A behavioural theory of the fund management firm

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Abstract—The paper outlines a behavioural theory of the fund management (FM) firm comprising, investment decisions (at stock and portfolio levels) by teams and individuals, and of an organisation process and contextual resource factors affecting decisions. FM organisational processes interacted with resources to enhance investment team decision conditions, costs and processes. Enhanced conditions and reduced decision costs were expected to improve the chances of FM success via new information production and better quality decisions**.** These dynamic elements to FM firms can be interpreted as tentative organisational means to deal with major problems of behaviour, uncertainty and information asymmetry at the heart of the valuation, investment, and performance problems facing FMs. Field research was conducted in 15 FM firms during 2004-2011. A grounded theory approach was employed in processing the data. This led to improvements in empirical understanding of behaviour *within* FM firms and markets. The results were discussed relative to relevant literature and previous grounded theory. This created a new conceptual tool to investigate FM underperformance and variety in FM styles. The paper demonstrated an empirically rich model of hierarchy, information production, capital allocation and other resource usage in financial institutions and discussed how this created further opportunities for research

1. Introduction

Clarkson (1963), Holland and Doran (1998), Hellman (2000), Holland (2006) have revealed an embryonic grounded theory underlying FM structure and behaviour. This field based research has suggested that a more complete grounded theory of the fund management firm and of investment decisions making by its teams and individuals might underlie fund management behaviour. The aim was to explore this possibility with a group of with fund managers and investment team members in 15 large international fund management firms (FMs). As a result the core research question concerned the following. How do fund manager firms organise and conduct decision making to create investment value? The paper begins in section 2 with a brief summary of the literature. Section 3 discusses the research method**.** Locke (2001. ch.7) comments that "the presentation of grounded theories similarly follows a format that involves the telling of theoretical elements and the showing of data fragments that instance them" and this format can be outlined as: summarise the theoretical frame -serially present each theoretical element well illustrated with data instances - summarise the theoretical frame. In section 4 the 'big picture' of the behavioural theory of fund management is briefly summarised. It is briefly interpreted using the analytic framework based on a set of theories and literature relevant to the FM phenomena. The results section (5 to 9) are presented in the order; – investment decision processes – resources – organisational processes –success and failure, so as build up this 'big' picture from a micro view to the bigger picture. Each major results section (5 to 9) contains a succinct summary of the case results set within key grounded theory themes or elements, and these are discussed within relevant literature from the analytic framework. Section 5 explores action, behaviour and process in investment decision making by individuals and investment teams. Section 6 outlines the nature of internal and external

contextual resources (or priors) for investment teams and their decision making. Section 7 develops a theoretical analysis of organisational processes. Section 8 discusses how FM organisational process and their properties of integration and coherence when combined with knowledge and narrative were unifying forces and had a direct influence on individuals and teams and their investment decisions. Section 9 uses the behavioural theory of FM to explore issues of FM success and failure and new ways of researching FM performance**.** Section 10 discusses conclusions, contributions and areas for further research.

2. Literature review and Research problem

In this section 2, historic literature and an analysis of current issues are used to establish the phenomena and problem area to be investigated. The literature is also used extensively in the results sections 5 to 9. The financial crisis during 2007-09 revealed many problems of understanding and learning by FM firms about their own business models and those of their investee companies (especially banks, Holland 2010). In addition, there has been poor financial performance by many FMs when delivering investment services to investors (Cuthbertson et al 2006, 2008). Environmental, social and governance (ESG) issues in equity investment decision making by fund managers (FMs) have become very high profile in the past decade. Holland (2011) argues that Trustees, FM investors, and investee companies, all require shared knowledge - in the form of a grounded theory of FM - to overcome these problems. FM rating agencies and FM consultants employ their own proprietary and private conceptual framework to develop information and advice services to retail investors and to large FM clients such as pension fund trustees. The existence of much proprietary knowledge in the private world of FMs and external agents reveals the potential of grounded field work in understanding FM. However, the lack of broadly accepted and public knowledge about the FM business models has affected FM's ability to disclose how their FM business model functions and hence the ability of stakeholders to hold them to account ('Walker Review', 2009). Holland, (2006) notes the limits of conventional finance theory in explaining FMs and their performance. Historic field research by Clarkson (1963), Holland and Doran (1998), Hellman (2000), Holland (2006), revealed an embryonic grounded theory underlying FM structure and behaviour. However, the resulting theory of fund management was fragmented and lacked coherence. It did not address questions concerning wider organisation and process in fund management. It did not address questions about the role of knowledge and other resources in FM decision context and process, their roles in search for novel information of value in investment decisions and overall impact on performance. It did not address the dynamic nature of FM, or issues of variety in FM.

