO shareholdings. This result can be attributed to strong family relationships on boards, especially in family firms where CEO's are expected to have large shareholdings, leading to a reduced emphasis on dialog between companies and investors. Finally, accountability and audit disclosures are negatively related to family members on boards, implying a reduced emphasis on audit and internal controls for these firms, and positively related to the

interaction effect between corporate governance quality and stock based compensation. Overall, these results lend additional support for H1 (corporate governance quality) and H3(a) (stock-based compensation) and limited support for H3(b) (CEO shareholdings).

5.3 Sensitivity analysis

We conduct sensitivity analysis to check the robustness of the primary results to a variety of alternate specifications for the study variables. First, we benchmark our measure of corporate governance quality against an alternate corporate governance quality indicator. This alternate measure uses CLSA's Corporate Governance Watch ratings from 2007. CLSA's ratings consists of seven components: Transparency (TRAN); Accountability (ACC); Independence (IND); Discipline (DIS); Responsibility (RES); Fairness (FAIR); and Social Awareness (SOC). We use only the TRAN and ACC categories to measure firms' corporate governance quality because these two components are the most relevant to our definition of corporate governance quality. This definition is based on meeting the common corporate governance standards set by authorities and the majority of the key MCCG recommendations and BMLR guidelines relate to transparency, independence, audit and accountability. While the IND category of CLSA's rating is also potentially relevant for measuring corporate governance quality, the analysis excludes it because most of the CLSA questions for this category overlap with those for the ACC category and inclusion of both ACC and IND could cause multicollinearity problems for the regression analysis. ACC is more comprehensive than IND. The remaining CLSA rating categories (discipline, responsibility, fairness and social awareness) are excluded because they are based on questions that are not relevant to our definition of corporate governance quality. The regression results for these sensitivity tests are shown in Table 7 and are based on the sub-sample of 42 firms for which the CSLA ratings are available. They indicate that CGQ (using CLSA's rating) is significantly positively related with VDCG; suggesting that our measure of CGQ is of a similar standard to this alternate quality indicator. Similar to the primary results shown in Table 5, family member and return on equity are related to VDCG. However, the remaining variables are not related to VDCG. These differences may be due to the sub-sample comprising mostly very large firms.

Second, given that the CGQ and VDCG variables are not ratio scale measures, we ran a sensitivity test whereby these two variables were converted to proportions by dividing each firm's raw scores by the total possible score for each measure. When the regressions were run using these ratio scale variables, the results for the regressions were

essentially the same as those reported in Table 5 using the raw scores. Third, additional analysis is undertaken by distinguishing the form of new share issues in the model into Employee Share Options Schemes (ESOS) and rights issues. The regression results show that these variables are not significantly related to voluntary disclosure, which is consistent with the primary results.

Fourth, the study replaces the dummy variables capturing issuance of new shares and debt capital with percentage of each new issuance to the existing shares and debt on issuance. Fifth, the ratio value of stock-based compensation to total compensation and the ratio of market value of CEO shareholdings are replaced by dummy variables as proxies for stock-based compensation and CEO shareholdings. The results are quantitatively similar to those using the previous definitions except that the proportion of Malay directors on boards' variable is now no longer significant. Tests using these alternative variable definitions do not alter the primary findings and conclusions of this research. Sixth, we reran a series of dummy variables instead of TRA to control for industry differences. The analysis includes sectors such as consumer product (CON), industrial product (IND), plantations (PLA) and property (PRO) in the regression model. The results are similar to the primary finding of this research which suggests that industry differences have no impact on voluntary disclosures.

Finally, in order to ensure that the decision to exclude several interaction terms from the model does not influence primary results, SH-OWN, SC-OPTIONS, S-ISS and D-ISS were deleted from the regression model and include CGQ*S-ISS, CGQ*D-ISS, CGQ*SH-OWN and CGQ*SC-OPTIONS instead. The results of this regression using just the interaction terms for moderator variables support the study's primary results that Hypotheses H2(a), H2(b) and H3(b) are not supported while Hypothesis H1 and H3(a) are supported. We come to the same conclusion when SH-OWN, SC-OPTIONS, S-ISS and D-ISS are included and the interaction terms are excluded.

6. Conclusions

The results of this research suggest that companies with high governance quality are more likely to voluntarily disclose information about corporate governance practices. This finding suggests that voluntary disclosure of corporate governance practices is a useful indicator of a company's actual corporate governance quality. The results also indicate that companies that offer stock-option based compensation, but not stock ownership alone, are also likely to voluntarily disclose more corporate governance information.

The results provide empirical evidence to support Dye's (1985) voluntary disclosure framework as it relates to corporate governance quality,

particularly in a developing country such as Malaysia. Good quality Malaysian companies (in term of corporate governance quality) are more likely to voluntarily disclose more information to distinguish themselves from poor quality companies.

There are four limitations of this study. First, this research relies on companies annual reports for the data necessary to test hypotheses. Therefore relevant information which is reported in websites or other forms of media is not captured. Second, the main focus of this study is specifically on voluntary disclosures of corporate governance information. As such the results may not be generalisable to other types of disclosures. Third, the findings are based on Malaysian companies which may limit the generalisability of the results to other jurisdictions such as to developed countries or other developing countries. Finally, only one year of data, 2007, is used for the analysis. It is possible that these results do not generalise to other years. In particular, changes to the MCCG effective in 2009 are not expected to impact the tenor of the results but it is possible that they may. Future studies in this area could address these specific issues.

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Table 1. Sample selection

Panel A: Sample companies used in empirical tests				
Total population of companies listed on the BSM in 2007				987
Less: Companies without data on corporate governance quality				637
Top 350 companies with corporate governance quality data available				350
Less: Companies whose shares were deleted, suspended, delisted, acquired or privatised				40
				310
Less: Companies in finance sector				35
Final Sample				275

Panel B: Sample Companies by Industry Sector				
Industry sector	Number in sample	% in Sample	Number in Population	% in Population
Trading/Services	72	26.2	182	21.5
Industrial Product	63	22.9	269	31.8
Property	42	15.3	87	10.3
Consumer Product	32	11.6	133	15.7
Plantation	30	10.9	43	5.1
Construction	18	6.5	50	5.9
Infrastructure	8	2.9	12	1.4
Technology	7	2.5	25	3
Hotel	2	0.7	4	0.5
Closed-end fund	1	0.4	2	0.2
Mining	0	0	1	0.1
Finance	0	0	39	4.6
Total no. of Companies	275	100	847*	100

* This number excludes 124 companies from the MESDAQ market and 16 companies under PN17 + GN3. PN17 companies are companies that triggered any of the criteria pursuant to Amended Practice Note 17 of the Listing Requirements of Bursa Securities Malaysia Berhad. GN3 companies are companies that triggered any of the criteria pursuant to Guidance Note 3 of MESDAQ market Listing Requirements of Bursa Securities Malaysia Berhad.

Table 2. Summary of regression equation components

Dependent variable	Measurement
VDCG = Voluntary disclosure of corporate governance information	Score obtained for the International Best Practices (IBP) component of the MSWG Corporate Governance Scorecard.
Independent variable	
CGQ = Corporate governance quality	Score obtained for the Basic Compliance Score (BSC) component of the MSWG Corporate Governance Scorecard.
Moderating variables	
S-ISS = Share issue	Issued shares increase by 5% or more in the 2 years following the disclosure.
D-ISS = Debt issue	Non-current liabilities increase by 5% or more in the 2 years following the disclosure.
SC-OPTIONS = stock based compensation	The sum of total value of stock option grants plus the value of the restricted stock grants divided by the total value of direct compensation.
SH-OWN = CEO shareholdings	Proportion of market value of the CEO's shareholdings to total market value of issued share capital.
Control variables	
SIZE = Size	Log of total assets
LEV = Leverage	Total liabilities divided by total assets
FMB = Family members on the board	Proportion of family members on the board to the total number of directors
BOARD-M = Malay directors on the board	Proportion of Malay directors to total number of directors on the board
ROE = Return on equity	Profit before tax divided by total shareholders' equity
TRA = Trading/ services sector	1 if the company is in the trading/services sector, and zero otherwise
LIST = Cross Listing	1 if the company shares are cross listed on more than one stock exchange and zero otherwise.

Table 3. Descriptive statistics for dependent, independent, continuous and dichotomous variables for 275 listed Malaysian companies

	Label	Mean	Median	Standard Deviation	Minimum	Maximum
Panel A: Voluntary Disclosure of Corporate Governance Information (VDCG) and its categories						
Part A - Board of Directors (0 to 8)		1.36	1.00	1.23	0.00	7.00
Part B - Directors' remuneration (0 to 6)		0.78	1.00	0.79	0.00	4.00
Part C - Shareholders (0 to 9)		3.43	4.00	1.73	0.00	8.00
Part D - Accountability and Audit(0 to 12)		3.61	4.00	2.06	0.00	9.00
Total VDCG Score (35)	VDCG	9.18	9.00	4.08	1.00	25.00
Panel B: Corporate Governance Quality (CGQ) and its categories						
Part A - Board of Directors (0 to 21)		14.98	15.00	2.47	9.00	20.00
Part B - Directors' remuneration (0 to 8)		3.98	4.00	1.68	0.00	8.00
Part C - Shareholders (0 to 2)		1.84	2.00	0.40	0.00	2.00
Part D - Accountability and Audit(0 to 9)		8.87	9.00	0.36	7.00	9.00
Total CGQ Score (40)	CGQ	29.67	30.00	3.72	18.00	39.00
Panel C: Summary Statistics for Other Continuous Variables						
Stock-based Compensation	SC-OPTIONS	0.15	0.00	0.28	0.00	0.95
CEO shareholdings	SH-OWN	0.17	0.01	0.21	0.00	0.75
Log of total Assets	SIZE	13.99	13.8	1.19	11.53	18.03
Total Assets/Total Debt	LEV	0.43	0.42	0.23	0.00	1.95
Family members on Board	FMB	0.18	0.00	0.22	0.00	0.83
Malay directors on Board	BOARD-M	0.43	0.38	0.28	0.00	1.00
Return on equity	ROE	0.18	0.16	0.23	-0.78	2.90
	Label	Number of companies where Variable = 1	%	Number of companies where Variable= 0	%	
Panel D: Summary for Dichotomous Variables						
Share issue	S-ISS	44	16	231		84
	*Esos	Esos	27	10	248	90
	*Rights	Rights	16	6	259	94
Debt issue	D-ISS	43	16	232		84
Cross listing	LIST	10	4	265		90
Trading/ services sector	TRA	72	26	203		74

Table 4. Pearson and Spearman's rho correlations between dependent, independent, moderator and control variables for sample of 275 listed Malaysian companies (the Spearman's rho correlations are shown above the diagonal)

Variable	VDCG	CGQ	S-ISS	D-ISS	SC-OPTIONS	SH-OWN	SIZE	LEV	FMB	BOARD-M	ROE	LIST	TRA
VDCG		0.454**	0.247**	0.239**	0.268**	-0.308**	0.392**	0.215**	-0.353**	0.279**	0.188*	0.128*	0.210**
CGQ	0.494**	1	0.086	0.092	0.014	-0.258**	0.170**	0.084	-0.283**	0.190**	-0.045	0.012	0.083
S-ISS	0.215**	0.087	1	0.222**	0.494**	0.100	0.112	0.222**	-0.023	-0.034	0.111	-0.085	-0.012
D-ISS	0.244**	0.076	0.222**	1	0.202**	-0.147*	0.318**	0.356**	-0.066	0.073	0.147*	0.184**	0.176**
SC-OPTIONS	0.266**	0.054	0.493**	0.212**	1	0.093	0.103	0.103	0.101	0.014	0.128*	0.052	0.018
SH-OWN	-0.295**	-0.196**	0.057	-0.141*	0.050	1	-0.306**	-0.048	0.417**	-0.323**	-0.003	-0.082	-0.150*
SIZE	0.403**	0.136*	0.090	0.335**	0.134*	-0.228**	1	0.450**	-0.124*	0.235**	0.073	0.229**	0.135*
LEV	0.173**	0.084	0.186**	0.310**	0.097	-0.043	0.393**	1	-0.020	0.186**	0.222**	0.069	0.150*
FMB	-0.355**	-0.267**	-0.026	-0.048	0.112*	0.361**	-0.140*	0.001	1	-0.415**	0.012	-0.067	-0.282**
BOARD-M	0.306**	0.205**	-0.014	0.083	0.005	-0.265**	0.239**	0.152*	-0.422**	1	-0.002	0.085	0.0343**
ROE	0.250**	0.066	0.036	0.158**	0.025	-0.083	0.044	0.145*	-0.021	-0.067	1	-0.001	0.034
LIST	0.154*	0.038	-0.085	0.184**	0.051	-0.066	0.318**	0.065	-0.064	0.092	-0.018	1	0.105
TRA	0.234**	0.098	-0.012	0.176**	0.022	-0.105	0.175**	0.121*	-0.275**	0.349**	0.018	0.105	1

*Significant at 0.05; **Significant at 0.01.

The dependent variable is VDCG, which is the total score of IBP component that represent voluntary disclosure score; CGQ is the total score of BCS component that represent corporate governance quality of a company; S-ISS equals to 1 if the issued shares increase by 5% or more in the 2 years following the disclosure and zero otherwise; D-ISS equals to 1 if non-current liabilities increase by 5% or more in the 2 years following the disclosure and zero otherwise; SC-OPTIONS is the sum of total value of stock option grants plus the value of the restricted stock grants divided by the total value of direct compensation; SH-OWN is the proportion of market value of the CEO's shareholdings to total market value of issued share capital.; LSIZE is the company size as measured by the log of its total assets; LEV is the total liabilities divided by total assets; FMB is the proportion of family members on the board to the total number of directors; BOARD-M is the proportion of Malay directors to total number of directors on the board; ROE is profit before tax divided by the total shareholders' equity; TRA equals to 1 if the company is in a trading/services sector and zero otherwise; and LIST equals to 1 if the company shares are cross listed on more than one stock exchange and zero otherwise.

Table 5. Regression Results for total voluntary disclosure of corporate governance information with and without the full set of interaction terms

$$VDCG = \beta_0 + \beta_1CGQ + \beta_2S-ISS + \beta_3CGQ*S-ISS + \beta_4D-ISS + \beta_5CGQ*D-ISS + \beta_6SC-OPTIONS + \beta_7CGQ* SC-OPTIONS + \beta_8SH-OWN + \beta_9CGQ *SH-OWN + \beta_{10}SIZE + \beta_{11}LEV + \beta_{12}FMB + \beta_{13}BOARD-M + \beta_{14}ROE + \beta_{15}TRA + \beta_{16}LIST + \epsilon_i$$

	Predicted sign	Include all interaction terms	Includes interaction term CGQ*SC-OPTIONS only
Intercept		-16.416	-15.632
Variables:			
CGQ	+	0.383 (7.141)***	0.362 (8.083)***
S-ISS	+	0.039 (0.761)	0.037 (0.725)
D-ISS	+	0.039 (0.785)	0.032 (0.669)
SH-OWN	-	-0.087 (-1.819)†	-0.077 (-1.624)
SC-OPTIONS	+	0.195 (3.819)***	0.188 (3.751)***
SIZE	+	0.254 (4.914)***	0.253 (4.932)***
LEV	+	-0.036 (-0.743)	-0.040 (-0.816)
FMB	-	-0.135 (-2.638)**	-0.141 (-2.765)**
BOARD-M	+	0.085 (1.685)†	-0.088 (1.752)†
ROE	+	0.213 (4.753)***	0.214 (4.913)***
TRA	+	0.037 (0.790)	0.046 (0.973)
LIST	+	0.031 (0.672)	0.032 (0.693)
CGQ*S-ISS	+	-0.066 (-1.143)	
CGQ*D-ISS	+	-0.005 (-0.095)	
CGQ*S-SHOWN	+	-0.060 (-1.313)	
CGQ*SC-OPTIONS	+	0.194 (3.711)***	0.159 (3.615)***
N		275	275
Adjusted R ²		0.511	0.511
F ratio		18.929***	22.992***

Notes:

The table shows standardised coefficient and t statistics (in parentheses) for the respective independent variable in the model.

†Significant at 0.1; *Significant at 0.05; **Significant at 0.01; ***Significant at 0.001.

The dependent variable is VDCG, which is the total score of IBP component that represent voluntary disclosure score; CGQ is the total score of BCS component that represent corporate governance quality of a company; S-ISS equals to 1 if the issued shares increase by 5% or more in the 2 years following the disclosure and zero otherwise; D-ISS equals to 1 if non-current liabilities increase by 5% or more in the 2 years following the disclosure and zero otherwise; SC-OPTIONS is the sum of total value of stock option grants plus the value of the restricted stock grants divided by the total value of direct compensation; SH-OWN is the proportion of market value of the CEO's shareholdings to total market value of issued share capital; LSIZE is the company size as measured by the log of its total assets; LEV is the total liabilities divided by total assets; FMB is the proportion of family members on the board to the total number of directors; BOARD-M is the proportion of Malay directors to total number of directors on the board; ROE is profit before tax divided by the total shareholders' equity; TRA equals to 1 if the company is in a trading/services sector and zero otherwise; and LIST equals to 1 if the company shares are cross listed on more than one stock exchange and zero otherwise. CGQ*S-ISS is the interaction term between CGQ and S-ISS; CGQ*D-ISS is the interaction term between CGQ and D-ISS; CGQ*SHOWN is the interaction term between CGQ and SHOWN; CGQ*SCOPTIONS is the interaction term between CGQ and SCOPTIONS.

Table 6. Regression Results for voluntary disclosure of corporate governance information by its categories

$$VDCG = \beta_0 + \beta_1CGQ + \beta_2S-ISS + \beta_3D-ISS + \beta_4 SH-OWN + \beta_5-SCOPTIONS + \beta_6SIZE + \beta_7LEV + \beta_8FMB + \beta_9BOARD-M + \beta_{10}ROE + \beta_{11}TRA + \beta_{12}LIST + \beta_{13}-CGQ*SCOPTIONS + \epsilon_i$$

	Predicted sign	Board directors	of Directors' remuneration	Shareholders	Accountability and Audit
Intercept		-0.801	-2.601	-7.172	-5.051
Variables:					
CGQ	+	0.177 (2.929)**	0.258 (5.182)***	0.331 (6.596)***	0.233 (4.359)***
S-ISS	+	-0.082 (-1.172)	0.033 -0.572	0.119 (2.053)*	0.01 -0.166
D-ISS	+	-0.002 (-0.029)	-0.056 (-1.041)	0.052 -0.961	0.042 -0.73
SH-OWN	-	0.061 -0.956	-0.035 (-0.673)	-0.148 (-2.798)**	-0.053 (-0.937)
SC-OPTIONS	+	0.161 (2.383)*	0.463 (8.294)***	0.06 (1.074)*	0.048 -0.804
SIZE	+	0.025 -0.363	0.162 (2.842)**	0.259 (4.507)***	0.206 (3.366)***
LEV	+	0.002 -0.037	-0.017 (-0.314)	0.032 -0.591	-0.099 (-1.714)†
FMB	-	-0.173 (-2.500)*	-0.077 (-1.347)	0.078 -1.347	-0.217 (-3.543)***
BOARD-M	+	-0.007 (-0.098)	0.052 -0.925	0.107 (1.899)†	0.066 -1.096
ROE	+	0.109 (1.857)†	0.105 (2.171)*	0.126 (2.567)*	0.211 (4.056)***
TRA	+	-0.016 (-0.252)	0.031 -0.599	0.099 (1.876)†	0.006 -0.101
LIST	+	0.028 -0.454	0.046 -0.906	-0.045 (-0.878)	0.066 -1.206
CGQ*SC-OPTIONS	+	0.221 (3.721)***	0.036 -0.73	0.067 -1.361	0.113 (2.0160)*
N		275	275	275	275
Adjusted R ²		0.108	0.393	0.384	0.302
F ratio		3.549***	14.663***	14.164***	10.124***

Notes:

The table shows standardised coefficient and t statistics (in parentheses) for the respective independent variable in the model.

†Significant at 0.1; *Significant at 0.05; **Significant at 0.01; ***Significant at 0.001.

The dependent variable is VDCG, which is the total score of IBP component that represent voluntary disclosure score; CGQ is the total score of BCS component that represent corporate governance quality of a company; S-ISS equals to 1 if the issued shares increase by 5% or more in the 2 years following the disclosure and zero otherwise; D-ISS equals to 1 if non-current liabilities increase by 5% or more in the 2 years following the disclosure and zero otherwise; SC-OPTIONS is the sum of total value of stock option grants plus the value of the restricted stock grants divided by the total value of direct compensation; SH-OWN is the proportion of market value of the CEO's shareholdings to total market value of issued share capital.; LSIZE is the company size as measured by the log of its total assets; LEV is the total liabilities divided by total assets; FMB is the proportion of family members on the board to the total number of directors; BOARD-M is the proportion of Malay directors to total number of directors on the board; ROE is profit before tax divided by the total shareholders' equity; TRA equals to 1 if the company is in a trading/services sector and zero otherwise; and LIST equals to 1 if the company shares are cross listed on more than one stock exchange and zero otherwise; CGQ*SCOPTIONS is the interaction term between CGQ and SCOPTIONS.

Table 7. Regression results for CLSA's CG rating (TRAN & ACC) on VDCG

$$\text{VDCG} = \beta_0 + \beta_1\text{CGQ} + \beta_2\text{S-ISS} + \beta_3\text{D-ISS} + \beta_4\text{SCOPTIONS} + \beta_5\text{SH-OWN} + \beta_6\text{LSIZE} + \beta_7\text{LEV} + \beta_8\text{FMB} + \beta_9\text{BOARD-M} + \beta_{10}\text{ROE} + \beta_{11}\text{TRA} + \beta_{12}\text{LIST} + \beta_{13}\text{CLSA*SCOPTIONS} + \epsilon_i$$

	Predicted sign	
Intercept (Constant)		-5.534
Variables:		
CLSA-CG (TRAN & ACC)	+	0.460 (3.621)***
S-ISS	+	-0.132 (-0.740)
D-ISS	+	0.106 (0.739)
SC-OPTIONS	+	0.297 (1.409)
SH-OWN	-	0.071 (0.504)
LSIZE	+	-0.039 (-0.230)
LEV	+	0.005 (0.033)
FMB	-	-0.41 (-2.126)*
BOARD-M	+	0.190 (1.510)
LROE	+	0.331 (2.470)*
TRA	+	0.141 (1.098)
LIST	+	0.073 (0.575)
CLSA*SCOPTIONS	+	0.188 (1.498)
N		42
Adjusted R ²		0.571
F ratio		5.094***

The table shows standardised coefficient and *t* statistics (in parentheses) for the respective independent variable in the model.

†Significant at 0.1; *Significant at 0.05; **Significant at 0.01; ***Significant at 0.001

The dependent variable is VDCG, which is the total score of IBP component that represent voluntary disclosure score; CLSA-CG is the total score of CLSA's CG rating that based on two main components: transparency and accountability to represent corporate governance quality of a company; S-ISS equals to 1 if the issued shares increase by 5% or more in the 2 years following the disclosure and zero otherwise; D-ISS equals to 1 if non-current liabilities increase by 5% or more in the 2 years following the disclosure and zero otherwise; SC-OPTIONS is the sum of total value of stock option grants plus the value of the restricted stock grants divided by the total value of direct compensation; SH-OWN is the proportion of market value of the CEO's shareholdings to total market value of issued share capital.; LSIZE is the company size as measured by the log of its total assets; LEV is he total liabilities divided by total assets; FMB is the proportion of family members on the board to the total number of directors; BOARD-M is the proportion of Malay directors to total number of directors on the board; LROE is log for return on equity (ROE); TRA equals to 1 if the company is in a trading/services sector and zero otherwise; and LIST equals to 1 if the company shares are cross listed on more than one stock exchange and zero otherwise; CLSA*SCOPTIONS is the interaction term between CLSA and SCOPTIONS

Appendix 1. Composition of corporate governance scorecard

Categories	Attributes	Basic Compliance Score (BCS)	International and Best Practices (IBP)	Actual score/Max score	Actual Score (%)
Board of Directors	The Board's principal responsibilities				
	Board balance				
	Supply of information				
	Re-election				
	Appointment to the Board				
	Directors' training				
	Board structure and procedures				
	Chairman and CEO				
	Nomination committee				
	Audit committee				
	Remuneration committee				
Other committee					
	Sub Total	21	8	29	38
Directors' remuneration	The level and make-up of remuneration				
	Procedure on remuneration				
	Disclosure on remuneration				
	Sub Total	8	6	14	19
Shareholders	Dialogue between companies and investors				
	The AGM				
	Sub Total	2	9	11	15
Accountability and Audit	Internal control				
	Relationship with auditors				
	Financial reporting				
	Internal Audit				
	Sub Total	9	12	21	28
	Total	40	35	75	100%

Source: Corporate Governance Survey Report 2007 – a joint survey by MSWG and the University of Nottingham, Malaysia Campus

Appendix 2. List of 35 key voluntary disclosure variables using IBP component

<p>Section A - Board of Directors</p> <p><i>Principal responsibilities of the board</i></p> <ol style="list-style-type: none"> 1. Disclose the existence of code of conduct or ethics. 2. Disclose details about the implementation of the code of conduct/ethics. <p><i>Chairman and CEO</i></p> <ol style="list-style-type: none"> 3. Does statement discloses current chairman was not a previous CEO. <p><i>Board Balance</i></p> <ol style="list-style-type: none"> 4. Half of the board members are independent non-executive directors (INED). 5. More than half of the board members are independent non-executive directors. <p><i>Appointment to the Board (Ensuring Board's continuous effective)</i></p> <ol style="list-style-type: none"> 6. Discloses the terms of reference of NC (including activities, responsibilities, reporting frequency, meeting frequency and individual attendance) 7. Disclose whether non-executive directors in the NC are also independent directors <p><i>Board structures and procedures</i></p> <ol style="list-style-type: none"> 8. Disclose the type of transaction that requires board approval. <p><i>Remuneration committee (Determination of Directors' Remuneration)</i></p> <ol style="list-style-type: none"> 9. Disclose the term of reference of RC (including activities, responsibilities, reporting frequency, meeting frequency and individual attendance).
<p>Section B - Directors' Remuneration</p> <p>The level and make-up of remuneration</p> <ol style="list-style-type: none"> 1. Discloses details of the remuneration policy regarding how senior executives and directors' pay is determined. (Company must disclose key performance benchmarks in the process of determining individual pay). 2. Disclose whether the company uses significant (more than 50 percent of total remuneration) performance based remuneration for executive directors. 3. Disclose whether the company uses long-term incentives (shares based payments) to reward executive director. <p>Disclosure of Remuneration</p> <ol style="list-style-type: none"> 4. Discloses information in relation to remuneration of each director received from company and from subsidiaries. 5. Discloses information in relation to separate fees for additional contribution by non-executive directors, like attendance fee etc.
<p>Section C – Shareholders</p> <p><i>Dialogue between Companies and Investors</i></p> <ol style="list-style-type: none"> 1. Does the company has an active website? 2. Does the website has an Investor Relations section? 3. Does the website contain information or instructions as to how investors can direct queries to the company? 4. Disclose details of officer managing investor relations (e.g. name, title, age, qualification, experience etc). 5. Disclose details of investor relations policy and disclosure processes toward investors (e.g. does the company have a regular investors' relation meetings, are they using electronic communication and the media to carry their message to shareholders, etc). 6. Discloses clear and consistent corporate governance strategy. 7. Discloses comparative key performance indicator (KPI) to industry benchmarks. 8. Disclose identified specific and measurable performance target for future year. 9. Disclose the company's dividend policy.
<p>Section D – Accountability and Audit</p> <p><i>The audit committee</i></p> <ol style="list-style-type: none"> 1. If the audit committee (AC) is made up of entirely INED. 2. Disclose whether or not non-executive director and independent members of AC meet separately (at least once a year) without the presence of executive officers of the company). <p><i>Internal controls</i></p> <ol style="list-style-type: none"> 3. Disclose informative, straight-forward and updated explanation of risk factors related to company different products and industries. 4. Disclose biographical details of the officer responsible managing internal controls at the company. 5. Disclose biographical details of the officer responsible for legal and regulatory compliance at the company. <p>Related party transactions</p> <ol style="list-style-type: none"> 6. Discloses details of related party transactions in Corporate Governance statement. <p><i>Corporate Social Responsibility</i></p> <ol style="list-style-type: none"> 7. Any reporting statement on human resources. 8. Any reporting statement on environmental issues. 9. Any reporting statement on community issues. <p><i>Auditors</i></p> <ol style="list-style-type: none"> 10. Is the external auditors independent (yes, if they only provide statutory audit function). Provides explanation for the use of the same external audit firm for non-statutory audit and other services. <p><i>Timely reporting</i></p> <ol style="list-style-type: none"> 11. Is the audit report released to the public after 120 days (4 months) of the balance sheet date (BSLR rules – account have to be filed 6 months after the company's balance sheet date). <p><i>Board approval</i></p> <ol style="list-style-type: none"> 12. Disclose in the statement of corporate Governance that the Board had approved the statement.

Source: Corporate Governance Survey Report 2007 – a joint survey by MSWG and the University of Nottingham, Malaysia Campus

Appendix 3. List of 40 key corporate governance variables using BCS component

<p>Section A - Board of Directors</p> <p>Principal responsibilities of the board</p> <ol style="list-style-type: none"> 1. Disclose the statement on the issue of leads control in company <p>Chairman & CEO</p> <ol style="list-style-type: none"> 2. Have clear division of responsibility 3. Have independent Chairman (separation of two roles). <p>Board balance.</p> <ol style="list-style-type: none"> 4. 1/3 of the board members are independent non-executive directors. 5. Disclose non-executive director's calibre, credibility, skill and experience. <p>Significant shareholder</p> <ol style="list-style-type: none"> 6. Board have minority shareholder representation. <p>Appointment to the Board (Ensuring Board's Continuous Effective)</p> <ol style="list-style-type: none"> 7. Have nominating committee (NC). 8. NC composed exclusively of non-executive directors. 9. NC proposes new nominees for the board consideration and approval. 10. Disclose the annual review on the board in respect of the skills and experience and other mix (Board appraisal is conducted). 11. Disclose assessment on individual director (Individual director appraisal is conducted). <p>Size of Board</p> <ol style="list-style-type: none"> 12. Disclose that the company had reviewed the size of the board and feels that it is appropriate. <p>Directors' training</p> <ol style="list-style-type: none"> 13. Orientation and education program for new recruits to the board. 14. Ongoing education and training for directors. <p>Board structures and procedures</p> <ol style="list-style-type: none"> 15. Disclose the number of board meeting in a year. 16. Disclose detail of attendance of each individual director in respect of meetings held. <p>Relationship of the board to management</p> <ol style="list-style-type: none"> 17. Does board define limits of management's responsibilities? <p>Quality of information</p> <ol style="list-style-type: none"> 18. Management obliged to supply to the Board with all necessary information including customer satisfaction and services quality, market share, market reaction and so on. <p>Access to information</p> <ol style="list-style-type: none"> 19. Do directors have separate and independent access to company secretary services? <p>Access to advise</p> <ol style="list-style-type: none"> 20. Have agreed procedure for director to take independent professional advice. <p>Used of Board committees</p> <ol style="list-style-type: none"> 21. Have defined authority of any committee form. <p>Remuneration committee (Determination of Directors' Remuneration)</p> <ol style="list-style-type: none"> 22. Have a remuneration committee (RC) 23. RC consists wholly of non-executive directors. 24. RC to recommend to the Board the remuneration of the executive directors. 25. Disclose of membership of the RC in directors' report.
<p>Section B - Directors' Remuneration</p> <p>The level and make-up of remuneration</p> <ol style="list-style-type: none"> 1. Take into account of pay and employment conditions within the industry. 2. Link executive directors' package to corporate and individual performance. 3. Relate non-executive directors' remuneration to contribution and responsibilities. <p>Disclosure of Remuneration</p> <ol style="list-style-type: none"> 4. Disclose details of remuneration of each director.
<p>Section C – Shareholders</p> <p>AGM</p> <ol style="list-style-type: none"> 1. Special business included in the AGM notice must be accompanied by full explanation of the effects of a proposed resolution. 2. Re-election of directors, notice of meetings state which directors are standing for election with a brief description of them.
<p>Section D – Accountability and Audit</p> <p>The audit committee (AC)</p> <ol style="list-style-type: none"> 1. Audit committee comprised at least three directors. 2. If more than 50% of them are independent. 3. Have written terms of reference. 4. The chairman of the audit committee is an independent non-executive director. 5. Disclose details of the activities of audit committee. 6. Disclose details of the number of audit meeting in a year. 7. Discloses details of attendance of each individual director in respect of meetings. <p>Internal controls (IC)</p> <ol style="list-style-type: none"> 8. Disclose detail of the internal control process (e.g. what financial and non-financial measures are in place, when are they tested, when reports on IC are done and who are the reports submitted to?). 9. Disclose risk management statement

Source: Corporate Governance Survey Report 2007 – a joint survey by MSWG and the University of Nottingham, Malaysia Campus

EMPLOYEE INVOLVEMENT AND WORK TEAM EFFECTIVENESS: BIOGRAPHICAL INFLUENCES

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Abstract

This aim of this study was to determine the biographical influences on employee involvement and work team effectiveness. Data for the study was collected using a questionnaire and analyzed using descriptive and inferential statistics. A sample of 150 employees was drawn using the stratified random sampling. Significant differences were found with the participative decision-making sub-dimension of employee involvement and length in service. Significant differences were found with both participative decision-making and job satisfaction, and gender. No significant differences surfaced with work team effectiveness and the biographical profiles. The literature review is followed by the results of the study. The study provides a guide for organizations to rethink and find ways to reach a solution building work environment.

Keywords: Employee Involvement, Work Team Effectiveness, Biographical Variables, Productivity, Organizational Results

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Introduction

Employees are the most important organizational assets and their positive attitudes and valuable contributions cannot be under-rated in any organization. Therefore, they need to be empowered, motivated and satisfied with their jobs. Their knowledge, skills and abilities impact on long-term success in organizations, and they are integral part of processes, including team work. The impact of work teams cannot be achieved through the efforts of a single employee. Some organizations rely heavily on teamwork for sales, profits, productivity and services. Hence, effective work teams require a skills-set of interpersonal and adaptive capabilities (Bagraim, Cunningham, Potgieter & Viedge, 2007). Team effectiveness contributes to organizational effectiveness. Understanding the key roles of effective work teams stem from the rampant tendency for contemporary organizations to restructure, re-invent and downsize, creating new roles, which lean towards a team-oriented approach. Teamwork in organizations require proper guidance and support to enhance team unit cohesiveness. High-involvement team practices can instigate proactive attitudes which enhances performance, including quality and effectiveness which ultimately leads to overall organizational goals.

Literature Review

For organizations to be continuously productive and successful, they need to be proactive and revise their approaches. A strategic move is to involve employees for effectiveness, performance and productivity, amongst others. Employee involvement at all organizational levels is the tool in building a culture of effective teamwork, hence contributing to growth and productivity. Employee involvement encompasses, for example, empowerment, participative decision-making, employee commitment, job satisfaction and motivation.

Employee Empowerment

With employee involvement employees are empowered for participation in managerial decision-making and improvement activities relevant to their levels (Apostolo, 2000). Sun, Hui, Tam and Frick (2000) opine that employees are in the closest proximity to the problem or opportunity are in the prime positions to make decisions. According to Richardson and Vandenberg (2005), Edward Lawler, an organizational effectiveness scholar identified four interconnected principles for establishing high-involvement work systems. These principles include power, information, knowledge and rewards. Employees must perceive high levels of all four

attributes for optimal employee involvement (Bowen & Ostroff, 2004). Power without knowledge, information and rewards may lead to poor decision-making. Information and knowledge without power leads to individuals feeling aggravated because they are unable to use their capabilities fully. Rewards for organizational performance without power, knowledge and information can lead to aggravation and decreased motivation. Information, knowledge and power without rewards for organizational performance are detrimental because there will be no leverage or incentive to ensure that employees exercise their individual resources that will contribute to organizational effectiveness (Riordan, Vandenberg & Richardson, 2005). Also, an organizational climate can be viewed in conjunction with the four principles of employee involvement, namely, participative decision-making (power), information sharing (information), training (knowledge), and performance-based rewards (rewards) (Richardson & Vandenberg, 2005).

“Employees who perceive a climate of employee involvement should engage in the knowledgeable and informed application of creativity and relevant perspectives in their day-to-day work activities” (Riordan, Vandenberg & Richardson, 2005: 474). In this climate of employee involvement employees possess skills, experience and knowledge which can be used for added organizational benefits. Human relations theorists opine that involvement-oriented work environments influence the attitudes of employees (Loo & Thorpe, 2002). These theorists suggest that the climate of employee involvement improves when it is directly associated to an overall improved working environment, where employees will respond with positive emotions. When the human relations of an organization are aligned with the four principles (power, information, knowledge and rewards), employee involvement may be at an optimum level. According to the human relations perspective employee morale and goal is high as it depends on the climate of employee involvement (Loo & Thorpe, 2002).

According to Cox, Zagelmeyer and Marchington (2006), the first indicator of embeddedness in employee involvement is ‘breadth’, which can be measured by the number of employee involvement practices. This means that a combination of employee practices is beneficial as employing fewer lack reinforcement. In emphasising a culture of importance towards the ‘breadth’ of employee involvement, it fosters a network of embeddedness where multiple practices are dependent on each other for their successful operation. Kessler’s (2004) view is that the greater the ‘breadth’ of employee involvement practices, the more employees will feel committed along with increased levels of job satisfaction. Cox et al. (2006) highlight the second dimension as the ‘depth’ of employee involvement practice embeddedness which is an indicator of how

embedded any single employee involvement practice is. This can be measured by the frequency of meetings and employee contributions, such as the regularity and thoroughness with which practices are applied. This can have a significant impact on the embeddedness of employee involvement practices (Cox et al., 2006).

The forms of employee involvement can range from ‘direct’ to ‘indirect’. Direct employee involvement practices require individual participation, as in problem-solving groups or team-briefings. Indirect employee involvement practices are also known as representative participation, for example in workplace committees. The degree of influence attached to each technique also varies significantly (Duch, Waitzman & Amaral, 2010). Batt (2004) emphasizes the importance of the type, quality and combinations of employee involvement practices in evaluating its impact, and found that employees operate differently depending on whether they are used individually (direct) or in combination (indirect). Factors promoting employee involvement practices include design, incentive practices, flexibility, training opportunities and direct sharing.

Job enrichment, a motivational tool (Hackman, Oldham, Jansen & Purdy, 2002) too has direct ties to employees jobs (Niehoff, Moorman, Blakely & Fuller, 2001). Through job enrichment, managers signal support to their employees. Job enrichment enhances the growth and strength of the employee (Ross, 2004). With job enrichment, employees are able to use a variety of skills, and it identifies with a task. In a study, conducted by Bae and Lawler (2000), job enrichment was promoted with high-involvement management where employees are seen as a source of competitive advantage. The authors emphasize that this can be done by combining resource-based and high-involvement theories, amongst others.

The involvement of employees in decisions encourages them to freely express their views and they perceive their opinions as valuable contributions. Leana, Locke and Schweiger (2000) describe participation in work decisions as long-term, direct and formal. In 11 of the 15 studies conducted, Leana et al. (2000), found increases in productivity and performance because of employee participation in work decisions. Although the studies yielded high percentages of positive effects on increased organizational performance, it also highlighted the fact that employees do not have a strong influence over pay practices.

Work team effectiveness

Global competition dictates that organizations take a team-based approach to their strategy. Understanding the key roles of effective work teams stem from the rampant tendency for contemporary organizations to restructure, re-invent and downsize, creating new roles, which lean towards a team-oriented approach.

Work team effectiveness is a complex dynamic phenomenon, which can only be achieved through the variables which influence its context (Salas et al., 2004; Cohen & Bailey 1999). An organizational environment with a culture of teamwork require proper guidance and support for team unit cohesiveness to be evident. High-involvement team practices can instigate proactive attitudes, performance, including quality and effectiveness which impacts organizational goals. According to Kozłowski and Ilgen (2006), the emergence of a contemporary perspective over the last decade of work team effectiveness revolves around the organizational context of the team, where work team effectiveness is an outcome of the organizational framework which impact on team dynamics. Work team effectiveness is influenced by team dynamics, the interrelationships involved and the manner in which teams function in the wider organizational context. Wu, Wang and Tsai (2010), describe teams in organizational contexts, and the effectiveness of these teams cannot be analysed within a vacuum, but as part of a larger economic, strategic and technological arena. The authors define work team effectiveness as groups that are goal-oriented, group performance can be evaluated and it can be influenced by internal and external factors.

LaFasto and Larson (2001) developed a model of Work Team Effectiveness, which is the product of an investigation carried out from 600 teams in various industries. They base their model of work team effectiveness around five dynamics and when it is aligned with the organizational goals, then the culture is conducive to achieving those goals. The key according to this model is selecting the right people for team composition, thereafter building on their five dynamics of effective teamwork, namely, organizational environment, team leadership, team problem-solving, team relationships and team members.

According to the Hackman Model, for work team effectiveness to be at optimum levels, certain conditions must be met (Hackman, 2002) which are expressed in the suggestion that it is not only a team by name. It is also a 'real' active, working team; the team understands its direction and work as a cohesive unit; the structure of the organization is one which facilitates teamwork; the organizational context supports the operation of the team and there is a vast pool of expert coaches available for mentoring. Hackman (2002) suggests further that there are five essential conditions for work team effectiveness, namely:

- A 'real' team has four features: a task, defined boundaries, autonomy and stability.
- The goals of the team are clear and challenging, focusing on the results rather than the means to achieving them.
- An effective structure refers to whether the norms of the organization elevate or impede teamwork.