3. Research methods

Given previous research and the nature of the research questions on fund management, a grounded theory approach was adopted to processing the case data (Locke, 2001). The data collection process was conducted in two phases. Phase 1 of the research involved collecting archival data on each case FM firm. Recent public announcements, web sources, financial statements, and private presentations to trustees were collected directly from the FM firms prior to the interview. Phase 2 involved interviews during 2004-2011 with senior fund managers and investment team members in 15 large international fund management firms (FMs) (see Appendix 1 for details). These FMs operated in Edinburgh, Glasgow, London, Frankfurt, Tokyo and other world financial centres. Senior fund managers and active members of their investment teams were interviewed. Their time was scarce and this restricted the interviews to 1.5 to 2 hours length in each organisation. The cases were chosen because of their common type of investment behaviour as active (very large) fund manager firms with an emphasis on the production of fundamentals information. Variation existed within the case FMs in terms of their FM style, type or the nature of FM 'activity'. Thus 'value', 'growth', and 'special situation' FMs were present in the sample. This multi-case design created opportunities for identifying common themes and differences across the cases (Yin, 1994). Four of the UK FM firms had already been extensively interviewed, on two separate occasions, during 1993 to 2000 (Holland and Doran, 1998; Holland, 2006). Membership by the researcher of a trustee investment committee over the study period meant that four UK FMs interviewed as a part of the new study formed much more detailed longitudinal cases. Thus eight FM firms provided very detailed data, and seven FMs provided substantial interview and archival data. The aim was not to provide 'statistical generalisation' as in more conventional hypothetical- deductive research (Ryan et al, 2002). The aim was to generate enough FM cases and data to create the conditions for 'theoretical saturation' as recommended by Strauss and Corbin (1998, p143). Similar sample sizes had proved sufficient in previous related FM grounded theory work (Holland and Doran, 1998; Holland, 2006).

The interview questions were semi structured and designed to allow the participants to interpret and describe the phenomena in their own way (Bryman, 1988, Buchanan, 1993). Previous grounded research work and the literature (Holland and Doran, 1998; Holland, 2006)) helped define these questions. The core research question concerned the following. How do fund manager firms organise and conduct decision making to create investment

value? The specific interview questions focussed on FM investment decisions and the role of FM contexts, processes, resources such as FM knowledge, and the use of information in creating value in investment decisions. They included the following questions. *What are the key tasks in stock selection and asset allocation? What information sources are used? How do you use company and market information in your investment decisions? What FM firm and team attributes or individual factors support decisions? How do you organise and acquire advantages for information production and investment decision making? How do these contextual areas, organisational processes and changes in them affect decision making? How do they affect FM type and FM performance*? The questions were focused on equity investment rather than a wide of asset classes. This simplified the data collection and processing and provided a comparable base across the cases.

McKinnon (1988) and Stoner and Holland (2004) argued that explicit strategies should be developed to counter threats to validity and reliability whilst collecting data in field studies. In this research, counter checks were made between the interview data and archival sources. These included checks against FM private presentation slides or against archival sources for publicly observable events. Multiple cases offered opportunities to explore how FMs and other market participants viewed investment related events for other case FMs. Parallel research work with company managers over the same period (Holland, 2001, 2005, 2009) provided opportunities to cross check corporate views on FM resources, capabilities, decisions and their influence over companies and markets.

During data processing, case data and the emergent empirical patterns interacted in iterative relationships. This was mediated by an analytic framework and prior grounded theory. The analytic framework was based on a set of theories and literature relevant to the FM phenomena. The analytic framework reflected a medium prior level of theoretisation (Laughlin, 1995) about the phenomena. The paper constitutes an exercise in 'theoretical sensitivity' whereby new work allows the author to return to the original data with a new perspective (Strauss and Corbin, 1998). The main phenomena or core code was FM investment decisions by individuals, in teams, in FM firms. Core interaction categories concerned 'dynamics' or 'ongoing organisational processes, contextual resources, immediate investment decisions, consequences and immediate feedback'. The paper develops a behavioural theory of fund management that integrates these factors. This expanded, developed and provided new detailed insights into the original FM 'action and behaviour' grounded theory models (Holland and Doran (1998), and Holland (2006) by showing how they involved more elaborate contextual structures, processes and dynamic relations.