- A supportive organizational framework refers to whether the team has access to sufficient resources, information, rewards and support members to accomplish their tasks.
- Valuable coaching refers to the availability of an expert coach for guidance and support. This improves coordination and collaboration leading toward emerging opportunities.

The Lencioni Model suggests that all teams possess the potential to be dysfunctional and to improve the functioning of a team. It is important to understand the level and type of dysfunction, thereafter work team effectiveness may be improved. According to Lencioni (2005), the five potential dysfunctions of a team are absence of trust; fear of conflict; lack of commitment; avoidance of accountability and inattention to results. Also, some team conflict is necessary or it becomes difficult for team members to commit to decisions.

Kozłowski and Ilgen (2006) suggest three dimensions of team effectiveness, namely team performance, team viability and team process improvement:

- Team Performance: refers to the extent to which team members produce outputs according to the standards of the organization. Team performance is established through measures such as quality, quantity and working within an allocated budget (Ulrich & Brockbank, 2005). It is the function of the human resource manager to determine whether there are gaps in an individual's performance, and training and skills development programmes can be instituted. Mei (2008) argues that the knowledge, skills and abilities (KSA's) of the team need to be continuously improved through team training interventions in order to cultivate an organizational climate where teams learn by virtue of doing.
- Team Viability: refers to the extent to which members of the team are able to continue to work together in the future. Team viability becomes a component of team self-managing behaviours as it represents the team members' ability to deal with difficulties which impede their social stability. A viable team is able to sustain effective levels of performance over time (Kozłowski & Bell, 2003).
- Team Process Improvement: refers to the ability of team members to refine current processes and engineer innovative solutions to optimise task outcomes (Hinds & Mortensen, 2005). Although this dimension of team effectiveness is often over-looked, it forms part of an important component of team effectiveness as it possesses the ability to be leveraged as a competitive advantage within the organization. De Dreu (2007) suggests that team process improvement fosters a sense of encouragement where members are able to distinguish performance gaps and set improvement gaps for themselves, ultimately

leading to a more complete and comprehensive understanding of tasks (Bushe & Coetzer, 2007).

Woods & Coutts (2001) describe the barriers to effective communication and teamwork at the team level as the lack of a clear stated and measurable purpose, the lack of training in interdisciplinary collaboration, role and leadership ambiguity, a too large or too small team, a team not composed of appropriate professionals, and a lack of appropriate mechanisms for timely exchange of information.

Objectives of the study

- To determine the influence of biographical variables (age, gender, race, length of service and position in company) on employee involvement
- To determine the influence of biographical variables (age, gender, race, length of service and position in company) on work team effectiveness.
- To determine the extent to which the sub-dimensions of employee involvement (empowerment, participative decision-making, employee commitment, job satisfaction, motivation) and the sub-dimensions of work team effectiveness (communication, team members' skills, performance objectives, innovation, teams output) is influenced by the key dimensions of the study.

Methodology

Respondents

The population comprised of all employees in a large construction company in Kwa-Zulu Natal, South Africa. The sample of 150 subjects (managers, supervisors and employees) was drawn using a stratified random sampling technique to ensure proportionate representation from the strata of the designated groups of interest. In terms of the composition, 23.3% of the sample consisted of managers, 29.3% were supervisors and 47.4 % were employees. Of the total sample, 50.7% were male and 49.3% were female. In terms of age, 18.0% were under 25 years, 30.7% were 25-34 years, 24.0% were

34-44 years and 27.3% were 45 years and above. In terms of race groups, 38.0% were Indian, 20.0% were Black, 20.7% were Coloured and 21.3% were White. Furthermore, 60.7% were 0.5 years in the organization, 24.0% were 6-10 years, 6.7% were 11-15 years, 5.3% were 16-20 years, and lastly 3.3% were 21 years and over in this company.

Measuring Instrument

Data was collected using a self-developed questionnaire consisting of two sections. Section A relates to the biographical data, which was measured using a nominal scale with pre-coded option categories. Section B comprised of 50 items relating to employee involvement and work team effectiveness, and was measured using a 5-point Likert scale ranging from strongly disagree (1), disagree (2), neither agree/nor disagree (3), agree (4) to strongly agree (5).

Measures

The reliability of the questionnaire was determined using Cronbach's Coefficient Alpha. The overall alpha coefficient was 0.611 for employee involvement reflecting internal consistency and reliability; and also 0.611 for work team effectiveness, thereby reflecting internal consistency and reliability.

Statistical analysis

Descriptive statistics, using percentages, mean analyses and standard deviations were utilized to determine biographical influences on employee involvement and work team effectiveness. Inferential statistics included analysis of variance, Scheffe's test, t-test and reliability.

Results

Employees were required to respond to the items assessing employee involvement and work team effectiveness using the 5 point Likert scale, which were analysed using descriptive statistics (Table 1).

Table 1. Descriptive statistics of employee involvement and work team effectiveness

Dimension	Mean	95 % Confidence Interval		Variance	Std. Dev.	Minimum	Maximum
		Lower Bound	Upper Bound				
Employee Involvement							
Empowerment	4.5275	4.4681	4.5869	0.135	0.3670	3.60	5.00
Participative Decision-making	4.4685	4.4109	4.5260	0.126	0.3555	3.20	5.00
Employee Commitment	4.4899	4.4279	4.5519	0.147	0.3830	3.60	5.00
Job Satisfaction	3.8980	3.8480	3.9480	0.095	0.3090	3.40	5.00
Motivation	3.8805	3.8354	3.9257	0.078	0.2790	3.20	5.00
Work Team Effectiveness							
Communication	4.5293	4.4678	4.5909	0.146	0.3182	3.20	5.00
Team Member Skills	4.5227	4.4643	4.5810	0.131	0.3618	3.80	5.00
Performance Objectives	4.4373	4.3800	4.4947	0.126	0.3555	3.60	5.00
Innovation	4.5093	4.4475	4.5712	0.147	0.3833	3.60	5.00
Teams Output	4.5987	4.5376	4.6597	0.143	0.3783	3.80	5.00

Table 1 indicates that the dimensions of employee involvement in this organization are occurring at varying degrees. Based on mean analyses the attainment of the dimensions of employee involvement are as follows in descending order:

- Empowerment (Mean = 4.5275)
- Employee Commitment (Mean = 4.4899)
- Participative Decision-making (Mean = 4.4685)
- Job Satisfaction (Mean = 3.8980)
- Motivation (Mean = 3.8805)

The results indicate that for each of the dimensions there is room for improvement, as evidenced when the mean score value is compared against a maximum attainable score of 5. The analysis of the employee involvement sub-variables as indicated in Table 5.1 reflects that improvement is needed in terms of motivation and job satisfaction. However, very little improvement is needed with empowerment, participative decision-making and employee commitment, hence employees in this organization feel empowered in their jobs.

Table 1 indicates that the dimensions of work team effectiveness in this organization are also accomplished at varying degrees. Based on mean analyses the attainment of the dimensions of work team effectiveness are as follows in descending order:

- Teams output (Mean = 4.5987)
- Communication (Mean = 4.5293)
- Team members' skills (Mean = 4.5227)
- Innovation (Mean = 4.5093)
- Performance objectives (Mean = 4.4373).

The results indicate that for each of the dimensions there is room for improvement as evidenced when the mean score value is compared against a maximum attainable score of 5. This implies that the sub-dimension of the teams output require the least amount of improvement as opposed to performance objectives, which require a greater room for level of room for enhancement in this organization. Hence, the teams' output in this organization is fairly high as very little improvement is required.

In the study, employee commitment correlates significantly but inversely with communication. According to Colquitt et al. (2009) employee commitment must be guided by managers through positive reinforcement, observation and goal orientation. Colquitt et al. (2009) emphasises the importance of learning as a contributing factor to employee commitment, where job knowledge is

associated with increases in emotional attachment to the company (Colquitt et al., 2009). Hegar (2012) claims that managers who help employees cope with both their work demands and family responsibilities lead to higher levels of commitment to the organization. According to Robbins, Judge, Odendaal and Roodt (2009) communication is the control, motivation, emotional expression and information. This includes tools for manipulating workforce attitudes and behaviours within the wider social and political context (Buchanan & Huczynski, 2004), and also where ideas and information are exchanged (Youssef & Luthans, 2007). With an inverse relationship there could be possible barriers to communication such as a disagreement on leadership styles or structures, power and gender differences, physical surroundings, language variations and cultural diversity.

Respondents in this study indicate that motivation correlates significantly but inversely with team members' skills. According to Robbins et al. (2009) the main tool for motivation reflects on job design, through the job characteristics model which proposes that any job can be described in terms of five core job dimensions, namely skill variety, task identity, task significance, autonomy and feedback. Nelson and Cooper (2007) assert that job rotation, job enlargement and job enrichment must be used in order to increase motivation levels, with creative solutions as alternative work arrangements (flexitime, job sharing and telecommuting). The skills of team members are influenced by multiple factors and cannot be analysed within a vacuum. Team members' skills are constantly being renewed through a cross-pollination of ideas through team interaction (Robbins et al., 2009). The variety of skills an individual has shows how knowledge is processed and learnt, including the translation of knowledge into meaningful skills (Buchanan & Huczynski, 2004).

Also, motivation correlates significantly but inversely with team member skills. Hence, the level of motivation does not have a direct influence on the degree of team members' skills. Self-motivation is improvement too where individuals seek to upgrade their own skills for positive team contributions.

Hypothesis 1.

There is a significant difference in the level of employee involvement of employees varying in biographical profiles (age, gender, race, length of service and position in company), respectively (Table 2 and Table 3).

Table 2. Analysis of variance: Difference in employee involvement based on biographical profiles

Biographical Variables	Empowerment		Participative Decision-making		Employee Commitment		Job Satisfaction		Motivation	
	F	P	F	p	f	p	F	p	F	P
Age	1.84	0.14	0.92	0.43	0.30	0.82	1.99	0.12	1.02	0.39
Race	0.43	0.73	1.16	0.33	1.49	0.22	0.13	0.94	0.36	0.78
Length in Service	2.32	0.06	2.80	0.30*	0.90	0.46	0.17	0.95	0.70	0.59
Position in Company	2.05	0.13	1.73	0.17	0.07	0.94	0.70	0.50	0.87	0.42

Table 2 indicates that there is a significant difference in the participative decision-making dimensions of employee involvement amongst employees varying in length of service at the 5% level

of significance. In order to determine exactly where differences lie, the Post Hoc Scheffe's Test was conducted (Table 3).

Table 3. Post Hoc Scheffe's Test: Employee Involvement

Sub-dimension of Employee Involvement	Length in Service	Mean	Standard Deviation
Participative Decision-making	0-5 years	4.4571	0.34549
	6-10 years	4.5056	0.33290
	11-15 years	4.3000	0.32998
	16-20 years	4.7500	0.20702
	21 years and over	4.2000	0.64807

Table 3 indicates that employees who were 16-20 years in the organization, followed by 6-10 years were involved as a result of participative decision-making. The employees who were 21 years and over were the least involved in participative decision-

making, negligibly following those who were 11-15 years and 0-5 years in this company.

The other biographical variables (age, race and position in company) did not influence empowerment, employee commitment, job satisfaction and motivation, respectively.

Table 4. t-test: Dimensions and sub-dimensions of Employee Involvement and Gender

Dimensions and Sub-dimensions of Employee Involvement	Equal Variances Assumed		
	t-test for Equality of Means		
	T	Df	p
Empowerment	0.630	148	0.530
Participative Decision Making	2.054	148	0.42*
Employee Commitment	0.215	148	0.830
Job Satisfaction	-2.145	148	0.34*
Motivation	0.422	147	0.673

*p<0.05

Table 4 indicates that there is a significant difference in the participative decision-making and job satisfaction sub-dimensions of employee involvement amongst employees varying in gender at

the 5% level of significance. In order to determine exactly where these differences lie, the Post Hoc Scheffe's Test was conducted (Table 5).

Table 5. Post Hoc Scheffe's Test: Gender

Sub-dimensions of Employee Involvement	Gender	Mean	Standard Deviation
Participative Decision-making	Male	4.5237	0.37376
	Female	4.4054	0.32934
Job Satisfaction	Male	3.8447	0.28019
	Female	3.9514	0.32740

Table 5 indicates that male employees were more involved in terms of participative decision-making than female employees. Probably, men involve themselves more with decision-making, whereas women may lean toward other areas, such as mentoring, coaching and administrative functions. Thus, this organisation can improve participative decision-making with female employees by involving more females into critical decision-making processes. The gender of employees does not influence any of the other remaining sub-dimensions of employee involvement (empowerment, employee commitment and motivation), respectively.

On the contrary, females were more involved in terms of job satisfaction than their male counterparts

in this organization. Females may compare themselves with home executives and feel satisfied with their employment, regardless of any hindrance in their work environment. Organisations can improve job satisfaction with male employees with training, conference attendance and workshops.

Hence, Hypothesis 1 may be partially accepted.

Hypothesis 2

There is a significant difference in the level of work team effectiveness of employees varying in biographical profiles (age, gender, race, length of service and position in company), respectively (Table 6 and Table 7).

Table 6. Analysis of Variance (ANOVA): Differences in work team effectiveness based on biographical profiles

Biographical Variables	Communication		Team Member Skills		Performance Objectives		Innovation		Teams Output	
	F	P	F	p	f	p	F	p	F	p
Age	0.282	0.838	1.125	0.341	1.200	0.312	0.798	0.497	0.378	0.769
Race	1.760	0.157	0.601	0.615	1.398	0.246	0.898	0.444	2.570	0.057
Length of Service	0.682	0.606	0.726	0.575	2.038	0.092	0.188	0.945	1.885	0.116
Position in Company	0.320	0.727	0.144	0.866	2.308	0.103	0.135	0.874	1.332	0.267

Table 6 indicates that no biographical variables influence work team effectiveness (communication,

the skills of team members, performance objectives, innovation and the output of teams).

Table 7. t-test: Dimensions and sub-dimensions of work team effectiveness and gender

Dimensions and Sub-dimensions of Employee Involvement	Equal Variances assumed		
	t-test for Equality of Means		
	T	Df	p
Communication	0.757	148	0.450
Team Member Skills	-0.686	148	0.494
Performance Objectives	-0.751	148	0.454
Innovation	0.719	148	0.473
Teams Output	-1.782	148	0.077

Table 7 indicates that all the biographical variables (age, gender, race, length in service and position in the company) did not impact the sub-dimensions of work team effectiveness

(communication, the skills of team members, performance objectives, innovation and the output of teams), respectively.

Hence, Hypothesis 2 may not be accepted.

Table 8. Reliability: Employee Empowerment

Cronbach's Coefficient Alpha
0.611

Table 8 indicates that items in the employee involvement questionnaire have internal consistency and is reliable.

Table 9. Reliability: Work Team Effectiveness

Cronbach's Coefficient Alpha
0.611

Table 9 indicates that items in the work team effectiveness questionnaire have internal consistency and is also reliable.

Interpretation and Recommendations

The demographics of the sample were analysed. Among the 150 participants, 76 (50.7%) were male and 74 (49.3%) were female; and 57 (38%) were Indian, followed by 32 (21.3%) White employees, 31 (20.7%) Coloured and lastly 30 (20%) were Black employees.

The respondents to the study indicate that there is a significant difference in the participative decision-making and length in service. The respondents to this study indicate that employees who were 16-20 years followed by 6-10 years in this organization were involved as a result of participative decision-making. The employees who were 21 years and over were the least involved in participative decision-making, negligibly following those who were 11-15 years and 0-5 years in the organization. With other studies and with 250 employees in a telecommunications company in Iran, employees who were 11-30 years in the organization were most involved in participative decision-making (Emamgholizadeh, Matin & Razav, 2011).

There is a significant difference in the participative decision-making and job satisfaction sub-dimension of employee involvement amongst employees varying in gender. Male employees are more involved in terms of participative decision-making than female employees. On the contrary, female employees were more involved than male employees in terms of job satisfaction. The difference in employee involvement of males and females according to a 2011 research study conducted with employee involvement programmes in a Malaysian I.T. company, female employees were satisfied more with their jobs due to their attitudes toward their work and the organization, and their motivation to improve their position within the company (Aminudin, 2011). The other biographical variables (age, race, position in company) did not influence empowerment, employee commitment, job satisfaction and motivation, respectively.

The biographical variables (age, gender, race, length in service or position in company) does not have an influence on work team effectiveness.

However, other researchers have found correlations. For example, De Dreu (2010) deduced that from 32 organizational teams the most innovative individuals were at the average age of 25.4 years old. In a study conducted by Tsjvold, Poon and Yu (2005), it was found that employees who were with the organization for 15 years or longer felt that the skills of team members was a valuable contributing factor to the overall success of the team.

Computations regarding t-tests were done to determine differences with male and female employees. Of interesting, there were significant differences with employee involvement, and no significant differences emerged with work team effectiveness.

Conclusion

The study examined the intercorrelations between the sub-variables of the key dimensions of employee involvement and work team effectiveness which was followed by investigating the biographical influences on the key dimensions of the study. However, for each of the dimension there was room for improvement. It was found that employee commitment correlates significantly but inversely with communication at the 5% level of significance. Likewise, motivation correlates significantly but inversely with team member skills.

Also, there is a significant difference in the participative decision-making sub-dimension of employee involvement amongst employees varying in length in service at the 5% level of significance. Likewise, there was a significant difference in the participative decision-making and job satisfaction sub-dimension of employee involvement amongst employees varying in gender at the 5% level of significance. The biographical variables did not impact on the sub-dimensions of work team effectiveness. Furthermore, items in the employee involvement questionnaire and in the work team effectiveness questionnaire have internal consistency and is reliable.

Recommendations for future research

With a larger sample, significant findings may surface with the remaining biographical influences on employee involvement and work team effectiveness. For profound knowledge in this field surveys can be conducted at other construction companies or comparisons can be made with two companies.

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CAN COOPETITION BE SOURCE OF COMPETITIVE ADVANTAGE FOR STRATEGIC NETWORKS?

Valentina Della Corte*, Mauro Sciarelli**

Abstract

Contributions on competitive strategy and advantage have been long concentrated on the single firm. In Europe small and medium enterprises still prevail, business districts are widespread and rivals are called to cooperate, in order to face the global context. Inter-firm collaboration seems to be the main path to survive and compete. Literature has more concentrated on the reasons for success of strategic alliances and networks even if many of them fail or do not take off. In the light of relational view and the absorptive capacity approach, the paper tries to verify whether coopetition, can be, through the relations that generates, source of competitive advantage or rather of disadvantage. Theoretical hints are tested empirically on a sample of firms in Italy operating in tourism industry.***

Keywords: Coopetition, Strategic Networks, Inter-Firm Collaboration

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1 From the firm to the network through strategic alliances: the relational perspective

If within the industrial-economic literature, strategic alliances have been read at first as a form of control of market logics, by more or less underhanded collusion between competitors, it is now generally accepted that alliances can be seen as a strategic alternative way to gain competitive advantage. Many streams of research within economic and managerial literature have studied inter-firm collaboration and alliances as a prominent phenomenon, from different theoretical perspectives. Large space inter-firm collaboration has gained in academic debate, as shown by special issues published in major journals⁸ and many articles concentrated on topics as formation process, sustained competitive advantage and value creation process, value appropriation, conflict potential, trust vs opportunism problems in alliances and strategic networks.

Analysing the logic of alliance formation, strategic alliances have been interpreted as a mechanism to deal with uncertainty and a way to access specific resources (Arino and Garcia-Canal, 2012). As regards external uncertainty, which refers to the complexity of the environment, flexibility is relevant, and, as real options theory explains,

alliances are a way to maintain flexibility (Kogut, 1991). Behavioural uncertainty, instead, is connected to the risk of opportunism in transactions. Transaction cost logic has been applied to alliances formation, through a governance form's choice explanation. Opportunism in partners' behaviour thus becomes a prominent question. A potential of conflict is inherent in relationships (Fey, Beamish, 1999). When there is a high risk of opportunistic behaviour in a transaction related to highly specific assets, an alliance, even better if in a form of a joint venture, reduces this risk, through a mechanism of mutual hostage positions by partners (Hennart, 1988). Alliance in this approach is a way to control opportunism in transactions. Some authors introduce a learning race perspective (Hamel, Doz, Prahalad, 1989; Hamel, 1991). As tension between cooperation and competition is inherent in strategic alliances, each partner is involved in a race to outcompete the other one in acquiring his knowledge and appropriating the results of cooperation.