4. Behavioural theory if the FM firm -brief theoretical and empirical view:

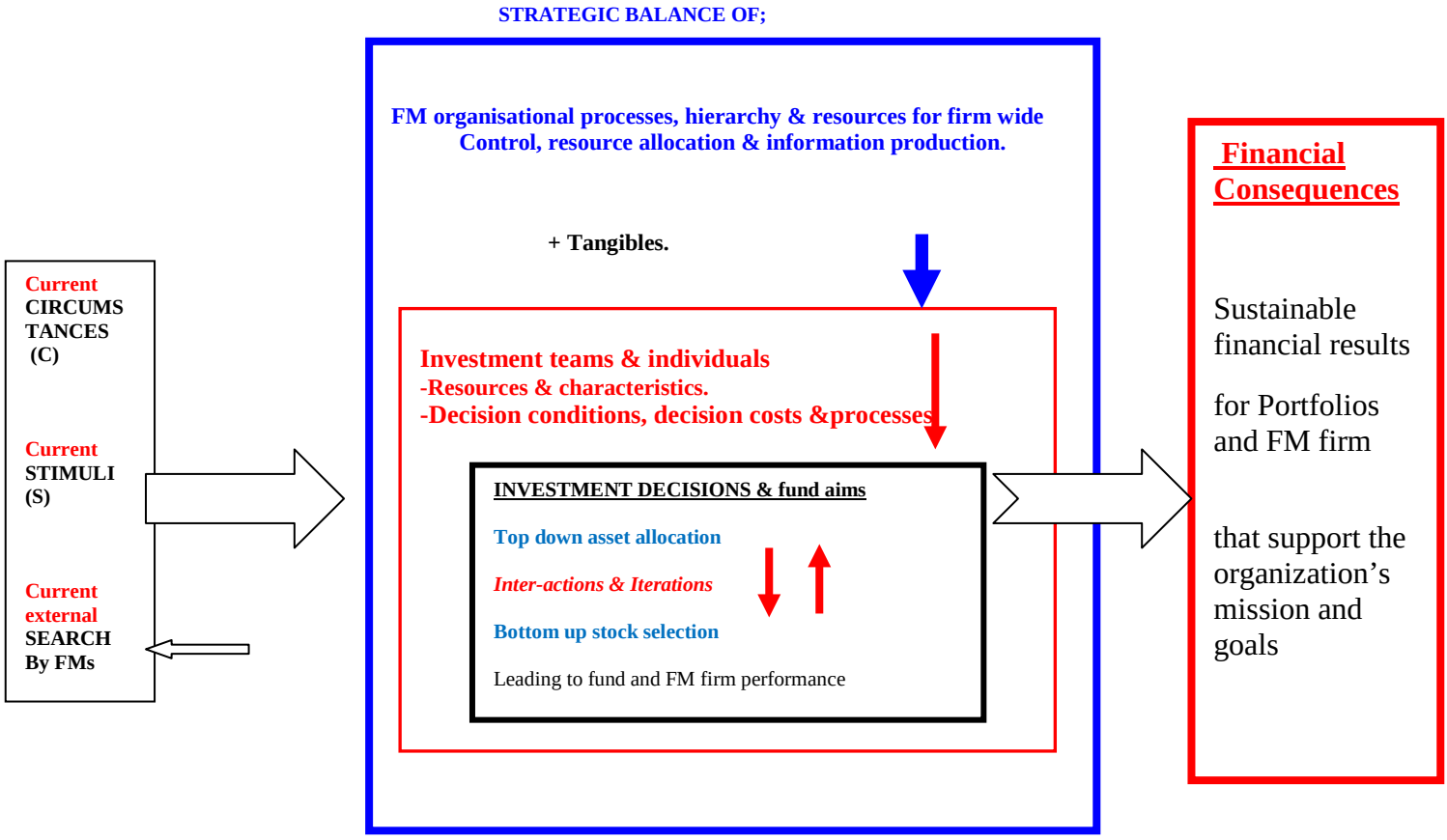
The behavioural theory of the fund management firm was firstly, a set of relational concepts involving ongoing FM decision action, and broader organisational process and hierarchy. Secondly, it was a set of FM strategic and contextual resources, and their properties. Figure 1 illustrates the core empirical constructs and findings. Immediate decision actions by individuals and teams were a goal seeking structured task sequence and a process of sense making. These were different but related means to reduce the uncertainty associated with equity investments (Hellman, p236, 2000) and to find new information and investments of value.