Through a different perspective, some scholars (Chan et al., 1997; Anand, Khanna, 2000) underline the benefits of cooperation towards economic value creation for single enterprises. Resource-based theory stresses the opportunity for a partner through an alliance to access resources valuable, rare and costly to imitate or to develop internally, in order to get a sustainable competitive advantage (Das, Teng, 2000). The rationale for alliances is the value-creation potential of firm resources that are pooled together and some resource characteristics (imperfect mobility,

⁸ We refer to Organization Science special Issues n.9 on *Managing Partnership and Strategic Alliances* (1998) and SMJ n.21 on *Strategic Networks* (2000)

imitability, substitutability) promise accentuated value-creation, and thus facilitate alliance formation (Das, Teng, 2000). Firms join complementary resources and capabilities to create value, gaining access to external knowledge (Arora, Gambardella, 2000; Hess, Rothaermel, 2011). Some studies point out that firms learn from prior alliance experience. Some argue that alliance exploitation experience has positive effects on R&D project performance, while these effects are not verified for exploration experience (Hoang, Rothaermel, 2010). Partner's fit is important for collaboration success (Buckley, Casson, 1988), as trust, commitment, communication (Das, Teng, 1998) and fairness in alliance formation (Arino, Ring, 2010).

Relational view offers a different way to explain the learning process inside an alliance (Gulati, 1998; Dyer, Singh 1998; Kale, Singh, 2007)⁹. Through this perspective enterprise's critical resources can extend well beyond its specific boundaries and can be shared with partners (Dyer and Singh, 1998). Relational view goes beyond traditional dyadic alliance and analyses relations in strategic networks (Gulati, 1998)¹⁰. Every single firm is embedded in a relational network able to influence its behaviour¹¹.

The relation between *social networks* and alliances can be analysed from an endogenous point of view and from an external one. The so-called endogenous view underlines the influence the social networks produce on alliances, while the external view points out the structure of the social networks that can be modified by the new relations developed by means of alliances (Gulati, 1998).

Two major questions addressed by relational view are: how can a firm develop specific relational (dynamic) capabilities? Which kind of governance mechanisms would favour value creation (relational rents) in alliance and networks? (Della Corte, Sciarelli, 2011).

A theory of relational dynamic capabilities comes from *knowledge-based view of the firm* (Collis, 1996; Grant, 1996a) and dynamic capabilities studies (Teece, Pisano, Shuen, 1997; Zollo, Winter, 2002; Helfat, 2007). A four-phases knowledge management

process (Kale and Singh, 2007) describes how single firms can develop knowledge through alliances. *Articulation of alliance know-how* is the first phase, in which firms tend to relate past experience to future ones in order to improve the knowledge base according to their needs for learning processes (Zollo and Winter, 2002). The second phase is the codification of tacit knowledge pertaining to an alliance (*codification of alliance know-how*), aimed to facilitate transfer of knowledge (Kogut and Zander, 1992; Nonaka, 1994), and also to foster a process able to create further knowledge (Zollo and Winter, 2002). In the third phase (*sharing of alliance know-how*) they create structures facilitating the spreading of knowledge through the interaction between actors within the organization (Seely, Brown and Duguid, 1991; March, Sproull and Tamuz, 1991). In the last phase (*internalization of alliance know-how*) each single manager improves knowledge base on alliances' management and, at the same time, their *absorptive capacity*.

Social networks studies offer a useful point of view to investigate how firms involved in an alliance can be influenced in their actions from being part of a social relationship. The way the information flows within social networks is very important (Stinchcombe, 1990). There are two forms of embeddedness that can favour transfer of information (Granovetter, 1992). *Relational embeddedness* is the ability of two partners to have access to the same quantity of information, reducing uncertainty and promoting trust; *structural embeddedness* depends on the global capacity of the network's structure to facilitate the flow of information, and allows each actor of the network to gain an advantage depending on his "status" within it (Podolny, 1993, 1994). The location of firms in inter-firm networks (degree of centrality) is a relevant factor even for competition analysis (Gulati, Nohria, Zaheer, 2000). Embeddedness and centrality play a relevant effect on knowledge creation process and on building relational dynamic capabilities. Relational View and social network studies offer an effective analytical framework for the comprehension of rents and competitive advantages in strategic alliances.

Firms that belong to the same network participate to a slow propagation of a *knowledge-based* climate of trust (Shapiro, Sheppard and Cheraskin, 1992), which reduces the threats of opportunism (Barney and Hansen, 1994).

There is a kind of "chain reaction" mechanisms that may allow a firm to exploit the relational network of the alliance partner, to create new links as well as to develop new alliances. Firms usually select a partner within their relational network.

Nevertheless, a key question is about appropriation of value created inside an alliance (Khanna, Gulati, Nohria, 1998) and the division of value among partners (Adegbesan, Higgins, 2011). Relational View approach analyses the distribution of

⁹ Gulati (1998: 293) defines alliances as "voluntary arrangements between firms involving exchange, sharing, or codevelopment of products, technologies, or services."

¹⁰ Strategic networks of firms create a "system of value co-creation within constellations of integrated resources" (Katz and Shapiro, 1994; Jones, Hesterly and Borgatti, 1997; Rowley, 1997; Van-der Krogt, 2006; Spohrer, 2007).

¹¹ A relational network is defined as "a set of nodes (e.g., persons, organizations) linked by a set of social relationships (e.g., friendship, transfer of funds, overlapping membership) of a specified type" (Laumann, Galaskiewicz and Marsden, 1978: 458). The first studies pertaining the effects of social networks focused themselves on structural factors, such as *inequality, embedding, contagion, and contingency* (Burt et al., 1994).

benefits and of relational rents amongst the participants in the alliance or in the network. A partner may take the value created by the alliance, when he is able to convince other partners that he has valuable, rare and inimitable resources and that they would be unable to get those strategic resources from the market or from other partners (Dyer, Singh and Kale, 2008). However, another partner can achieve his capacity to acquire those skills from the one who had them, and autonomously replicate that. There is therefore a high risk of transferring key knowledge through an alliance. On the other side, the firm that has the widest network of relationships and alliances, and has a central position in the network, can exploit informative benefits and exert control over relationships (Pfeffer and Salancik, 1978).

As concerns governance mechanisms, social network theory (Burt, 1982; Granovetter, 1985) offers a different perspective from transaction cost analysis. The network with its structure of relationships is the basis for the creation of a deterrence-based trust (Kreps, 1990; Raub and Weesie, 1990; Shapiro et al., 1992; Burt and Knez, 1995). Unfair behaviour, in a network, may generate consequences on firm's reputation. The fear of this bad reputation leads partners to fair behaviour, even without equity forms of agreements (like JV). While transaction cost economics and property rights scholars believe in formal contract-based governance, others argue that trust among partners can improve interorganizational relationships efficiencies (Connelly, Miller, Devers, 2012). Some studies focus on the question of governance modes and interdependence (Aggarwal, Siggelkow, Singh, 2011). Governance mechanisms become necessary in order to facilitate rent creation through the uniqueness of the resource combination used in the alliance, more than in favouring transaction cost minimisation (Dyer and Singh, 1998: 662)¹².

2 The role of competition in inter-firm collaboration: a theoretical model

2.1. Purposes and theoretical background

This paper, that takes into account research on Resource-based theory in latest years (RBT – Rumelt, 1984; Dierickx, Cool, 1989; Wernfelt, 1984; Barney, 1986; 1991; 2002; Della Corte Sciarelli, 1999; etc.), is the result of a wide research project conducted on the themes of strategic networks, co-competition and strategic systems. This attempt, that has also led to the publication of Jay Barney's textbook entitled "Gaining and sustaining competitive advantage" in Italian with the addition of a specific chapter on inter-

firm networking and business systems, has not been a simple application of RBT to European context but, on the contrary, has strengthened some important developments in theory, such as the possibility that a company's success does not depend exclusively on its specific resources and competences, but also on inter-firm, shared resources, capabilities and competences, that can be analyzed at different levels (firms' aggregations/strategic networks that, in some cases, can even become "inter-firms systems"). *More precisely we refer to situations where there are complex sets of relations among firms and between them and the network itself which, if characterized by continuous relations, physical or virtual proximity and implying eventual involvement of local resources, can be defined as "systems"* (Della Corte, 2009, p. 414).

In order to understand a firm's competitiveness, it is sometimes important to analyze its interactions with other firms, both big and small, with public organizations, with other local or far entities, in the logic of a "wide, open strategic system". The unit of analysis is so the entire strategic system, such as a tourism destination, in order to verify whether co-competition mechanisms (Nalebuff, Brabderburger, 1996, Dagnino, Padula, 2002), governed through a set of relations labelled as destination management processes in tourism industry, can even influence its competitiveness.

The objective is to study the roots of these entities' competitiveness and, more precisely, to verify if and when some competitors can and do decide to cooperate. In this direction, co-competitive relations are examined with reference to a theoretical framework based on Resource-based theory and its developments and, in particular:

- *relational view* (Gulati, 1998; Dyer and Singh, 1998; Kale and Singh, 1999, 2007; Kale, Dyer and Singh, 2002), more focused on the social content of the relationship between the firm and its external environment; these regard both inter-firms relationships and Institutional relations (tourism's policies aimed at favouring networking);

- *the absorptive capacity model*, linked to the concept of embeddedness (cultural - Granovetter, 1983 - and social - Boisot, 1986), that helps analyzing the process of inter-firm relations in knowledge creation, putting in evidence the continuous interchange with external environment which favours firm's embeddedness. Institutionalized social norms and the values acquired by strategic actors can in fact even determine the emergence of inter-firm collaborations (Boisot, 1986, de Rond, 2003). These relationships can generate knowledge and competences that are *relational rents* (Dyer and Singh, 1998), able to generate either temporary or sustainable competitive advantage.

As underlined in the previous paragraph, according to Relational View, alliances and networks can create advantages in term of: *relational*

¹² The authors point out that the resources used in the alliance must be worthy, their combination being both rare and hard to imitate, and the alliance must be constructed in order to exploit their potential.

embeddedness, i.e. the ability of two actors sharing a relation to access the same hoard of information, to lessen uncertainty and to promote trust (reliability) between them; *structural embeddedness* that is the global capacity of the network's configuration to facilitate information flows, available for participants to the network.

These factors give a more effective interpretative framework in the study and in the comprehension of rents and competitive advantages in inter-firm collaboration (strategic alliances, networks).

Relational rents can refer both to common (*common benefits*) and specific (*private benefits*) areas. According to Dyer, Singh and Kale (2008), in the first case, a partner's negotiation power may create value for him when he succeeds in convincing other partners that he is the only one to own valuable, rare and inimitable (VRIO) resources which the others would be unable to get from market or from other partners. However, in the process of resource replication through reciprocal learning some parties may be able to acquire those VRIO-related skills and competences.

Regarding unilateral factors, i.e. those specific to a single partner in the alliance, Dyer, Singh and Kale (2008) refer to three different views: *Related Resources Theory*, *Structural Holes Theory* and *Resource Development Theory*. The partner that holds a *scope of resources and activities* resulting more related and in tune with those important to the alliance is endowed of the greatest *relative absorptive capacity* (Cohen and Levinthal, 1990) within the alliance and has particularly effective inter-organisational routines in order to secure the effective transfer of resources and knowledge is able to generate bigger *relational rents*.

This perspective, however, tries to examine inter-firm relations within a "positive" approach that has its roots in RBT (firm or, in this case, the network or system's "creator of positive" rather than "avoider of negative" - Conner, 1991). On the other hand, it seems to take into account the problem of opportunistic behaviours both in the management of the relation (RV) and in the process of learning and absorptive capacity (in terms of transfer of strategic knowledge, skills and competencies). It seems that both theories imply as their main assumption that parties do have to behave correctly in order to get to the benefits they single out from collaboration.

With reference to collaboration, our aim is to investigate consolidated and systematic forms of collaboration that go far beyond strategic alliances but are characterized by continuity and consolidated organizational forms (both explicit and implicit).

Strategic systems are made of a complex set of relationships of different nature and between different parties, both cooperative and competitive.

The competitive soul has so necessarily to be considered. In our study, we in fact try to apply

coopetition logic not just at a business level but rather at a strategic system's level.

In our opinion, the challenge is to verify whether coopetition itself can really be strategic for a network-system and therefore be source of competitive advantage, trying to combine the resource-based perspective through relational view, the absorptive capacity model and the competition perspective.

This effort however requires a preliminary specification of the difference between competition and opportunistic behaviours. More specifically, we try to verify whether it's more appropriate to consider competition rather than opportunistic behaviour in a wider sense, thus even considering the possibility that more competitive systems can generate higher performance in inter-firm collaboration.

Competition has been traditionally analyzed in the fields of industrial organization, both in terms of five forces analysis (Porter, 1980, 1981) and of dynamic competition (Grimm, Smith, 2008).

The five forces analysis is considered as a sort of static analysis of the competitive situation at a specific time, even if it broadens the mind set of competition, including substitutes and menace of new entries, contractual power both of clients and of suppliers that require also perspective considerations and evaluations. It conducts to a broader view of market and competition, even if with some relevant limitations. First, it's based on a product-based view of competition and positioning. Secondly, it refers to competition from a market perspective. Using RBT lenses, competition is based not on products but rather on resources: competitive firms have functionally similar resources. These means that the five forces themselves can differ from firm to firm and be wider (especially in terms of potential entrants) or more narrow considering resources' value, scarcity (Peteraf, Bergen, 2003) and imitability.

Dynamic competition mainly focuses on firms' actions and reactions, that is on dyadic relationships. In particular, it concentrates on the attributes that define firms' competitive behaviours and their influence on competitors' reactions. In other words, it tries to examine competitiveness within markets through the action-reaction-reaction and so on process. Action is considered to be a specific competitive move a firm makes to improve or defend its competitive position. This move, however, generates competitors' reactions, tending to respond or even outcome the firm's actions (Grimm, Smith, 1997). This is the so called Red Queen context, in which a firms' performance depends on its matching or overcoming its rivals' actions (Derfus et al, 2008). It's a sort of continuous process that increases firms' tendency towards competitiveness (Barnett, McKendrick, 2004), with influence even on economic development (Baumal, 2004). Some scholars (Derfus et al, 2008) in particular concentrate on the dyadic relationship, where the advantage for one firm can't but happen at the expense of the other (zero-sum

game). According to this approach, in competitive contexts there is a process of searching, acting and consequent learning. Effects depend on the action-reaction process intensity as well as on the time of response of competitors to focal firm's actions.

In competitive analysis, *market commonalities* as well as *resource similarities* have to be taken into account: the first regard the number of markets where actors compete as well as the degree of importance of each market for each competitor (Hitt et al, p. 141); the idea is that multimarket competition somehow reduces competitive rivalry. Resource similarity refers to the type and amount of both tangible and intangible resources among competitors: the more similar they are the more intense is competition. These aspects influence, on their turn, companies' behaviours' drivers, in terms of awareness (recognition of the mutual dependency bound to market commonality and resource similarity), motivation (the incentive to attack or respond according to the foresees gains and losses) and their own ability (resources and degree of flexibility).

We however do agree with the framework that takes into account both market-based and resource-based competition (Peteraf, Bergen, 2003), according to which in order to identify a firm's competitors, it's important to consider market needs correspondence, that refers to the same served customer needs and resource substitution served functions. More specifically, resource-based competition in markets that are defined in terms of customers' needs considers as competitive firms that have resources that are functionally equivalent: it's not a question of resources' type but rather of their functionality that comes out and that makes them substitutes of each other.

The very important aspect to underline that regards our view of competition is its link with strategic rather than tactical issues and, therefore, in terms of innovation capacity that dates back to Schumpeter (1942; 1976), with specific reference to the process of "creative destruction" bound to innovative actions carried out by a firm to gain a competitive advantage on its own market, successively eroded (or at least with the attempt of eroding it) by other firms. Even specific contributions on cooperation define competition as "the use of received knowledge that may have a negative reverse-impact" on the sending party (Levy, et al, 2001, p. 642), referring to the fact that the receiver's use of knowledge can reduce its value for the sender, thus weakening the original owner.

In synthesis, competition can be viewed as a complex process where firm's strategy interacts with other actors, more or less involved, in a dynamic process of continuous innovation. The more hypercompetitive is the context, the more intense are these factors. Thus our view takes into account both static and dynamic competition: their revision through RBT lenses, however, allows acquiring a dynamic

view since potentially competitive resources have to be analyzed in advance. It's therefore a different dynamic vision, which, besides, takes into account not just dyadic relations but rather multi-players relations.

However, in competitive contexts some further factors can come out and precisely the fact that a firm can have some specific relations with actors that are outside the competitive context but whose relations with can reinforce its position in its market; or even some inter-firm collaborations can be started among competitors, thus reducing threats and influencing future behaviours.

Traditionally, *coopetition* has been used as a catch-phrase to explain the situation that is created when an enterprise makes some competitive actions that grant some benefits to some other players in the same industries (Brandenburg and Nalebuff, 1996); under a different interpretation, the term is referred to the situation when a firm competes with some firms while cooperating with others, different from the first (Lado, Boyd and Hanlon, 1997); a last point of view on *coopetition* is that of a firm that has some cooperation relationships with firms that are, at the same time, competitors in some other market (Dowling, Roering, Carlin and Wisnieski, 1996). Some of the most relevant contributions on the topic are summerized in table 1.

Particularly, a vision of the *coopetition* as an aspect of the relationship is the fundament of the *coopetition's* definition that identifies it as the situation in which two or more firms interact on the basis of *partially overlapped interests* and it is represented on a continuous segment on the basis of the relative weight given to the competitive component and to that of cooperation (Lado et al, 1997; Padula e Dagnino, 2005: 5).

The competition aspect in the firm's actions is interpreted following the theories of the *competitive paradigm*; theories that can be divided into those that ask the firm to modify or follow the market structure (Porter, 1980, 1985) and those that address the firm towards the development of capabilities that are difficult to imitate by *competitors* (Barney, 1991). Following this paradigm, the firm, in order to gain a profit, must subtract it from other players in the market; in this way, the structure of the market is a homeomorphism of a *zero-sum game*.

At the same time, cooperation components, partially elaborated as an answer to the previous paradigm, preview that the market structure could be viewed as a *positive-sum game*. This interpretation set the concept of *cooperation advantage* against that of *competitive advantage* of the previous paradigm. The *cooperative advantage* comes out of a net of strategic interdependence among firms with overlapping interests (Contractor e Lorange, 1988) and it has been initially developed as a way to explain vertical interdependences rents (Håkansson & Ostberg, 1976).

Table 1. Definitions of coopetition

Author(s)	Year	Contribution on Coopetition
Noorda	1992	You have to compete and cooperate at the same time.
Edgell and Haenisch	1995	[Coopetition] is the need of <i>cooperation</i> among tourism destinations in order to better market the tourism product effectively and meet the <i>competition</i> at the regional or global level.
Bradenburg and Nalebuff	1996	Co-opetition is a new way of thinking about business. Some people see business entirely as competition. They think doing business is waging war and assume they can't win unless somebody else loses. Other people see business entirely as co-operation-teams and partnerships. But business is both co-operation and competition.
Bengtsson and Kock	2000	The dyadic and paradoxical relationship that emerges when two firms cooperate in some activities, such as in a strategic alliance, and at the same time compete with each other in other activities.
Dagnino and Padula	2002	[Coopetition is] a system of actors whose interaction is based on partial goal and interest congruence.
Laine	2002	When competitors cooperate there is a continuous tension between competition and cooperation [...]. In practice this means that two firms can cooperate within for example purchasing and service, simultaneously as they compete within manufacturing and marketing... These firms are not solely competitors or rivals in a traditional sense, but they are also partners who cooperate.
Tsai	2002	Simultaneous(ly) cooperative and competitive behavior.
Eikerbakk and Olsen	2005	Simultaneous cooperation and competition.
Global Diversity Wikipedia Institute	2006	A constructive tension where both competition and cooperation between agents are pursued, contributing to their mutual benefit. Coherent behavior within a system arises from the interplay of competition and cooperation among the agents.
Padula and Dagnino	2007	[Coopetition is] the intrusion of competition in a cooperative game structure. [It] provides a more realistic view of the unfolding cooperative relationships.
Ngo and Okura	2007	Competition is a zero-sum game; cooperation is a positive sum-game; [Coopetition is] a variable-positive-sum game because it includes both of these characteristics simultaneously.
Yami <i>et al.</i>	2010	Coopetition is a beneficial strategy for managers striving for performance improvements.
Dagnino	2012	Coopetition is a complex system of interacting, co-adapting firms in which the cooping firms are complex subsystems allows us to define the competitive arenas as self-designing and self-organizing entities.

Source: our reworking.

Even the market's interpretation obtained through both paradigms is different, as the *competitive* market is characterized by *instantaneous exchanges* which can lead to opportunism and the related control costs (Williamson, 1978); *collaborative* market asks for a greater care of the long run, that leads the enterprise to factors in the mutual advantages of a reciprocally correct behaviour.

Some interesting contributions (Lado et al, 1997) propose a syncretic model where, according to the intensity of cooperative orientation and competitive orientation, different strategic behaviours come out: collaborative, competitive, monopolistic and syncretic. The latter, in particular, is characterized by both high cooperative and competitive orientations.