The FM organisational processes were identified in the grounded theory data processing as two broad process categories. *Firstly*, as an integrated set of hierarchical processes or firm wide processes of control and influence *over the allocation of resources, risk and autonomy. Secondly* they existed as firm wide and team information production and exchange processes. FM firm wide organisational processes were key means for uncertainty avoidance and conflict resolution in the manner suggested by Cyert and March (1963). They were means to create and control hierarchy costs (Stein, 2002). They were also the base from which creativity could be stimulated. Both informal 'conversations' and formal communications were important in micro and macro processes. Gratton (2002) and Weick (1998) note their role in solving problems, and making novel associations. The organisational processes mobilised FM resources in a dynamic and purposeful way to produce the desired influence on investment team conditions and ongoing decision processes.

Resources were interpreted as knowledge based key properties of FM internal and external contexts. The external context of FMs consisted of various external 'networks' and markets. The internal context of FMs consisted of top management context, an organisational context, a team context, a personal context, and an immediate decision or action context. Each FM context had various knowledge based properties and peer group relative strengths of these properties. From the resource based view of the firm (Barney,1991; Fahy, 2000) the FM contexts and their knowledge based properties were resources mobilised by FM organisational processes to support investment team processes. The key resources were central to FMs exploiting investment opportunities and creating value, as well as in uncertainty avoidance and conflict resolution processes as outlined by Cyert and March (1963).

Creativity was an important part of FM investment decision making process and was built on prior order (decision and organisation) and existing resources to develop *creative properties* to their decision processes and contexts (Nonaka & Toyama, (2005), Ford and Gioia (2000), Holland et al (2012)). Simon's (1957) ideas and the 'behavioural theory of the firm' (Cyert and March, 1963) were used to interpret FM firm and team behaviour. Developments in *'behavioral finance'* (Shefrin and Statman, (1985), Tversky and Kahneman (1992)) were used to explore FM investment decision behaviour (by individuals and teams) in markets.

Figure 1. The behavioural theory of the fund management firm



5. Dynamics of immediate decision making -Action, behaviour, process in FMs

Section 5 explores action, behaviour and process in ongoing investment decision making by individuals and investment teams. There were two levels of dynamic and iterative activity. Stock selection and asset allocation decisions occurred as a series of sequential and iterative steps or tasks. They also interacted in joint 'top down' asset allocation and 'bottom up' stock selection investment decision processes.

5.1 Theoretical analysis of routine investment decision making and of dynamics.

The dynamic nature of investment decision making process in the case FMs was interpreted in literature in two related ways. Firstly as goal seeking, routine investment decision process with a structured task sequence with this set in an organisational context (Cyert and March, 1963). The routine FM stock selection decision processes had similar structural features to those found by Bouwman et al (1987, 1995) for financial analysts and those found by Holland and Doran (1998) and Holland (2006) for FMs. Secondly, as a process of sense making (Weick, 1979) and of interpretation. According to Weick (1995), ´ Sense making is the search for contexts within (which) small details fit together and make sense… It is a continuous alteration between particulars and explanations, with each cycle giving added form and substance to the other. It is about building confidence as the particulars begin to cohere and as the explanation allows increasingly accurate deductions. (Weick, 1995, p. 133)

The structured routines and sense making occurred together as one dynamic process at the level of FM individuals and teams. For example, during routine and structured investment decisions, FMs (teams and individuals) used 'hard' or quantitative information created during screening and analysis to test and evaluate investment alternatives (at stock, and portfolio levels). In such situations they 'managed the argument' and created extra information by proposing alternatives in the form of say hypothesis and counter hypothesis (Bolton, 2008). These alternatives were assessed against 'just enough' information within the FM's own theory, criteria, heuristics, categories or themes etc. The FM teams and individuals also employed 'just enough' fundamental analysis relative to assumptions of a 'near' efficient market. Simon's (1957) ideas of 'bounded rationality' and satisficing' were relevant to explain such FM investment decision behaviour. The case FMs employed subjective analysis when interpreting the behaviour of investors, the market, investee companies, and their own behaviour and emotions. This 'soft' information was combined with 'hard' information about company financial performance and market return and risk. The FM 'weighed' their objective and subjective views in an informed manner and reflected about these differing views. The latter refers to a form of 'metacognition' (Flavell, 1979) whereby individuals and teams demonstrated capabilities to assess their own knowledge (objective, subjective). In stock selection this joint processing of 'soft' and 'hard' (Stein, 2002, Chen et al, 2004) information led to enhanced FM understanding, meaning and confidence in the FM 'mosaic' about company value creation and in the identification of 'nuggets' of value relevant information (Holland, 2006). This in turn created the conditions for choice between the merits of the competing hypotheses and for immediate or deferred investment action and behaviour.

Case FM 3: 'The **mosaic** that we get reflects the need to cobble together fragments of information from many sources. However, you can over-extrapolate the picture you get from this. It is dangerous to over-interpret these fragments. If we get a consensus on our suspicions about a company, then, okay we can act but this is not a deterministic approach. We then vote in our teams and try to pull together the collective view of all these sources of fragments of data into a vote about a particular stock and this, therefore, informs our buy/hold decisions. It forms the context for the fair value less market value gap analysis, and our decision to buy, hold or sell'.

Both the routine investment task sequence and sense making reveal different but related insights into the phenomena of inductive, iterative, pattern seeking cycle evident in actual FM decision making. The first provides insights into the order or structured dimension of decisions and the second builds on this order to reveal more about interpretation of information and the creation of meaning within such a set of tasks. Both structure and sense making were joint dynamic means to cope with and reduce the uncertainty associated with equity investments (Hellman, p236, 2000) and to find new information and investments of value. The joint use of structured fundamental analysis and of 'sense making' reflects the resource based view of the firm (RBV as in Barney, 1991) as FMs sought to create and exploit a knowledge based sustainable competitive advantage in decision making routines.

5.2 Broad nature of the investment decision process and context

Major properties of the immediate FM decision context included the degree of structure and the flexibility of investment decision routines, tasks, and the working day. It included the formality of risk controls. The case FMs developed structured estimation, valuation and risk control decision processes for 'bottom up' stock selection and 'top down' portfolio decisions. In stock selection, the FMs sought to acquire a special information edge by directly collecting information in private from their investee companies. In asset allocation they sought advantage by generating their own private information about currencies, economies and sectors, as well as in financial markets. In both investment decisions they sought to combine this private information with public information to create advantage (Holland, 2006). Routine involved the predictable structure of part of the working day and of formal meetings and communications, as well as structured investment decisions. The FMs also ensured that their structured FM decision processes were responsive and adaptable to major external events such as a sudden stock market change or political events. Thus asset allocation, sector decisions, and stock selection were also designed to be compressed into a very short crisis period instead of a more normal monthly, weekly, and daily cycle.

5.3 The immediate FM decision context was a structured world of ongoing action.

In FMs the world of ongoing action focussed on stimuli, interpretation, new information production, judgment, investment decision actions, consequences and feedback. It included the starting (current) financial position for the funds. The investment decision routine was the main focus for decision making action and fund outcomes.

In the case FMs the key organisational areas for investment decisions included:

- ‘Top down’ macro analysis, assessment of countries, global sectors, currency and economy risks, diversification possibilities,
- Using quantitative and qualitative analysis of currency, country and sector risks to adjust the forward looking view.

- ‘Top down’ Asset allocation decisions based on above – as a monthly or six week process – an investment committee of senior investment staff making choices about:
- all forms of investment assets and relative asset weightings, and a risk budget
- all equity elements and relative sector weightings, and other asset allocation issues such as geographic weightings, and a risk budget
- and hence construction of a model portfolio from the top down. This could be an explicit or implicit model portfolio.

- ‘Bottom up’ Stock selection and construction of the portfolio – as a daily process – by individuals and investment teams managing specialist funds.

Case FM 3 provides insights into both ‘top down’ and ‘bottom up’ investment decision areas.