Dagnino and Padula (2002) elaborate a topology that classifies the *coopetition's* relationship following the number of participants, dividing them into dyadic

or network relations, and classifying them with the extension of the *value chain* involved part, defining them simple or complex according to the extension of interests within the value chain.

There are relations of *simple network coopetition*, characterized by cooperation between direct competitors that operate on the same fraction of the value chain. A typical example of these types of relations are the R&D consortia in the automotive industry, that let different car makers share the design of new models so to lessen the development costs.

There can also be relations between two firms in the same industry, with a direct relationship between the participants that must be adequately managed in order to avoid the risk of creating some model of *learning race*; this is a situation in which two players in the market succeed in stipulate an alliance, but the

relationship is not built on mutual trust on the counterpart interest in carrying it on.

In this situation both players will try to satisfy their alliance's objectives as faster as possible, in order to put an end to it before the counterpart can do it. In the network system, the *learning races* are rarer since the greater the number of players, the more advantages a given firm can obtain through the relationship.

Other relations, even if still limited to two firms, cover more activities of the value chain. In this case, although there could be some struggle on the sharing of the added value, it is easier that the relative weight of the cooperative component will raise as the menace of direct competition lowers.

Finally, the so called vertical *coopetition* is extended to more than two levels in the value chain.

In strategic networks and systems made of several enterprises, both big and small, the final situation is the more frequent. With reference to this situation, our view of coopetition is that of:

a firm which has some cooperation relationships with firms that are, at the same time, competitors in some other market (Dowling, Roering, Carlin and Wisniewski, 1996) *or mainly in the same market.*

This takes to the definition of coopetition as a constructive tension among firms or networks/systems that develop interplay of collaborative relationships, being competitors in some markets or mainly in the same markets.

Our analysis, however, does not refer to business performance, as contributions on coopetition usually suggest, but it is developed within strategic management and aims at studying consolidated and continuous networks (Della Corte, 2009b), that we define as strategic systems, as units of analysis. *This implies verifying what determines the system's overall performance and, at the same time, the single firm's strategic idiosyncrasies.*

Besides, while coopetition studies are usually developed with the help of game theory, we'll try to deal the issue in the light of the above underlined theories, developing a theoretical framework useful not only to study and confront existing situations but that can even become a strategic decision support system for firms and their aggregates.

Therefore, the research questions that come out regard why some concurrent firms should cooperate competitively speaking and why this should happen not only in vertical relations but also in horizontal relations, that is in complex relationships. More precisely, we aim at investigating if coopetitive relations can generate competitive advantage.

From these questions our main research hypotheses derive and precisely:

Hp1: Propensity to collaboration helps the creation and development of inter-firm complex systems.

Hp2: Continuous collaboration improves the system's overall performance (considered in a

multidimensional perspective): firms can gain competitiveness when they are "unable or unwilling to cope with the complexity and risks of the environment" (Cravens, Ship & Cravens, 1993), in terms of market opportunities' increase and/or more efficiency in operations.

Hp3: In situations where collaboration and competition are both high, the system's overall performance is higher than situations where collaboration is high but competition is low.

Considering this is a research paper, to test the above mentioned hypotheses, we developed the theoretical framework and tested it on two tourism destinations: Sorrento and Napoli. The methodology can be applied to other case studies.

2.2. The proposed theoretical model

Considering the above analyzed theory, coopetition as a possible source of advantage can be analyzed as though a revision of B & N's theory operationalization codified as PARTS framework, in the light of RBT and of its developments (relational view and absorptive capacity model). Thus the proposed model involves the following variables:

1) **Players:** This variable refers to the players that interact in the business, with specific attention to the threat of new entrants in the game that can change the set. We precisely refer to the main competitive actors deriving from IO's contributions (Porter, 1981 and ss) – direct competitors, clients, suppliers, substitutes and threats of entrance – at which it's necessary to add the complementors. These can be either some of the above mentioned players with whom the firm interacts for cooperative initiatives, thus reducing the intensity of threats, or some players in other industries whose relations reinforce the firm's position in the market. The main assumption regarding competitors, however, is that, according to resource-based theory, these are identified by similarities not among products or services but rather among resources and competencies. As regards in particular substitutes, it's worth taking into account not only the functional similarities relative to products-services provided but also with reference to resources (Peteraf, Bergen, 2003). This view has two important implications: a) resource substitution is an important issue both in attaining and sustaining competitive advantage; b) resource scarcity refers to its functionality rather than for its type, since it derives from its application to offered products-services on the market. On this regard, Peteraf and Bergen wrote:

Capability equivalence is the extent to which a given firm has resource and capability bundles comparable to those of the focal firm, in terms of their ability to satisfy similar customer needs.

This is nothing different from what Levitt asserted in 1960:

Firms compete not on the basis of similar resources but on the basis of whether their resources can be employed to meet similar customer needs.

This leads to the second variable (Added Value). It's however important to specify that with reference to strategic networks and systems the competitive set and dynamics is by far more complex and at a multiple level (single firms, dyadic relationships and firms-network level). In this context, however, we focus on actual and potential parties that can be identified as competitors, referring elsewhere the specific competitive process dynamics (Gnyawali, Madhavan, 2001).

2) **Added Value:** B&N mainly point out that players usually underestimate other players' true added value thus emphasizing the aspect of opportunistic behaviours. Our view is totally different, since the added value refers to the possibility of developing a positive-sum game through inter-firm collaboration. As explained, resources' value itself is connected with their functionality to the offered products and/or services. This concept of value, in fact, refers to the value in use: a product-service value depends on the use the customer can make of it (functional value or value in use). Firms may tend to satisfy the customer needs, in terms of bundle of services potentially provided to customer (or client), who, according to his personal background, has a certain value in use from the product. This approach requires a very "open-minded vision", according to which, also taking into account Service-dominant-logic approach (Mele, Della Corte, 2010; Vargo, Lusch, 2008), value is created not only through firms' resources *interactions* but also through their *integration*, in a networking perspective. Such a view is also interesting because it leads to a more dynamic competitive process, rather than making a simple analysis of actual competition.

3) The third variable, instead of referring to Rules, which imply contractual and legal relationships, considers **Relations**, both in terms of competition and collaboration.

As explained, we focus our analysis on strategic networks or even strategic systems, where the single firm is embedded in a network of relationships. This specific situation, strategically speaking also in RBT perspective, can lead to a vision of strategic network/system as loci of resources (Gnyawali, Madhavan, 2001, p. 432) and is relevant for a number of reasons: a) network relationships can be relevant potential conduits for internal resources (Nohria, 1992); b) network's resources and competencies develop and they can become complementary to those of the single firm (Langlois, 1992); c) the firm's position in the network can determine its rate of return on internal resources as well as the possible acquisition for it of new capabilities that can favour future strategic actions (McEvily and Zaheer, 1999; Powell, Koput, Smith Doerr, 1996).

In this direction, Relational View points out that firm's sources of competitive advantage can also reside in the network/system where it operates, which through a set of relations and specific investments, generate potential strategic knowledge and resources for its members. This approach has the merit of extending strategic resources generation beyond the boundaries of the single firm, thus overcoming the initial firm-centric approach, typical of resource-based theory. The sources of competitive advantage thus can depend on the idiosyncratic inter-firm linkages (Dyer, Singh, 1998: 661), usually classified in four main categories: specific investments, knowledge exchange processes, combination of complementary resources and capabilities, lower transaction costs, owing to network specific governance mechanisms. This view is extremely useful in contexts where inter-firm collaboration regards, in particular, small and medium enterprises. These ones, for their specific structures, are good at fostering innovation but often unable to get advantage from that innovation (Levy, Loebbecke, Powell, 2001).

Therefore, in rather structured collaborative frameworks, there are some important processes to take into account¹³:

- *synergy*, bound to the extent of cooperation, able to enlarge the overall value compared with the value created individually by the single firms, favoured by interactions. This process is bound to the synergy generated by the system that can become itself source of competitive advantage and to the synergy sensitive resources owned by single partners, whose combination increases the level of "strategicity" of resources as well as of the potential to generate further relational rents. This of course depends also on the firm's position in the network and on the eventual structural equivalence of partners (Gnyawali, Madhavan, 2001), thus needing to be integrated with competitive dynamics' analysis.

- *leveraging*: this variable has to be considered on a double perspective. The first refers to the leveraging of complementary resource endowments, in terms of partners' distinctive competences that collectively generate higher rents than individually (Dyer, Singh, 1998: 666). This process usually takes place when partners combine resources and/or develop co-joint idiosyncratic (and therefore indivisible) resources and capabilities both through interaction and integration (Grönroos, 2008, 2009; Vargo, Lush, 2008).

On this topic, some authors concentrate, in particular, on the transfer of information that (Zuchin, Di Maggio, 1990; Granovetter, 1992) depends on two forms of *embeddedness* (Gnyawali, Madhavan, 2001): *relational embeddedness*, i.e. the

¹³ This perspective involves studies of cooperation mechanisms through game theory. See Loebbecke, van Fenema, 1998; Van Hippels, 1988; Levy, Loebbecke, Powell, 2001).

ability of two actors sharing a relation to access the same hoard of information, to lessen uncertainty and promoting trust (reliability) amongst them, and *structural embeddedness* that is the global capacity of the network's configuration to facilitate information flows, thus allowing each involved actor to gain an advantage based on his or her "status" within the network (Podolny, 1993, 1994).

This process, on one hand, favours network density and its influence on response likelihoods: a competitor that initiates an action against another in the network, with an opportunistic behaviour, is seen negatively by the whole aggregate and therefore risks to be emarginated or neglected; on the other hand, the embeddedness process is valuable unless it reduces firms' overall flexibility in their strategic paths.

4) The fourth variable – Tactics – mainly refers to the possible opportunistic behaviours, for which it's better to keep the "fog", in order not to reveal competencies and knowledge the other parties can appropriate at the disadvantage of the initial owner. We, on the other hand, consider trust building behaviours. The variable, therefore, becomes: **Learning (and Innovation)**.

This reasoning is reinforced by the exploration-exploitation model, which takes into account the necessity for a firm or a network/system, to survive or better being competitive, to explore new possibilities and to exploit, at the same time, old certainties (March, 1991, p. 71). The balance between the twos is one of the main objectives for firms' survival or better success. In this view, the so created knowledge can increase both average performance and its relative variability (March, 1991: 84) but it is not necessarily the source of a firm's competitive success. Knowledge learning and rooting favour coordination and communication's process, making performance more reliable, but the real effects depend on the management of both knowledge and discovery attitude.

Transferring the question of knowledge so created through organizational learning to strategic networks and systems, two general situations come out: the mutual learning inside the system and learning and competitive advantage in competition for primacy. According to the former, the network stores some specific knowledge in terms of coordination mechanisms, information flows, rules and other forms of communication, more or less codified; at the same time, its members become more and more socialized to the network's main values and beliefs. Mutual learning, however, when characterized by high embeddedness from firms that take part to the system can become self-destructive: the created convergence can even become a threat to learning's effectiveness if individual members adjust to the network's code before the code can learn from them (March, 1991: 85).

The above analyzed aspects lead to the other perspective of the leveraging process that refers to

partners' different capabilities in exploiting relational resources. This ability refers to the different ability partners can have in identifying the potential value of a resource and of its use. This differences not only regard partners' previous experiences and knowledge (see the P variable – parties) but also their different search and evaluation capabilities of parties and of potential resources' use, here including others' strategies and actions. This recalls the firm's competitiveness within the network and its relative position (Gulati, 1995; Mitchell, Singh, 1996; Walker et al, 1997).

It is therefore important to verify whether within a system there are hints for innovation, through both inter-firm collaboration and competition. First, with reference to the risks connected with the more unfamiliar and uncertain exploration phase, external relations could be used to share the overall risk. The wider is the set of relations with external partners, the lower is the risk for the single firm. The overall set of relations can also help reducing the learning time and enriching knowledge itself of new contents: it favours knowledge development, through a quicker *exploitation* phase, also of new discoveries and can benefit of partners' capacity of developing knowledge from new acquired factors (Della Corte, Sciarelli, 2009).

This approach is useful because it conducts to a view of competition as a knowledge-based process, within which firms strive to acquire and develop capabilities quicker than their competitors (D'Aveni, 1994, Teece and Pisano, 1994). From this point of view, the absorptive capacity is a firm's ability to recognize value of new, external knowledge, assimilate it and apply it to commercial ends (Cohen, Levinthal, 1990: 128). This ability, according to absorptive capacity model, largely depends on the level of prior related knowledge (Bower, Hilgard, 1981), interpreted as a set of learning skills. In RBT perspective, this concept of cumulativeness recalls the concept of path dependence and even influences expectation formation, according to a process which is domain-specific and is path or history-path dependant (lockout process, Cohen, Levinthal, 1989): the more the firms invests in absorptive capacity, the more it can appreciate new external opportunities. Besides, Cohen and Levinthal assert that according to this perspective, learning capabilities are similar to problem solving, apart from the content: while the former regards the ability to assimilate existing knowledge, the latter implies the capacity of creating new knowledge.

In particular, interactive knowledge, generated by the interaction of more tacit components among partners is the more strategic in RBT terms, able to favour the "how and why" process (Lane, Lubakin, 1998).

This confirms that coepetition logic seems to be necessary to favour innovation in a well constructed and balanced system.

In this perspective, governance mechanisms can become important to favour competencies sharing and putting into action positive competitive behaviours.

Therefore, absorptive capacity model also helps defining the main capabilities in the learning interactive process within networks and precisely:

1) the ability to explore opportunities external to the system (outward component), implying knowledge diversity, which fosters innovation;

2) the efficiency in exploiting them (inward component);

3) the ability of learning through interaction, both at a firm-to-firm and at a firm-to-network level, also generating new collective knowledge (knowledge sharing and collective knowledge creation).

3. Some empirical evidence: methods and discussion

The above explained theoretical background is applied empirically, in order to verify in cooperation which relations appear to be relevant and if they can generate competitive advantage.

Empirical analysis is conducted in tourism industry, which is a very interesting sector for three main reasons:

- it is characterized by the presence of different companies (airline companies, tour operators, travel agents, hotels and resorts, restaurants, business attractions), whose products/services are strictly complementary in front of the tourist (Rispoli, Tamma, 1995). The complementarity, however, of different

services/products, depends on the resources and competencies complementarity in the industry (Hitt, Bierman, Shimizu, Kochhar, 2001; Hitt, Dacin, Levitas, Arregle, Borza, 2001). This of course represents a great incentive for firms to collaborate, even if of different size and of different governance forms (public companies rather than private-held or family owned enterprises). In the processes of destinations' investments, promotion and development, it's frequent to verify the presence of some inter-firm "slim and flexible" governance structures, private, public or public and private, that lead the process (Della Corte, 2000, 2004; Della Corte, Sciarelli, 2003; Barney, Della Corte, Sciarelli, 2005);

- it is characterized by a high variety of firms, both in terms of size and property structure, level of internationalization and strategic orientation: it is interesting to see how small and medium enterprises can be successful through strategic paths referred to niche market targets and compete successfully with huge, multinational groups;

- if the whole destination as a strategic network/system is the unit of analysis, several variables can be considered in order to verify the relations' impact on performance (measured in terms of overnights, GP generated by tourism in that area, accommodation firms' rates of occupancy) over time.

As regards the method, a non probabilistic sample has been selected, composed of:

	n
Interviewed Players	185
Naples	100
Sorr. Pen.	85

These are identified through the PPT model (product-project-territory – Sciarelli, 2007), which is a preliminary technique according to which through qualitative research (panels with the main local actors, materials and publications analysis) some inter-firm relations are singled out. The selected systems are then analysed through the cross-sectional case studies' method. In each of the identified territories a survey has been conducted, whose sample is obtained through cluster analysis, involving the most representative firms for location, size and sales, operating in tourist chain. With reference to different Italian destinations (both in Northern and Southern Italy: Naples, Sorrento Peninsula, Castelli Romani, Sannio, Treviso, Dolomiti, Marche's Systems), empirical evidence suggests that, even if Italian destinations can be at a different level of development, the "thematic" approach, based on resource-based theory and cooperation logic, applied to marketing choices, is really useful for a higher competitiveness of wider areas (regions, rather than

the entire Italian systems, especially in front of International markets).

The first empirical phase regarded the qualitative analysis and a comparison of two destinations in the same region: Naples and Sorrento Peninsula. The samples were stratified according to a stratified convenience process. The most relevant players in the business were identified for each area: hotels, restaurants, tour operators, travel agencies and other relevant local actors, respecting the population quotas. For each area (Naples and Sorrento), 70 and 75 firms were reached respectively, of whom 56 and 59 answered. The sample was therefore significant, and web information, plans, brochures and investment projects were analysed. We went through deep face-to-face interviews to local entrepreneurs or top managers. Most of the questions were indirect, in order to catch more realistic and true answers.

Our dependent variable was the destination (that is a place able to autonomously attract tourism demand) and its relative performance. This is

measured through some specific factors: arrives, investments. Independent variables were identified for overnights, available beds as proxy of local each of the research hypotheses (table 2).

Table 2. Independent variables and relative qualitative measures

<i>Indicators</i>	<i>Measure</i>
Propensity to Collaboration in the area	
Preference for a specific form of collaboration	Implicit level of trust
Actions to improve integration	Awareness of collaboration's strategic potential
Actual collaboration in the area	
Managerial areas that are more invested by collaboration	Motivation to collaboration
Management of the most cited managerial area	Collaboration role in management
Participation to associations/consortia	Degree of consolidation of collaboration
Area promotional projects	Level of offer integration
Competition	
Perceived concurrent areas in the country	Competition's perception
Market target	Market positioning
Tangible and/or intangible investments in the area	Individual competitiveness
Collaboration with external actors	Individual competitiveness and positioning within the system

Source: our reworking

3.1. Discussion and conclusions

The main results of the empirical phase allowed us to check each of the research hypotheses as well as to interpret them in the light of the proposed theoretical model.

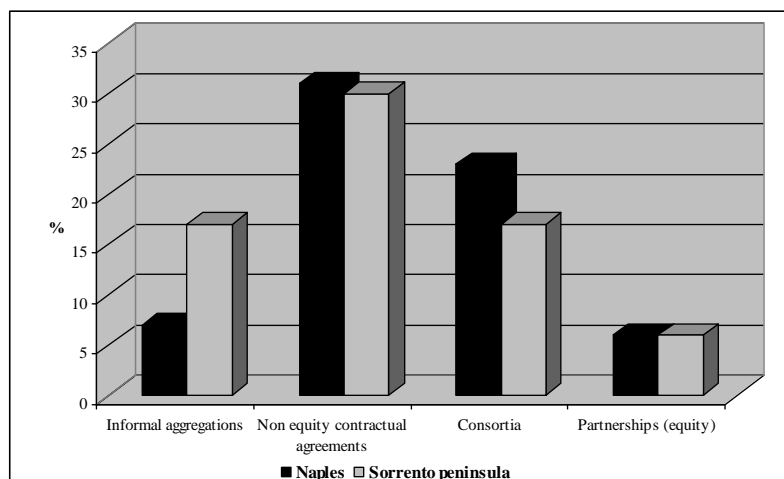
As regards hypothesis 1 - Propensity to collaboration helps the creation and development of inter-firm complex systems.

The first part of the analysis is focused on firms' behaviour towards "strategic alliances", in general. In particular, in our sample, it is clear that the interviewed firms are more inclined towards no-equity contractual agreements and then to consortia.

Instead, informal aggregations (for Naples) and partnerships (for both) seem to be less appealing. In addition, the result about the first ones highlights also another important aspect: Sorrento Peninsula' firms seem to be more interested into the strategic potentialities of informal aggregations. This result reflects the relevance of informal, knowledge sharing based relationship, in a continuous process of reciprocal knowledge.

According to our theoretical framework, therefore the influence of the collaboration behaviour on performance results has been analysed (figure 1; table 3).

Figure 1. Preferred collaboration behavior



Source: our reworking.