Case FM 3: and ‘top down’ asset allocation
‘Every month or so … we get the economy forecasts and currency forecasts and political views expected and this broadly helps us determine the asset allocation between bonds, equities, cash, properties ...and currencies that we think are desirable ...for our customers.
…….This is just a big pie of funds and is the size of funds for the equity pool. It does not necessarily determine their actual composition. This is really the bottom up process ….

Case FM 3: and ‘bottom up’ stock selection.
‘We look at the universe of all possible companies in global sectors, maybe 2000 large companies. Our first screen is to remove companies with the lowest scores on growth, quality and other factors and reduce to 500 stocks. …do a second screen to analyse these... and .... get down to 150 to 200 stocks. … do a detailed growth, quality, and valuation analysis for every stock, and score and vote each stock in the team, and come to our preferred list of stocks for the portfolio.
…The detailed analysis uses lots of different types of information. …You can think of a circle in which many material, non-public information sources from companies are feeding into our **mosaic.** These can be the company or analysts’ meetings…*and* more fundamental sources like retail stores. We talk to suppliers and buyers. All, these feed into this circle to get our **mosaic** … our full picture and this is where we get our profit . This is where we get fair value and compare with market value and see the differences. This influences our degree of **conviction** about fair value.

Many interactions and iterations arose between the ‘top down’ and ‘bottom up’ approaches within their daily and monthly cycles FM (and in Holland, 2006). For example, the degree of control by ‘top down’ of the ‘bottom up’ approach (or vice versa) depended on where the FM thought the preponderance of value came from. Information flows from ‘top down’, ‘bottom up’ and ‘cross hierarchy’ organisational directions altered viewpoints and ideas of risk and return at stock and portfolio levels. The processes were used to adapt the ‘top down’ model portfolio to client specific needs for risk, return and liquidity. The ‘top down’ model portfolio could be used for guidance on the allowed value range for sector decisions and stock selection decisions. Stock selection operated within the sector weightings and risk controls from the top down view. Stock selection decisions provided inputs to new asset allocation decision over time such as new information arose on changes at company and sector levels and these suggested change in future asset allocations. The cross hierarchy, top down and bottom up approaches operated within predictable daily and monthly cycles but were adjusted by new information, when they exceeded risk budgets, and when circumstances required a

quick response.

Case FM 4 provides insights into the 'Top down' and 'bottom up' i*nteractions* and organisational decision process
.'.So, we have a daily and weekly bottom up process coming from stock selection and sector allocation and sector decisions. These meet in the middle with this top down asset allocation for bonds, equity and cash.
….At this mid- point there is a considerable **iterative** process within a month. .. we may find that there is a risk overlay here from the Barra portfolio risk model which may say that the sectors and their stock composition .. are too risky ..we may decide to change *these* decisions because they are just outside our risk budget.. or tracking error. .
…..But also, within the month, there may be changes in the macro world which may be making a sector more or less attractive …and this may make us slightly alter the overall bottom up position. There can be major changes here if the macro data suggests that or there are major changes with a big company'

Success in the above interactions between stock selection and portfolio decisions required much support from organisational processes and resources in the FM firm. The case FMs needed to create desirable conditions within individuals, within and between and teams, cross hierarchy, and up and down the hierarchy, such that knowledge and information were actively created, exchanged and used, in a manner consistent with investment aims. In section 6 the nature of resources at individual, team and firm are discussed. Sections 7 and 8 illustrate how organisational processes within hierarchy were used to mobilise these resources to create desirable conditions and processes in investment teams and individuals.

6. Resources, contexts and investment decision making

Section 6 outlines the role of resources available in internal and external contexts and in investment teams and their decision making process and actions. Value was created by mobilising and transforming resources in purposeful organisational processes and team investment decision processes set within hierarchy. The external context of FMs consisted of various external 'networks', markets, and 'chains' of accountability. The internal context of FMs consisted, inter alia, of a strategic or top management context, an organisational context, a team context, a personal context, and an immediate decision or action context. Each context had various properties and peer group relative strengths of these properties.

The FM contexts and their knowledge based properties were interpreted as key resources (Barney,1991; Fahy, 2000) which supported FM organisational and investment team processes. The key resources were central to FMs exploiting investment opportunities and creating value, as well as in uncertainty avoidance and conflict resolution processes outlined by Cyert and March (1963). FM firm contextual properties or resources such as knowledge, 'matching', and 'coherence', constituted a form of 'collective mindfulness' (Weick 1979, 1995) designed to reduce 'the perceived level of equivocality' to reduce many possible meanings for FM teams and individuals. These ideas relate individual and team experiences to organisational contexts and to concepts of uncertainty avoidance in the team and firm.