Table 3. Correlation analysis

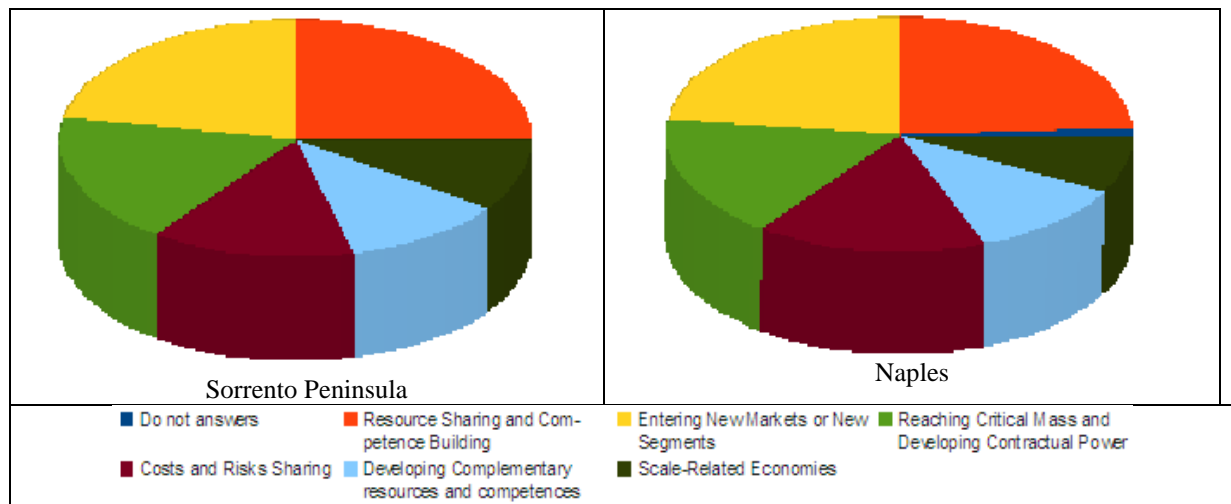
Area	Verifying the influence exerted on performance results by	Result
Peninsula Sorrentina	Coopetition strategy	+0,87
	Competition strategy	+0,68
Naples	Coopetition strategy	+0,72
	Competition strategy	+0,56

Source: our reworking.

By using the correlation analysis, we can immediately verify that the coopetition strategy is able to guarantee a better influence on performance results achieved by interviewed firms.

Therefore, we can suppose the existence of the important strategic opportunity to achieve a long-run competitive advantage.

Linking these results to the model, players are aware of the possibility of creating added value through inter-firm relations that are characterized by collaboration even among competitors (figure 2).

Figure 2. Usefulness of “shared with others” resources

Source: our reworking.

As regards hypothesis 2 - Continuous collaboration improves the system's overall performance (considered in a multidimensional perspective): firms can gain competitiveness when they are “unable or unwilling to cope with the complexity and risks of the environment” (Cravens, Ship & Cravens, 1993), in terms of market opportunities' increase and/or more efficiency in operations.

In order to verify this hypothesis, Guttman scale and η^2 index have been applied.

In particular, the first one is aimed at designing the firms' orientation to collaboration approach, conceived as a “multidimensional puzzle” where the number of partners, their role in the die and the type of inter-firms agreements are taken into account.

Our interest into the perfect Guttman scale is in its fundamental property: the cumulativity. It implies

that a subject that gives a correct¹⁴ answer to a difficult question, the same subject ought to give a correct answer to a simpler one.

Trough the Guttman scale, the firms' propensity to collaborative strategies can be measured. The items taken into account are:

1. existence/intensity of relations between firms and Institutions;
2. existence/intensity of relations between firms and professional associations;
3. existence/intensity of relations between firms and other actors of the die.

¹⁴ According to the model, we define “correct” the positive answer. In other words, we have dichotomous answers, codified (1 = Yes) and (0 = No). So, when the interviewed subjects answered yes, their answer is defined correct. We define “difficult” the question that requires a major quantity of property, i.e. in our case a better behaviour to collaboration approach.

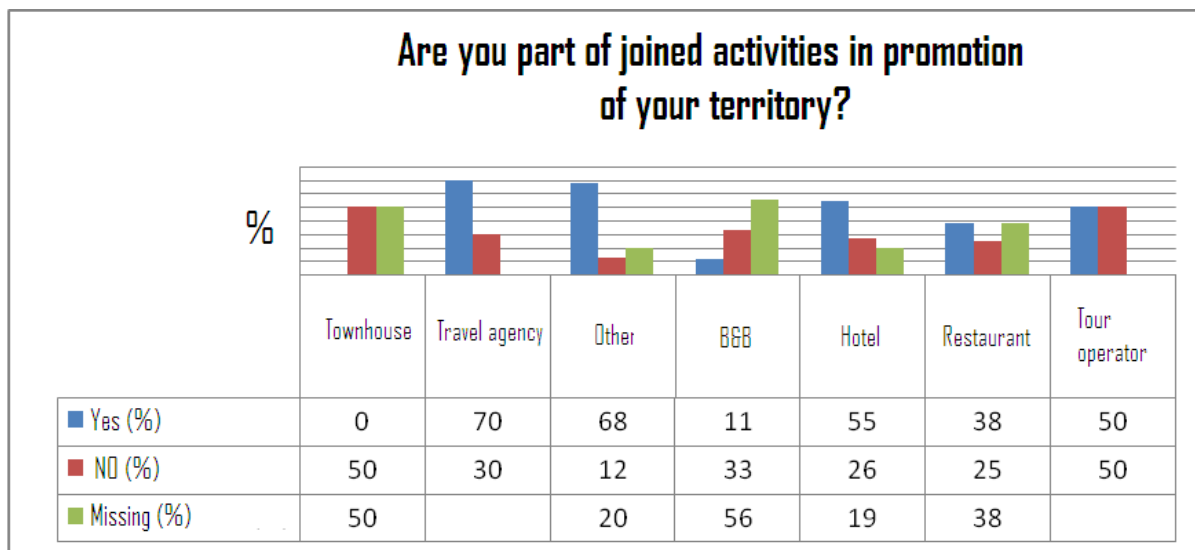
Trough the Guttman scale, the following profiles came out:

1. **profile A:** firms that have not important relations both with Institutions and Professional Associations.
2. **profile B:** firms that have important relations with Institutions and frequent and important relations with the Professional Associations.
3. **profile C:** firms that have important relations both with Institutions and Professional Associations.

In addition, they are in favor of cooperation with other actors of die and of International agreements.

4. **profile D:** those firms are in favor of inter-firms cooperation, they are parts of associations/consortia/etc., and they are in favor of pro-active actions for the promotion of their territory, conceived as destination.

Figure 3. Participation in promotional activities of own destination



Source: our reworking.

In particular, according to the other firms, the travel agencies are the most active ones: the 70% of

them declare to agree with promotional activities of the territory, conceived as a destination.

In general, in our sample we can observe.

Table 4. Intensity of coopetition

Are A&A useful to competition	Yes	Type of A&A	Yes
Naples	97%	Naples	97%
Sorr. Pen.	91%	Sorr. Pen.	91%

Source: our reworking.

In order to study the connection between the above described profiles and the performance results (measured trough a customer retention index), a chi squared has been used. Seeing that it can assume values in the range [0;1], the achieved results show

that the better strategic approach (i.e. the approach that is able to guarantee the better performance results) both in Naples and in Sorrento Peninsula is the third one:

Table 5. Chi squared analysis

	Profile A	Profile B	Profile C	Profile D
ETA quadro	0,25	0,39	0,72	0,54

Source: our reworking.

According to table 5, only the firms that 1) have important relations both with Institutions and Professional Associations and that 2) are in favor of cooperation with other actors of the and of International agreements, can obtain the best performance results. So, according to our analysis the relative impact of the single "Guttman profile" influences very much the achieved performance results.

As regards *hp. 3* - In situations where collaboration and competition are both high, the system's overall performance is higher than situations where collaboration is high but competition is low - this seems to be confirmed as well.

According to profiles C and D, a more in-deep analysis has been carried out. In particular, the cooperational approach was ideally divided in: 1) competition; 2) cooperation; 3) collaboration.

Table 6. η^2 analysis

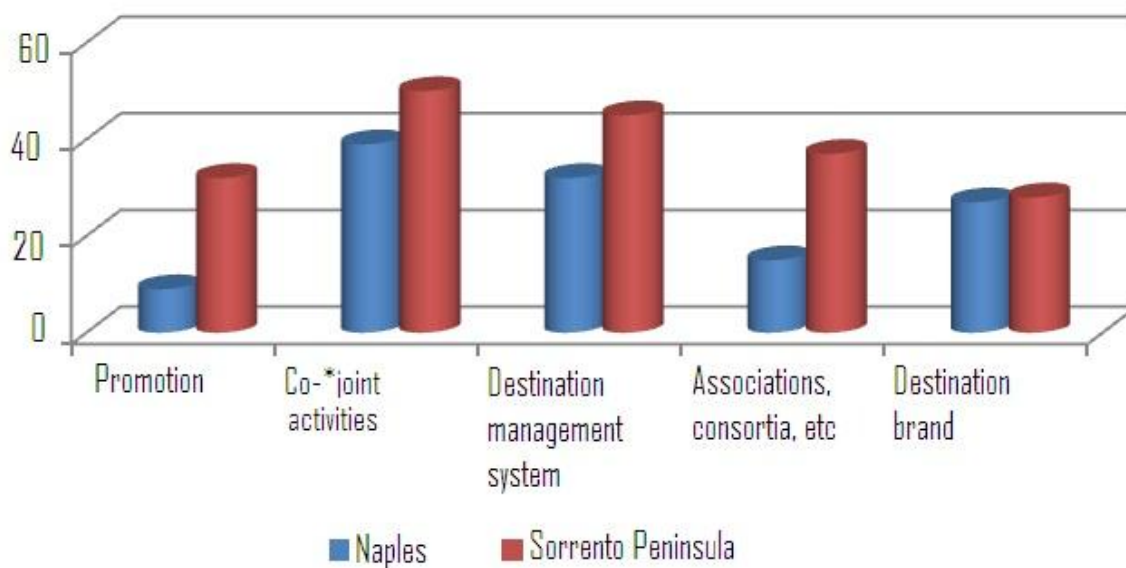
	competition	cooperation	collaboration
Neaples	0,32	0,46	0,41
Sorrento Peninsula	0,26	0,74	0,53

Source: our reworking.

The cooperation strategy seems to be able to guarantee the better results in terms of customer retention, both in Naples and in Sorrento Peninsula.

The different values can be understood thanks to the following graph:

Figure 5. Propensity to collaboration



Source: our reworking.

In fact, respect to Neapolitan firms', the actors of Sorrento Peninsula are more pro-active in participation and organization of collaboration activities.

Thus the conclusion is that cooperation can be source of competitive advantage in strategic networks.

In fact, this paper has important implications, both theoretical and empirical. As regards the first aspect, it provides a new and richer content to cooperation, inserting the topic within a complex theoretical set based on resource-based theory, relational view and the absorptive capacity model. The proposed framework also suggests a new vision

of competition studies and analyses, that cannot but take into account some social aspects of the relationship that can influence inter-firm interactions.

From a practical point of view, it is important to specify that, as results show, if both competition and collaboration are highly applied, a more profitable performance can be drawn considering that competition fosters innovation and collaboration reinforces the strategic strength also of small and medium enterprises as well as the relative strategic elasticity of the network, in terms of more and wider strategic opportunities.

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ANALYSTS' DISTORTED VALUATION OF HI-TECH STOCKS

Enrico Maria Cervellati*

Abstract

This paper aims to examine the distorted valuations of internet companies during the dot.com bubble. The analysis is performed through a clinical study of Tiscali, the most known Italian internet company at the time. First, its IPO is presented, underlining the presence of the three typical phenomena: the decision to go public during a hot issue market, the initial underpricing, and the long run underperformance. Second, a content analysis of the reports issued by analysts in the period 1999-2001 shows the most common mistakes in using relative market valuation techniques. Third, an event study analysis shows the market reaction following acquisition deals announcements was often driven by irrational exuberance during the internet craze, but also that after the bubble burst the market eventually understood analysts over optimism. Other behavioral biases like overconfidence, but also heuristics like anchoring are discussed in the paper, as well as the need for analysts' to insert in their toolbox new instruments provided by the behavioral finance literature.**

Keywords: Analysts, Distorted Valuation, Internet Bubble, Overconfidence, Conflicts of Interests

JEL Classification: G14

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1 Introduction

Internet companies' valuation has attracted an enormous interest during the Internet bubble of end of the 1990s – beginning of 2000s both among market participants and academics. At its peak (March, 2000), the valuation of these firms reached extraordinary high levels, competing with older and more established companies. At the time, stock markets saw their value rapidly increase mainly thank to the growth in the new Internet sector.¹⁵ Large positive stock market reactions followed the announcements of name changes of corporations to Internet related dotcom names. This “dotcom” effect originated cumulative abnormal returns up to 74% over the ten days surrounding the announcement day (Cooper et al., 2000).

After the bubble, financial analysts have been accused of having overstated the value of internet companies. This paper mainly aims to examine the distortions that affected analysts' valuations during the “dotcom” craze.

In highlight the most common mistakes committed by analysts in their reports on internet companies, it is possible to trace them back to the

most popular biases examined in the behavioral finance literature. Analysts had a major role in spreading the so-called “irrational exuberance” (Shiller, 2000) that affected stock markets in those years.

While excessive optimism and overconfidence in their skills may have caused such distorted valuations, also potential conflicts of interests partly explain such distortions. As a matter of fact, while analysts' role is to issue valuable information to their clients, at the same time they work for investment banks that do business with the covered companies.

Analysts, however, are not the only focus of this paper since also the stock market reaction, thus investors' behavior, is considered.

The paper is a clinical study on Tiscali – the most representative Italian internet company at the time of the dotcom bubble – that has been analyzed between 1999 and 2001. During this period, the company reached its highest market capitalization (on March, 10 2000) and expanded through a series of acquisitions of the most active internet companies in Europe.

The paper is organized as follows: section 2 present a brief survey of the relevant literature; section 3 describes the database and the methodology used that includes both a content analysis of analysts' reports issued on the company, as well as an event study of the market reaction to major corporate

¹⁵ The stocks belonging to this sector were valued 35 times their aggregate revenues and had a target price/earnings ratio as high as 605.

events; section 4 presents the results obtained through the analysis of Tiscali's IPO, the content analysis of reports and the event study to measure the market reaction; section 5 concludes.

2 Literature review

Studies in the literature deal with the valuation of internet companies and the role of analysts in the dotcom bubble from different angles. Since during that period several high tech companies benefited from the market upward phase to go public, many studies analyzing the internet bubble regarded the IPO process.

Tiscali's IPO is the most emblematic example of the impact of the "new economy" on the Italian market. The analysis that follows deals with its listing on the Italian Stock Exchange (Borsa Italiana), with particular regard to its timing and to the initial underpricing on the first trading day. Furthermore, the analysis of the medium term performance has been carried out.

Thus, the three typical "regularities" related to IPOs – hot issue markets, initial underpricing, long run underperformance (Ritter, 1984) – have been analyzed using both the traditional approach (Brealey, Myers and Allen, 2010) as well as the behavioral one (Shefrin, 2006).

In IPOs, the degree of asymmetric information between the management of the company and investors is very high. In case of uncertainty, investors tend to rely on heuristics, i.e., rules of thumb that help in taking decisions. In case of asymmetric information, the so-called "bandwagon effect" (Welch, 1992) can take place in the market. The latter effect, also known as "information cascade", refers to investors' preference to buy the stocks of companies that recently went public, and that have already attracted other investors' attention, i.e., that are considered "hot". Relying on the behavior of the crowd, rather than on their own judgements, investors are able to minimize the potential future regret that they may feel in case of the choice of the stock turns out to be erroneous.

The expression "hot market" refers to a period when valuations are irrationally over-optimistic. In these periods, the average first month performance of IPOs is particularly high (Ibbotson and Jaffe, 1975). IPOs usually tend to concentrate in periods of high initial underpricing – i.e., the fact that the offer price is below the closing price of the first day of trading (Purnanandam and Swaminathan, 2004) – creating a "windows of opportunity" to go public (Loughran, Ritter and Rydqvist's, 1994).

An alternative explanation of the initial underpricing comes from the theories related to the bookbuilding process based on the "market feedback" hypothesis (Benveniste and Wilhelm, 1990), and the "agency conflict theory" (Jensen and Meckling, 1976). Following these theories, a company is willing

to accept a low offer price to create a "demand effect", i.e., to be sure that the demand of its stocks will exceed the offering, thus being sure of the success of the IPO. Also, underwriters seem to assure the company's management that the stock will be followed by a highly rated analyst, emphasizing the positive effects that the coverage is likely to have on the future stock price.

Many studies documented analysts' over optimism. Analysts may be overly optimistic because of potential conflicts of interest (Dugar and Nathan, 1995), but also due to cognitive reasons. In this latter respect, McNichols and O'Brien (1997) found that analysts tend to initiate to cover a stock because they are optimistic about its future prospects. This evidence underlines a selection bias problem: only excessively optimistic analysts, on average, decide to cover companies. Analysts are not only over optimistic, but they also tend to be overconfident with respect to their skills (Nicholson, William, Fenton-O'Creevy and Soane, 1998; Barber and Odean, 2000).

The idea of "fads", instead, could explain long-term underperformance of IPOs (Aggarwal and Rivoli, 1990). More in general, behavioral finance studies argue that while the initial underpricing represents an overreaction of the market, the long run underperformance is nothing but a correction of this former misvaluation. Furthermore, analysts can be distorted in their valuations by heuristics. A typical heuristic that affects analyst's behavior is called anchoring, i.e., the tendency to remain mentally anchored to a particular reference point (the mental "anchor"), even if this later proves to be irrelevant for the decision that had to be taken. Investors, use this heuristic in deciding whether to invest or not in a stock. They tend to anchor either to the maximum price reached in the past by the stock, or the one at which they initially purchased it. Although it may seem unlikely for professionals like analysts, to be subject to anchoring, it affects their valuation since estimated target prices are often too close to current stock prices.

With respect to market reaction, Womack (1996) calculated that the market reaction to analysts' recommendation changes in case of upgrade was 2.4%, while for downgrades the abnormal return was definitely higher and equal to - 9.1%. This asymmetry is due to analysts' reluctance in conveying negative news (Piras, Denti and Cervellati, 2012). However, since investors are aware about this fact, they react in a very negative way. Barber, Lehavy, McNichols and Trueman (2001) studied if analysts' consensus recommendation can be valuable for investors, i.e., if they could rely on their reports to implement profitable investment strategies. They confirmed that analysts' recommendations are valuable for investors, but mainly in the very short run. Brav and Lehavy (2003), found that the market significantly reacts to changes in target prices. The reaction was positive for upgrades, but negative for downgrades. Bradley,

Bradford and Ritter (2003) showed that analysts started their coverage immediately after the IPO in 76% of cases and with a positive judgement. In a five days window, the analyzed companies recorded an abnormal return of about 4.1%, against 0.1% for those which were not covered by analysts' reports.¹⁶ The fact that a recommendation came from one of the company's underwriter or not seemed not to affect these results.

With regard to the Italian stock market, Fabrizio (2001) examined analysts' reports on Italian listed companies in the period 1998-1999, underlining that 58.2% of the reports contained buy recommendations while only 6.1% were sell. Furthermore, brokers were generally more interested in bigger companies or in those with good growth perspectives. Bertoni, Giudici, Randone and Rorai (2002) analyzed all the report on companies listed on Borsa Italiana¹⁷ between 1999 and 2001, and showed four interesting phenomena: (i) analysts' valuations were systematically over optimistic; (ii) recommendations tended to converge, regardless of the market cycle; (iii) valuations of analysts affiliated with the IPO underwriters were generally the most optimistic, raising doubt of potential conflicts of interests; (iv) limited reports circulation caused information asymmetry between institutional and individual investors, negatively affecting market efficiency.¹⁸

3 Methodology and sample description

In this paper, two distinct analysis have been performed. The first one is a content analysis that has been divided into three sections, distinguishing between the reports analyzing: the merger with World Online, the acquisition of Liberty Surf, and, finally, other smaller acquisitions. The second one is a traditional "event study" with two main purposes: to verify, calculating Cumulative Abnormal Returns (CARs), the market reaction to the announcements of Tiscali's acquisitions, and to understand the relationship between investors' behavior and analysts' recommendations.

In little more than one year, Tiscali passed from being a small Italian telecom company to become the leader of the European internet sector. The company developed a complex business model merging the typical structure of telecom companies with the one used by modern Internet Service Providers (ISP). Such a company was not easy to evaluate, and analysts raised concerns with regard to the difficulties in calculating the value of internet companies.

Furthermore, Tiscali was a startup, and the valuation of new ventures is definitely more difficult compared to calculating the value for already established companies, especially if in the high tech sector. In these cases, it is difficult to correctly identify how the company could develop its innovative ideas to create future market and growth opportunity, and eventually cash flows. As often happened for hi-tech companies, Tiscali's financial results in the short term were negative, due to the high investments in IT and marketing. However – and this is an important aspect of the whole story – the company devoted a lot of funds to merger and acquisition (M&A) deals. In addition, like other internet firms, the company changed its business model and organization quite often in those years, complicating even further analysts' work. Thus, their struggle to evaluate Tiscali was justified.

However, also psychological issues played a major role, as the paper will clarify, both in the company top management choices and in analysts valuations.

To conduct the content analysis, all the reports issued between October 1999 and the first half of 2001 have been considered. The detailed analysis of these reports underlined several contradictions and inaccuracies in the reports. Analysts were not always able to explain the real consequences of Tiscali's investment decisions and acquisition activity using traditional financial valuation methods. Often, analysts preferred to use "new valuation methods" applied at the time to discern the value of the so-called "New Economy" companies. The number of subscribers and the growth potential, rather than cash flows, became the new basics for valuation. Of course, these variables were not necessarily linked to the value of the company, as the market assessed thereafter. Lastly, with regard to the event study, particular attention has been dedicated to verify the market reaction to recommendation changes and to Tiscali's investment decisions and acquisitions.

3.1 Analysis of the IPO process

Tiscali's IPO took place on October, 27 1999 with ABN Amro Rothschild and Banca IMI as global coordinators of the combined offering. The offer price was €46 per share and the stock was admitted to listing on the Nuovo Mercato, the segment of the Italian Stock Exchange created in the same year and dedicated to the small and medium companies active in the technological sector.

While the calculation of Tiscali's initial underpricing is straightforward since it is given by the difference between the closing price on the first trading day and the offer price, to analyze the long run underperformance, a definition of the market return is needed to calculate abnormal returns. A possible choice would have been to take the Numtel, i.e., the index of the Nuovo Mercato. If on one hand that

¹⁶ The largest abnormal returns were found for those companies covered by more than one analyst.

¹⁷ The reports are publicly and freely available on Borsa Italiana's website. Borsa Italiana is the managing company of the Italian Stock Exchange.

¹⁸ Also see Belcredi, Bozzi and Rigamonti (2003), Cervellati *et al.* (2007a, 2007b, 2008).

would have been an appropriate choice since this latter index represent companies in high-tech sector – thus more close to Tiscali – on the other hand the large market capitalization of the company during the internet bubble created a situation in which it made up a great part of the Numtel. Thus, this index has been discarded, while the more general Mibtel (*Milano Indice Borsa Telematica*) has been chosen since it represents the whole Italian Stock Exchange.

3.2 Content analysis of analysts' reports

All the reports issued between the IPO date and the first half of 2001 have been analyzed. The reason to stop analyzing reports in this period is that the last

important acquisition made by Tiscali to achieve the leadership in the European internet sector – the target company was Line One – was announced on April, 25 2001. More attention has been devoted to the most relevant reports, i.e., those dealing with the valuation of M&A deals.

It is interesting to analyze these reports since it is possible to underline the distinct valuation techniques used by analysts. Table 1 summarizes the main acquisitions made by the company in the considered period (Most of the reports in the sample focus on two deals: the merger with World Online and the acquisition of Liberty Surf. The other deals did not receive the same attention by analysts).

Table 1. Main European acquisitions made by Tiscali by date of deal announcement

Date	Company	Sector/Type	Nationality
23/12/99	Nets SA; A Telecom SA	Telecom	French
14/01/00	Datacomm AG	ISP	Swiss
24/01/00	cd-Telekomunikace	Telecom	Czech
03/02/00	Ideare Srl	Internet	Italian
10/02/00	Link line	ISP	Belgian
25/02/00	Nikoma Beteiligungs GmbH	Telecom	German
13/03/00	Interweb Sprl	ISP	Belgian
12/05/00	Quinary	IT	Italian
07/09/00	World Online	ISP	Anglo-Belgian
20/12/00	Addcom	ISP	German
08/01/01	Liberty Surf	ISP	French
12/02/01	Excite Italia	ISP	Italian
12/04/01	Planet Interkom	ISP	German
24/04/01	SurfEU	ISP	German
25/04/01	Line One (Springboard Internet Service Ltd)	ISP	British

Before applying the content analysis on the reports, a classification of the recommendation is needed to investigate the effects of the information issued by analysts. Recommendations have thus been divided into five distinct categories: Buy, Outperform/Add, Neutral/Hold/Market Perform, Underperform/Reduce, Sell (In practice, some of these terms are used to mean the same

recommendation. In this respect, “outperform” or “add” have similar meaning, as well as “neutral”, “hold” and “market perform” may be considered as interchangeable, like “underperform” or “reduce”. This is why in Table 2, only one term is used for each kind of recommendation). Table 2 presents such classification per year of reports' issuance.

Table 2. Number of reports on Tiscali by type of recommendation and year of (1999-2001)

Year	Recommendation				
	Buy	Add	Neutral	Reduce	Sell
1999	2	-	-	-	-
2000	6	2	11	2	3
2001	4	1	28	17	5
Total	12	3	39	19	8

While in 2000 there were six buy and eleven neutral recommendation, in 2001 there were only four buys while the number of neutral recommendations

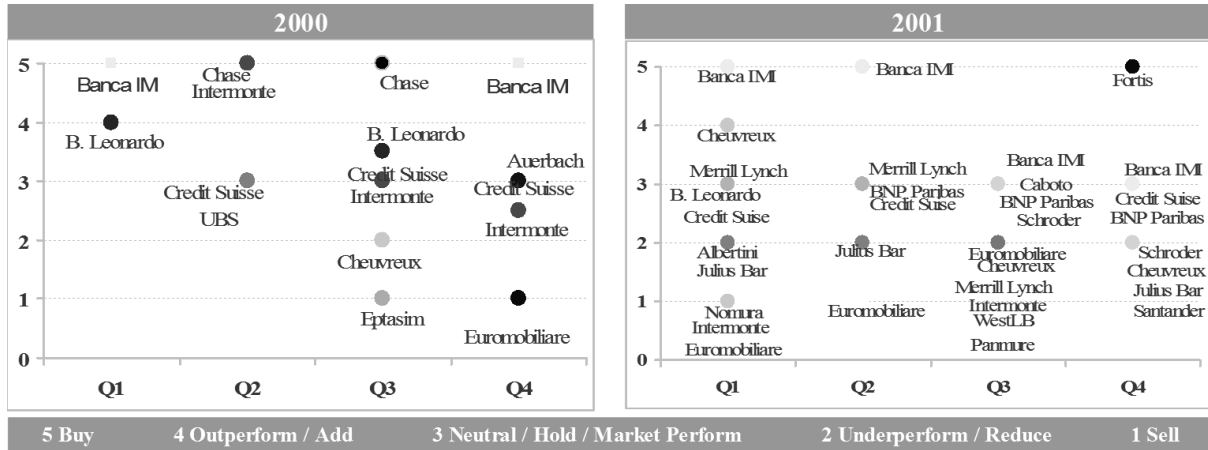
grown to 28, with a strong increase in negative ratings like reduce or sell. This is a clear indication of how analysts change their mind with regard to Tiscali after

the burst of the bubble (The peak of the bubble can be identified around March 2000).

Aggregating the reports by quarter, based on their issuance date, it is possible to show the trend

followed by recommendations, as depicted in Figure 1. It is straightforward to see a downward sloping trend in analysts' rating from 2000 to 2001.

Figure 1. Analysts' reports by quarter and type of recommendation (2000-2001)



3.3 Event study

While the content analysis showed Tiscali's main acquisitions through the study of analysts' reports, the event study that follows measure the market reactions to their announcements. Average abnormal returns (ARs) are calculated taking as index the Mibtel, for the reasons that were mentioned above. A window of ten days surrounding the event date is considered: [-5; +5]. The returns of both the stock and the index, at time t , have been calculated as natural logarithm of the ratio between the price at time t and the price at $t-1$: $R_{i,t} = \ln(p_{i,t} / p_{i,t-1})$ (Stock and the index prices have been obtained from Datastream). To measure ARs, the "market adjusted model" has been chosen. To catch the market reaction to the issuance of positive or negative recommendations, two distinct models have been considered:

$$R_t = \alpha + \beta \times R_m + \gamma \times \lambda_{POS} + \varepsilon_t$$

$$R_t = \alpha + \beta \times R_m + \gamma \times \lambda_{NEG} + \varepsilon_t$$

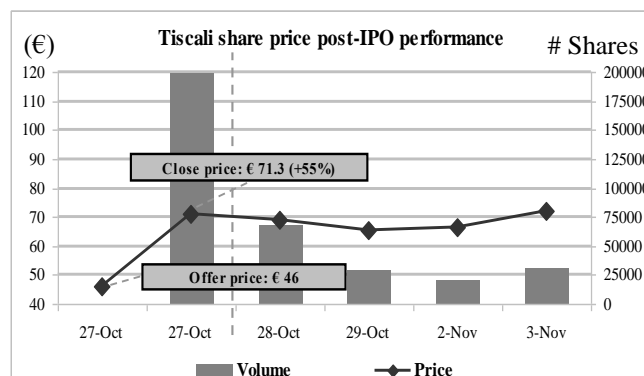
The only difference between them is that in the first model the dummy λ_{POS} catches the effects of the publication of positive ratings on the stock returns, while in the second one the dummy λ_{NEG} explains the effects of negative recommendations. This means that if the analyst's recommendation is positive, λ_{POS} will be equal to 1 and λ_{NEG} to 0, vice versa if the recommendation is negative. The purpose is to verify the null hypothesis of "absence of the effect of the recommendation" through a simple T-test for the parameter γ .

4 Empirical results

4.1 IPO

The closing price of the Tiscali' stock in the first trading day was € 71.3, an underpricing of 55% compared to the offer price of € 46 (see Figure 2).

Figure 2. Tiscali's initial underpricing

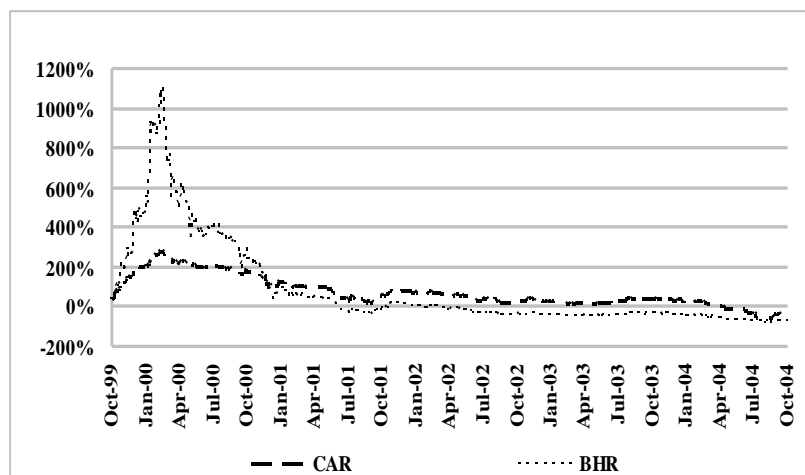


Tiscali was not an isolated case. During the dotcom bubble, other IPOs in the Italian Stock Exchange recorded high level of underpricing. Finmatica (Finmatica was an Italian a software provider for the banking sector. In 2004, it declared bankruptcy) was the most impressive example, with an initial underpricing of +686.8%. The period 1998-

2001 showed the highest concentration of IPOs since the '80s, with 85 IPOs from 1995 to 1997, definitely an "hot issue market".

In terms of long run underperformance, the CARs and BHRs have been calculated considering a 5 year window, from October, 27 1999 to the same day in 2004, as shown in Figure 3.

Figure 3. CARs and BHRs for Tiscali's stock in the five years after the IPO



The BHRs line is steeper than the CAR at the peak of the bubble, since the way BHRs are calculated amplifies extreme returns. In this respect, the 1,100% BHRs peak shown in Figure 3 dates back to March, 10 2000, when Tiscali's stock price was about € 1,200.

4.2 Content analysis of the research reports

With regard to analysts' valuations on Tiscali, it should be underlined their poor knowledge of the internet sector and the consequent difficulties in predicting its future evolution. According to behavioral finance, even professionals like analysts are subject to cognitive errors and use heuristics to take decisions, especially when they face a great deal of uncertainty. To show how analysts tried to cope with this uncertainty, an analysis of their reports covering Tiscali's acquisitions follows.

To become the leader in the European internet sector, the top management implemented a series of acquisitions, generally financed through new shares

issues. Tiscali acquired the biggest internet companies in Europe, like World Online which, with its network in optic fibre represented its most ambitious deal. The leadership in the European internet sector was achieved on April 25th, 2001 with the purchase of Line One, a leading British ISP and fourth web portal in United Kingdom, co-owned by British Telecom and United Business Media. Thanks to this acquisition, Tiscali overcame its strongest competitor, the German T-Online, thus becoming the first ISP in Europe.

4.2.1 The merger with World Online

World Online ("WOL" from now on), was an Anglo-Belgian company with 2.3 million active users. Tiscali acquired WOL, paying in stocks: 0,4891 own shares for each WOL share. The deal adviser, UBS, valued the deal €5.9bn.

The target prices and recommendations contained in the reports analyzing the deal and estimating the combined company value are shown in Table 3.

Table 3. Research reports valuating the merger with World online

Broker	Date	Target price (€)	Recommendation
Banca Leonardo	06/09/00	55	Market Outperform
Credit Suisse	07/09/00	-	Hold
Credit Suisse	15/09/00	-	Hold
Chase	08/09/00	60	Buy
Intermonte Sec.	11/09/00	43	Neutral
Centrosim	25/10/00	36 - 38	Market Perform
Banca IMI	28/11/00	42.6 - 51	Buy

The valuation methods used in these studies are based on multiples. While sometimes they used traditional multiples like EV/Sales, they also use some “innovative” ratios using different categories of subscribers like EV/Subscribers, EV/Active subscribers, EV/Unique subscribers, EV/Latest subscribers, or even EV/Page view, assuming that the number of pages viewed could be a proxy for value. The EV/Subscribers ratio has been often used to determine the value of internet companies.

Analysts seemed to think that this multiple could solve the issues related to internet companies’ valuation, given the impossibility of using traditional multipliers due to their lack of profitability.

However, these multiples proved to be unable neither to provide a measure of the subscribers’ fidelity nor to produce real value for the companies.

Table 4 compares these two types of multiple.

Table 4. Revenue and user multiples between 2000 and 2002, by broker

Broker	EV/Sales x			EV/Subscribers x		
	2000E	2001E	2002E	Current	2001E	2002E
Centrosim	27.0	7.0	-	-	-	-
Banca IMI	20.7	6.9	5.0	1,219	-	-
Banca Leonardo	35.4	19.6	11.4	1,965	1,339	1,088
Chase	-	-	-	-	-	-
Credit Suisse	-	-	-	-	-	-
Credit Suisse	26.0	12.0	-	3,016	-	-
Intermonte Sec.	28.3	13.1	8.4	2,561	1,646	1,234

The most relevant ones refer to the subscriber multiple, which ranges from 1,219x for Banca IMI to 3,016x for Credit Suisse in 2000. This large range can be explained with the poor reliability of the data about subscribers, but also with analysts’ little expertise using these new multiples.

Instead, with regard to the EV/Sales multiplier, the degree of variability in estimates for 2000 was definitely lower, probably underlining the greatest confidence analysts had with traditional ratios.

4.2.2 The acquisition of Liberty Surf

Just after having completed the deal with World Online, Tiscali announced the purchase of the 72.94% of voting rights of Liberty Surf, the second French ISP behind Wanadoo. Liberty Surf stock was estimated € 9.83, for a total amount of € 900 billion. With this acquisition, Tiscali got close to become the leading European web portal, with ten million registered users and 4.9 million active users, immediately after the German T-Online (owned by Deutsche Telekom).

Table 5 shows target prices and recommendations contained in the reports analyzing the deal.

Table 5. Research reports valuating the acquisition of Liberty Surf

Broker	Date	Target price (€)	Recommendation
Albertini	09/01/01	-	Reduce
Credit Suisse	09/01/01	-	Hold
Euromobiliare*	09/01/01	12	Reduce
	16/02/01	12	Sell
Chevreurx	11/01/01	21	Outperform
Intermonte Sec.*	11/01/01	15	Underperform
Banca IMI*	23/01/01	41	Buy
Banca Leonardo*	26/01/01	19,1	Hold
Merrill Lynch	16/02/01	-	Neutral

* Reports where Tiscali has been valuated with the Discounted Cash Flows (DCF) method¹⁹

¹⁹ In January and February 2001, Tiscali’s share price (adjusted after stock splits and new rights issues) ranged between €12 and €20.3. It is possible to notice that all target prices issued in this period were aligned to the actual Tiscali share price, with the exception of the one calculated by Banca IMI.

It is interesting to note that, while only few months had passed since the WOL deal, most analysts revised their valuation techniques, rehabilitating the DCF method, previously considered unable to grasp the internet companies' growth opportunities.

Half of the reports examining the acquisition of Liberty Surf adopted the DCF methodology together with relative valuation methods (multiples). However,

in that period it was quite evident analysts' uncertainty about the future of the internet sector. This uncertainty affected both their relative valuation - through the unclear projections analysts developed on revenues, EBITDA and earnings - and DCF estimates that seemed to depend on discretionary assumptions. As for DCF, Table 6 describes the main differences between analysts' models.

Table 6. Details of the DCF models (beta, WACC and growth rate) by broker

Broker	Beta	WACC (%)	Growth, g (%)
Banca IMI	1.97	10	5
Banca Leonardo	1.7 - 1.8	11.7 - 12.1	4.0 - 4.5
Euromobiliare	2.0	10	5
Intermonte Sec.	-	10.6	5.5

With regard to multipliers, Table 7 shows large ranges in values: $6.3 < (EV/Sales)_{2000} < 15.5$; $438 < (EV/Current\ Active\ Subs)_{2000} < 1.263$; $438 < (EV/Subs)_{2000} < 1.263$. This variability was due to

poor estimates of revenues and subscribers that analysts were able to develop from the limited information available, and that produced very heterogeneous valuations.

Table 7. Revenue and subscriber multiples between 2000 and 2002

Broker	EV/Sales (x)			EV/Subs (€)		
	2000E	2001E	2002E	Current	2001E	2002E
Albertini	-	-	-	722	-	-
Banca IMI	14.6	6.0	4.6	1,243	-	-
Banca Leonardo	15.5	7.6	5.4	1,263	791	582
Cheuvreux	-	5.0	3.6	-	-	660
Credit Suisse	-	3.0	-	438	-	-
Euromobiliare	6.3	3.2	-	617	-	-
Euromobiliare	12.6	6.7	-	1,054	-	-
Intermonte Sec.	8.5	4.1	-	862	-	-
Merrill Lynch	8.8	5.4	3.9	834	561	405

3.3.3 Other minor acquisitions

In the first quarter of 2000, despite the recent IPO and the starting of its campaign of acquisitions in Europe, the reports on Tiscali were just two: Banca Leonardo, on January, 1, and Banca IMI, on March, 17.

Banca Leonardo issued its report after the acquisition of the two French telecom companies, Nets SA and A Telecom SA, announced on December, 23 1999.

The report by Banca IMI, instead, was released after six deals which, in addition to the above-mentioned companies, involved: the Swiss ISP DataComm AG, the Czech telecom company cd-Telekomunikace, the German ISP, the telecom firm Nikoma, the Belgian Link Line and the portal Interweb.

Analysts of both banks adopted a Sum of the Parts ("SOTP") approach, which Banca Leonardo added to its DCF model and its multiples. The parts into which the analysts distinguished the company were almost the same: Voice, Internet, International Acquisitions and UMTS.

With regard to the second quarter of 2000, the most complete reports of were issued by: Chase (May, 17), Credit Suisse (June, 12), Intermonte Securities (May, 2 and 16) and UBS (June, 8).

Instead of focusing on specific deals, these reports provided a valuation of Tiscali after the series of acquisitions the company announced in the previous quarter.

Also in these reports, multiples were the most used valuation method. However, Intermonte, Chase and UBS adopted DCF as well.

The third quarter of 2000 was characterized by a larger number of reports, even if part of them were focusing on the merger with WOL. The remaining reports were issued by Cheuvreux (July, 10) and Credit Suisse (August, 31) before the WOL deal. While Credit Suisse adopted a peer comparison approach, Cheuvreux proposed a DCF model in addition to it.

The reports referring to the fourth quarter of 2000 are instead four and were issued by Credit Suisse (November, 15), Euromobiliare (November,

16) and Intermonte Securities (November, 16 and December, 5).

The report by Credit Suisse is just an update of the analyst's valuation after the announcements of the quarterly results. Thus, it does not contain any model of valuation.

Both analysts of Euromobiliare and Intermonte, instead, adopted relative valuation methods (multipliers) and only Intermonte also used the DCF method.

The reports issued in this period showed a different point of view in comparison with those of the first months of the year, still characterized by excessively optimistic estimates. This trend inversion, however, was not shared by all analysts.

An example is provided by Banca IMI who, in the report dated November, 28 (see Table 5), in contrast to the majority of the neutral and underperform recommendations, issued a buy.

In the first quarter of 2001, analysts were focusing on the acquisition of Liberty Surf, announced on January, 8. Among the reports that did not focus on the deal, the following have been analyzed: Intermonte (February, 16 and March, 29), Julius Bar (February, 15 and March, 21), Merrill Lynch (February, 13 and 15, and March, 29) and Nomura (February, 28).

The majority of these studies are brief updates, where analysts revised their estimates after the announcement of the results of the fourth quarter. The valuation of the company in these reports was, on average, negative. This was due to the fact that the Q4 results were below expectations and that the new acquisitions Tiscali had announced in Germany and UK were not considered useful to increase neither the number of users nor the value of the company. Most analysts still relied on the multiples, with the exception of those of Julius Bar and Nomura, who used, in addition, DCF.