High strengths of the properties of contexts relative to internal needs and external competitors can be interpreted as excess firm resources (or 'slack'). These include high strengths of the

properties of FM organizational contexts in the form of knowledge, coherence and matching. These include high strengths of the properties of FM teams and individuals. High quality resources also included substantial financial reserves and the quality of tangibles such as technology and offices. The primary role of excess resources was to provide competitively superior means to support the exploitation of opportunities and to act as a superior buffer to counter threats and risk. The excess resources or 'slack' were the basis for a sustainable competitive advantage. They were designed to help the FM outperform other FM firms, teams and portfolios and were a base from which innovation could arise. Many authors such as Penrose (1959), Cyert and March (1963), and Bourgeois (1981) employ similar concepts of slack and excess resources as the basis to form a sustainable competitive advantage.

6.1 The external context to FM

The external contexts for investment decisions consisted of the wider social, political, economic environment of finance and investment. It also included the more immediate 'investment society' and markets as external places for information search, investment action and for funding supply. Investment opportunities, constraints and FM performance contracts arose in this investment society. This was where the top management of the FM chose its preferred information niche, investment universe, risk universe, and investment goals for the whole firm and variations on these themes for specific investment teams and portfolios (Holland & Doran 1998; Holland, 2006). This was where the FM thought it could acquire information, and understand how value was created. This was where it believed it could deliver performance.

Various forms of organisation arose in the FM external environment including external 'networks' in financial markets and could play a role in privileged access to information.

Case FM 3; '..in..Germany….fund managers assume that the stock market is rigged… lots of insiders. … they believe, the government helps investment bankers and others with…access to private information about initial public offerings of denationalised companies. In the UK you get the house brokers who have prior access to companies and,. … know more about the company earnings and the forecast than anybody else., …The US market is more efficient and has tougher regulation like FD2000…Much of the time advantage has been lost now from concentrated marketplaces and….because of technology….. However, you can now get some of the insider access via ..one-on-ones with the companies'

The structured external environment also included 'markets for information' (Gonedes 1976, Keane 1983). Clients, savers, consultants, FM rating agencies, companies, analysts, investors and other FMs, financial media, and regulators were a group of external actors that were connected in common networks. They formed a 'market for information' in which they exchanged information and created assurance for information users. Stable relationships in these networks were important information sources and rapid response means for FM investment teams. The 'market for information' reflected aspects of the regular micro

structural patterns and inter subjectivity described by Cetina and Bruegger (2002) 'including the reciprocal interlocking of time dimensions among actors constituted as observers, conversation structures as a performative means for global transaction and relatedness, the structural use of interaction devices, … and the grounding of activities in a commerce of knowledge'. Case FM 6 illustrates how this external world was a major source of investment information for FMs and their investment teams.

Case FM 6: We think there are three or four categories of information from the outside world that are useful to fund management. ….Companies report or announce information in public… and have extensive web sites. .... we visit over three thousand companies per year. …..Then there are the media and financial database companies .... we make extensive use of Bloomberg News and interpret what they say. We might read something in the Financial Times and develop a 'thinking bubble'. ….We have a conversation with the marketplace… the **marketplace itself** is very, very important to us. We get information from the **sell-side analysts** *and***…other fund managers**.. ..our .. market traders …help us price a transaction... understand what is going on in the market...

The external context also included established and shared knowledge in the wider professional and academic communities (Mackenzie, 2006). This included professional knowledge (such as the '5Ps of investment') and academic knowledge on how markets worked (Efficient markets, MPT, asset pricing, behavioural finance etc), how to value companies (valuation theory such as NPV, strategic option pricing etc), and knowledge on how companies created value (eg RBV or Porter 5 forces etc).