The second quarter of 2001 was rich of studies, most of which concentrated in May, after the three acquisitions announced in April: Planet Interkom (April, 12), SurfEU (April, 24) and LineOne (April, 25).

Table 8 shows the variability characterizing both target prices and recommendations contained in these studies, varying from €9 to €22 and from Sell to Buy, respectively. While the reports issued by Julius Bar and Merrill Lynch are just updates, with no valuation, in the others, the company has been evaluated using multiples (EV/Sales, EV/Subs) and the DCF.

The content analysis of analysts' reports has shown that, on average, during the internet craze there was great uncertainty about the right method to use in order to value internet companies. The DCF and the other traditional methods were deemed unsuitable to value this new sector with its peculiar characteristics

(i.e., high capital expenditures, negative initial cash flows, high growth rates etc).

Thus, analysts preferred to use multiples based on either revenues or the number of subscribers, proving that they were not able to handle them to value internet companies.

Even if they are easy to use, multipliers are approximations to value of a company. In the behavioral finance terminology, they can be considered as valuation heuristics (Shefrin, 2006).

The most common problems in analysts' use of multiples are mentioned below.

First, analysts had problems in finding Tiscali's comparable companies since they had to be active in the same sector, but also have similar business models, financial structure and growth rates. However, analyzing the reports it is clear that the peers they chose were different from report to report and in some cases they included companies listed in a US stock exchange.

Second, analysts disagreed on the identification of most appropriate multiple to use in valuing internet companies. For example, with regard to revenue multiples, while some analysts considered just the proceeds from advertising and e-commerce, others used the company's total revenues, thus including access, connectivity and web hosting proceeds. As a consequence, these different choices led to different Enterprise Values. Also for multipliers using the number of subscribers, there were similar issues. In particular, analysts have difficulty in learn the exact number of the company's subscribers.

Third, the some multiples were too variable and incapable of measuring the company's value. This was particularly true for the subscribers' multiple, adopted by analysts in several versions. For example, analysts used current or future visitors, occasional or regular ones, unique visitors and subscribers, ending up with the number of pages viewed.

At the end of 2000, analysts returned using the DCF, but both growth and discount rates were different from report to report. Most of the reports analyzed were characterized by similar mistakes. A detailed analysis of them has highlighted the presence of systematic errors followed by analysts.

The most common behavioral bias among analysts and investors seemed to be the "optimism bias". It is visible both in the general euphoria that pushed investors to frantically buy the Tiscali's stock and in the over optimistic analysts' valuations. Another analysts' common used heuristic was "anchoring". Anchoring occurs when individuals, in taking decisions, tend to anchor their opinions to determined values and do not adjust sufficiently. Often, analysts issued valuations in order to obtain target prices as close as possible to the current ones.

Table 8. Reports issued after minor deals between 2000 and the first half of 2001, by quarter

Date	Broker	Target price (€)	Recommendation
Q1 2000			
10/01/00	Banca Leonardo *	506	Outperform
17/03/00	Banca IMI	1,458 - 1,682	Buy
Q2 2000			
02/05/00	Intermonte Sec. *	75	Buy
16/05/00		80	Buy
17/05/00	Chase *	80	Buy
08/06/00	UBS *	44	Hold
12/06/00	Credit Suisse	-	Hold
Q3 2000			
10/07/00	Cheuvreux *	38	Underperform
31/08/00	Credit Suisse	-	Hold
Q4 2000			
15/11/00	Credit Suisse	-	Hold
16/11/00	Euromobiliare	24	Sell
16/11/00	Intermonte Sec. *	32	Neutral
05/12/00		20.5	Underperform
Q1 2001			
16/02/01	Intermonte Sec.	12.3	Sell
29/03/01		12.3	Sell
15/02/01	Julius Bar *	13	Reduce
21/03/01		13	Reduce
13/02/01	Merrill Lynch	-	Neutral
15/02/01		-	Neutral
29/03/01		-	Neutral
28/02/01	Nomura *	14	Sell
Q2 2001			
12/04/01	Julius Bar	13	Reduce
17/04/01	Banca IMI *	-	Buy
17/05/01		22	Buy
17/04/01	Merrill Lynch	-	Neutral
21/05/01		-	Neutral
04/05/01	Credit Suisse *	9	Hold
18/05/01		9	Hold
15/05/01	BNP Paribas *	15.3	Neutral
12/06/01		15.3	Neutral
17/05/01	Euromobiliare *	12	Sell

* Reports in which Tiscali has been valuated with the DCF method.

Tables 9 and 10 show the above-mentioned phenomenon, by reporting current and target prices contained in the analysts' reports.

The median difference between target prices and current prices shows the presence of anchoring on the whole observation period (24.4% in 2000, 16.7% in

2001). The widest differences refer, on average, to the reports issued in 2000, but relevant values have been found also for 2001: 103.5% for BNP Paribas and 99.7% (later on 51.4%) for Banca IMI. This last value underlines another important issue: the existence of conflicts of interest.

Table 9. Target prices vs current prices (2000)

Quarter	Broker	Target Price, TP (€)	Current Price, CP (€)	(TP – CP)/CP (%)
Q1	Banca IMI	1,458 - 1,682	1,058	37.8% - 59.0%
	Banca Leonardo	506	416	21.6%
Q2	Chase	80	57.95	37.9%
	Credit Suisse	-	52	-
	Intermonte	75	59	27.1%
		80	58	38.1%
	UBS	44	51	13.7%
Q3	Banca Leonardo	54	48	13.3%
		55	46	19.6%
	Chase	60	46	30.6%
	Cheuvreux	38	47	18.6%
	Credit Suisse	-	44	-
		-	46	-
		-	44	-
	Eptasim	-	47	-
		-	-	-
	Intermonte	46	50	8.0%
	43	47	7.5%	
Q4	Centrosim	36 - 38	40	8.9% - 3.8%
	Credit Suisse	-	34	-
	Euromobiliare	24	35.46	32.3%
	Banca IMI	42.6 - 51	34	27.2% - 52.2%
	Intermonte	32	36	9.9%
		20.5	30	30.5%
			Average	24.9%
			Median	24.4%

Both Banca IMI and ABN Amro were Tiscali's advisors in the IPO process. Banca IMI always issued positive recommendations on the company, and it reiterated its buy recommendation in 2001, when the speculative bubble had burst and most analysts eventually realized the mistakes made in their previous valuation. However, also an ABN Amro report dating back to the early part of 2000 seems to suggest potential conflicts of interest (The report has not been analyzed since it could not be found. Only the target price has been recovered from the financial press.). In February 2000, when Tiscali stock price was around € 500, the Dutch broker issued a one-year

target price of €1,000 and a long term one of €1,500, potentially causing an increase in Tiscali's share price of 36% in just one day.

A further behavioral bias that can be found analyzing the reports is the so called "hot hand fallacy", i.e., an unjustified extrapolation of past trends in formulating estimates. Thus, in bull markets analysts usually expect high returns, while in bear ones they expect low performances. A positive relationship between the bullish or bearish markets and the analysts' recommendations on the Tiscali's stock seems first to reflect their initial euphoria, then the burst of the bubble.

Table 10. Target prices vs current prices (2001)

Quarter	Broker	Target Price, TP (€)	Current Price, CP (€)	(TP – CP)/CP (%)
Q1	Albertini	-	14.3	-
	Banca Leonardo	19.0	21.0	9.5%
	Cheuvreux	21.0	16.4	28.0%
	Credit Suisse	-	13.7	-
	Euromobiliare	12.0	13.4	10.4%
		12.0	18.4	34.8%
	Banca IMI	41.0	20.5	99.7%
	Intermonte	15.0	16.2	7.4%
		12.3	16.2	24.1%
		12.3	15.2	19.1%
	Julius Bar	13.0	18.3	29.0%
		13.0	15.8	17.7%
	Merrill Lynch	-	13.7	-
		-	19.3	-
		-	18.9	-
	-	17.8	-	
	-	15.2	-	
Nomura	14.0	15.3	8.7%	
Q2	BNP Paribas	15.3	14.6	4.6%
		15.3	13.2	15.9%
	Credit Suisse	9.0	15.7	42.7%
		9.0	14.7	38.8%
	Euromobiliare	12.0	14.9	19.5%
	Banca IMI	-	14.8	-
		22.0	14.5	51.4%
	Julius Bar	13.0	15.0	13.3%
	Merrill Lynch	-	15.0	-
		-	14.3	-
Q3	BNP Paribas	-	8.0	-
		-	7.0	-
		-	7.4	-
		-	-	-
		15.3	7.5	103.5%
		-	7.7	-
		-	5.0	-
	Caboto	-	7.3	-
	Cheuvreux	6.0	7.2	16.7%
	Euromobiliare	6.6	7.3	9.6%
	Banca IMI	7.3	7.3	0.7%
	Intermonte	6.5	7.3	11.0%
	Merrill Lynch	-	10.0	-
		7.6	9.0	15.1%
		-	7.6	-
		7.6	9.0	15.1%
		7.6	7.2	5.6%
Schroder	7.0	6.9	1.6%	
WestLB Panmure	5.5	6.8	19.1%	
Q4	BNP Paribas	-	7.7	-
	Cheuvreux	-	8.2	-
	Credit Suisse	6.0	8.7	31.0%
	Fortis	13.5	10.3	30.7%
	Banca IMI	9.5	8.7	9.2%
	Julius Bar	-	8.7	-
	Rasfin	7.8	11.3	31.0%
	Santander	6.8	8.0	15.5%
			Average	23.9%
			Median	16.7%

4.3 Event study

The parameters estimation, obtained through the ordinary least squared (OLS) regression, shows that analysts' recommendations, whether positive or negative, seem statistically meaningless. Recommendations cannot help properly explaining

the observed abnormal returns, probably due to different factors, other than the publication of analysts' reports. Only the coefficient associated to the market index return, R_m , is statistically significant, as shown in Table 11.

Table 11. Regression Analysis

Coefficient	Positive Model (551 observations)	Negative Model (551 observations)
Const	0.00142328 (0.6627)	0.00174316 (0.8051)
R_m	1.89688*** (12.56)	1.89095*** (12.51)
D_Pos	0.000358063 (0.02561)	-
D_Neg	-	-0.00779918 (-0.7188)
Adj. R ²	0.22084	0.22157
F(2, 548)	78.9435 (p-value = 0.0000)	79.2758 (p-value = 0.0000)

The first column in Table 11 contains the estimated coefficients: the constant, α , the coefficient of the market return variable, β , the coefficients of the D_Pos / D_Neg dummy, γ , depending on the model.

For both models, the following values have been reported: the adjusted R-squared, measuring the grade of the linear relationship between the dependent variable and the independent ones, and the value of the F statistics with (2, 548) degrees of freedom. In parenthesis, the values of the T-statistics are presented (Three stars measure the statistical significance of the coefficient for an interval of confidence of 99%).

The effect that recommendation changes had on the stock returns have been analyzed using CARs, considering a three day window around the issuance date containing the recommendations changes (Table 12). In panel A, the raw returns (ABS), the ARs and

the CARs on the 3 days windows surrounding the report' issuance date are presented for year 2000. Panel B presents the same figures for year 2001.

Looking at Table 12, it is possible to notice that recommendation changes (in bold) are just ten, because most analysts decided to watch the evolution of Tiscali remaining Neutral. The ones who changed their recommendations are Intermonte (from buy on May, 16 2000 to neutral on August, 10 2000, then to underperform on December, 5 2000 ending up to sell on February, 16 2001, before going back to underperform on August, 31 2001), Banca Leonardo (from outperform on September, 7 2000 to hold on January, 26 2001), Merrill Lynch (from neutral on July, 5 2001 to reduce on August, 6 2001), and Banca IMI (from buy on May, 17 2001 to hold on August, 30 2001).

Table 12 Panel A. ABSs, ARs and CARs

Date	Broker	Recommendation	R_Tis (%)	ABS (%)	AR %	CAR %
10/01/2000	Banca Leonardo	Outperform	+0.04	0.04	+1.05	+15.67
17/03/2000	Banca IMI	Buy	+1.67	1.67	+0.20	-15.95
02/05/2000	Intermonte	Buy	+9.77	9.77	+6.57	+19.72
16/05/2000	Intermonte	Buy	+2.98	2.98	+1.27	-1.45
17/05/2000	Chase	Buy	-2.98	2.98	-0.65	+0.04
08/06/2000	UBS	Hold	+4.76	4.76	+5.15	-1.73
12/06/2000	Credit Suisse	Hold	-4.02	4.02	-3.55	-8.99
10/07/2000	Cheuvreux	Underperform	+1.06	1.06	+1.10	+4.65
10/08/2000	Intermonte	Neutral	-3.67	3.67	-4.10	-7.89
18/08/2000	Eptasim	Sell	+0.96	0.96	+1.47	-1.67
31/08/2000	Credit Suisse	Hold	+4.67	4.67	+3.53	+3.29
04/09/2000	Banca Leonardo	Market Perform	-1.27	1.27	-1.97	-0.74
07/09/2000	Banca Leonardo	Outperform	0.00	0.00	-0.53	+2.62
	Credit Suisse	Hold				
08/09/2000	Chase	Buy	+2.26	2.26	+3.46	-0.44
11/09/2000	Intermonte	Neutral	-3.24	3.24	-3.36	-1.91
15/09/2000	Credit Suisse	Hold	-2.02	2.02	-0.95	-0.20
25/10/2000	Centrosim	Market Perform	-5.28	5.28	-5.08	+5.28
15/11/2000	Credit Suisse	Hold	+1.42	1.42	+0.64	+4.23
16/11/2000	Euromobiliare	Sell	-2.14	2.14	-1.47	-3.03
	Intermonte	Neutral				
28/11/2000	Banca IMI	Buy	-3.14	3.14	-2.43	-7.64
05/12/2000	Intermonte	Underperform	-1.40	1.40	-2.98	-15.28

Table 12 Panel B. ABSs, ARs and CARs

Date	Broker	Recommendation	R_Tis (%)	ABS (%)	AR %	CAR %
09/01/2001	Albertini	Reduce	+5.20	5.20	+5.14	+16.46
	Credit Suisse	Hold				
	Euromobiliare	Reduce				
	Merrill Lynch	Neutral				
11/01/2001	Cheuvreux	Outperform	+7.02	7.02	+5.69	+19.77
	Intermonte	Underperform				
23/01/2001	Banca IMI	Buy	+5.79	5.79	-5.27	+4.99
26/01/2001	Banca Leonardo	Hold	-1.89	1.89	-1.77	-2.54
13/02/2001	Merrill Lynch	Neutral	+0.36	0.36	+0.95	-0.51
15/02/2001	Credit Suisse	Hold	-3.54	3.54	-4.05	-19.04
	Julius Bar	Reduce				
	Merrill Lynch	Neutral				
16/02/2001	Euromobiliare	Sell	-13.23	13.23	-11.47	-18.38
	Intermonte	Sell				
	Merrill Lynch	Neutral				
28/02/2001	Nomura	Sell	-3.03	3.03	-3.03	-7.75
21/03/2001	Julius Bar	Reduce	-5.45	5.45	-4.41	-2.26
29/03/2001	Intermonte	Sell	0.00	0.00	-1.53	-2.55
	Merrill Lynch	Neutral				
12/04/2001	Julius Bar	Reduce	-0.13	0.13	-0.59	-3.02
17/04/2001	Banca IMI	Buy	-1.95	1.95	-2.23	-0.05
	Merrill Lynch	Neutral				
04/05/2001	Credit Suisse	Hold	-0.73	0.73	-1.02	-1.93
15/05/2001	BNP Paribas	Neutral	+1.22	1.22	+1.79	-0.45
17/05/2001	Euromobiliare	Sell	-0.34	0.34	-0.28	-3.51
	Banca IMI	Buy				
18/05/2001	Credit Suisse	Hold	-2.55	2.55	-2.87	-1.22
21/05/2001	Merrill Lynch	Neutral	+1.11	1.11	+1.93	+1.20
12/06/2001	BNP Paribas	Neutral	-4.57	4.57	-3.44	-7.11
05/07/2001	Merrill Lynch	Neutral	-4.37	4.37	-4.36	-4.65
12/07/2001	BNP Paribas	Neutral	+3.68	3.68	+3.69	-1.61
31/07/2001	BNP Paribas	Neutral	+4.87	4.87	+4.64	+16.65
	Schroder	Neutral				
02/08/2001	BNP Paribas	Neutral	+9.12	9.12	+9.54	+19.63
06/08/2001	Merrill Lynch	Reduce	-1.69	1.69	-2.54	-5.63
16/08/2001	Merrill Lynch	Reduce	-5.44	5.44	-4.51	-9.04
21/08/2001	BNP Paribas	Neutral	+9.03	9.03	+8.94	+7.00
23/08/2001	BNP Paribas	Neutral	-3.24	3.24	-3.44	-5.40
30/08/2001	BNP Paribas	Neutral	-6.06	6.06	-4.17	+0.14
	Banca IMI	Hold				
31/08/2001	Caboto	Hold	0.00	0.00	+0.49	-5.35
	Euromobiliare	Reduce				
	Intermonte	Underperform				
	Merrill Lynch	Reduce				
03/09/2001	Cheuvreux	Underperform	-2.67	2.67	-1.67	+0.16
06/09/2001	WestLB Panmure	Underperform	-7.50	7.50	-4.92	-7.78
24/09/2001	BNP Paribas	Neutral	+6.16	6.16	-0.67	-1.45
18/10/2001	BNP Paribas	Neutral	-1.18	1.18	-0.54	-0.04
29/10/2001	Santander	Underperform	+2.72	2.72	+4.22	+0.98
12/11/2001	Cheuvreux	Underperform	-3.25	3.25	-0.72	-0.23
14/11/2001	Julius Bar	Reduce	+4.41	4.41	+4.14	+8.80
15/11/2001	Credit Suisse	Hold	+2.40	2.40	+1.64	+5.53
	Banca IMI	Hold				
10/12/2001	Rasfin	Reduce	-0.64	0.64	+1.15	-0.01
20/12/2001	Fortis	Buy	-4.25	4.25	-3.11	-3.69

5 Conclusion

The main objective of the paper is to identify how behavioral biases affected analysts, distorting their valuation of internet companies during the dot.com bubble, through a clinical study of Tiscali, the most emblematic Italian internet company at the time.

Three analysis have been carried off: the first regarding the three regularities characterizing the IPO process (hot issue markets, initial underpricing, long-run underperformance), the second performing a content analysis of the reports covering the main acquisitions of telecom and IPS companies, and, finally, the third one consisting in an event study measuring the market reaction to recommendation changes and to the deals announcements.

The first analysis has underlined the presence of all three phenomena. Tiscali went public in the hottest market for internet companies in the entire history of financial markets, it recorded an initial underpricing of 55% and the long-run performance was definitely poor.

The content analysis, instead, showed a generalized excessive optimism among analysts, both due to potential conflicts of interest and behavioral biases. Analysts affiliated to the investment banks that served as Tiscali's advisors kept issuing positive recommendations when it was quite clear, at least analysts working for other brokers, that the company's perspectives were definitely not good at all. While, more in general, the uncertainty surrounding internet companies real value was definitely high at the time, also behavioral biases like excessive optimism and overconfidence distorted analysts' valuations as well as decision heuristics such as anchoring.

Right around the bubble peak, analyst tended to use only relative valuation, first using multiples based on companies' fundamentals, then the number of subscribers or of pages viewed to determine their value. These methods proved to be erroneous. This was particularly the case in respect of those "new" multipliers that did not take the companies' fundamentals to find their value, but were based on potential growth perspectives. More in general, as the behavioral finance literature has pointed out, these methods can be classified as valuation heuristics, often based on intuition rather than on rigorous scientific methods, like the Discounted Cash Flows approach. Intuition is important, but often leads to mistakes, and the analysts' reports demonstrated in the bubble period, when they dramatically overestimate the real value of internet companies.

After the bubble burst, in 2001, analysts started using DCF again, but often together with market multiples, thus not eliminating the behavioral traps of these latter methods.

Finally, the results found applying the event study analysis demonstrates that investors behaved irrationally, influenced by the general euphoria on the

internet sector, and not basing their investment decisions on companies' fundamentals. Analyzing the market reaction to the issuance of recommendations following Tiscali's acquisitions announcements, it seems that analysts did not convey value to investors. This could be explained by the fact that the market could have finally understood that analysts were overly optimistic in their valuations.

The case of Tiscali serves for more general considerations. This clinical study has underlined the importance of considering the psychological biases affecting analysts' valuations. Analysts need insert in their toolbox the new instruments provided by behavioral finance to avoid the traps of certain (not scientifically based) techniques. Also, it is important to understand the cognitive and emotional aspects affecting the behavior of individual investors.

Without this understanding, financial markets' behavior will remain a black box for those who still think that the traditional approach is enough.

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