6.2 Individual and team contexts and resources for decision making processes.

Properties of individuals and their strengths created a personal context and resources for action. This context was supported by FM firm and team contextual factors. Desirable individual FM characteristics included personal knowledge (know-how). They involved high 'knowledge of oneself' or awareness of the limitations and possibilities of own individual capabilities and psychological traits (say in different cycles or circumstances) and biases. The latter ability to assess one's own subjective and objective knowledge and the ability to encourage one's own explicit learning can be seen in rare FM 'stars' (as in Bolton, 2008), or more generally as 'metacognition', Flavell, (1979). Desirable personal features also included: the ability and desire to adapt and learn from mistakes; deep personal commitment to and focus on the information search and investment tasks; a search for excellence; and psychological characteristics such as levels of confidence. Personal job incentives were a function of individual traits as well as characteristics of their FM team and FM organisational incentive schemes.

FM case 5: Human capital skills are very important in stock selection and asset allocation. We need staff with the energy to keep hunting…. with the drive to look for ideas. Sometimes there are none. ..available ... but we need to keep going because they do not fall into our lap... the key is motivation . Our people are incentivised and they want to put the energy into do these things…. professional exams.. gives our staff the skills to talk to the brokers' analysts and the companies.. …. they can do the fundamental accounting analysis.

The investment team context, in part, reflected combinations of the personal contexts of individuals and their individual knowledge, skills, experience, and psychological tendencies such as overconfidence, confirmation bias, and framing (Statman, 1999). It also reflected the unique context and properties formed by the group and group processes which exploited individual

characteristics (Gratton, 2002). This included features such as shared vision or shared beliefs about the tasks in hand, and a shared commitment to learning about new types of investment, circumstances and responses (Lord, 2014). Variety in psychological characteristics of individuals (and overconfidence, confirmation, framing), and knowledge have been recognised as problems of reasoning (or irrationality) in individuals (Mercier, Sperber, 2011). They were also the basis for a variety of viewpoints and for robust argument in teams (Mercier, Sperber, 2011).

In FM firms, the unique properties of the team context reflected the degree of organisation of team interactions; for high quality argument; for exchanges of information and for joint production of information (active 'conversations' in team); and for reaching consensus decisions or for allowing individual choice. The team context was also influenced by factors such as the degree of shared pay and other incentive schemes, variety of skills, experience and psychological outlooks, degree of hierarchy and control and many other factors. The team context reflected the layout of the FM team room to ensure they were all close together on one physical space. The team context also reflected the formal schedule of meetings. The nature of weekly and cyclic meetings, with clear information exchange and decision purposes, with formal information exchange arrangements between geographic and sector teams or specialists, were expected to affect the performance of investment teams.

Team contextual factors as resources were intended to enhance conditions and processes in various investment teams (investment committees, teams managing specific funds) as well as the conditions between them. These included team conditions such as trust, consensus, understanding, and focus on task. They included group behaviour, shared understandings, degree conflict allowed, and shared purpose in teams.

Case FM 7: In terms of personality of FMs we need trust within and between our FM teams. We need to be sure that our individual FMs will do what said they will do. We need this trust and honesty in our individuals and teams to be able to work together really well. We need it to ensure that trustees trust us…

Team resources such as shared knowledge were intended to help support individual characteristics in the desired direction. For example team factors were intended to enhance individual's ability to assess their own subjective and objective knowledge, or to enhance their 'metacognition' (Flavell, 1979).

Case FM 13: …the best team is a blend of, solid, uninspiring number-crunchers and… flair people. The flair people give the momentum and drive for a decision.. … we need Scottish dourness, the pragmatism and common sense here. and we need team leaders with the management skill who know when to do nothing and who know when to keep it going slowly but surely. … we need the odd eccentric.... question the status quo ….we prefer an eclectic mix of arts and science people, not just finance graduates. do not want any dogmatic ways of looking at the world….we know we need the right blend of experience, temperament, and style.... it is a very subjective decision here.

6.3 Strategic and organisational resources for decisions by teams.

The internal FM strategic context was manifest as FM philosophy, FM top management and board knowledge and capabilities, core beliefs, and shared values. It was also manifest as FM firm aims

(goals) and strategic choices about FM organisation and process. Strategic context gave clear purpose to operational investment decisions by investment teams. Variation in the strategic contexts was the one of the primary contextual driver of differences in FM style or peer group type.

Case FM 3: 'Key to our equity philosophy is our belief that rigorous fundamental research of equity securities, integrated with a disciplined and consistent valuation approach will allow us to outperform benchmark portfolios and with a below average risk position. This fundamental, stock selection approach focuses on stocks of high quality growth companies with higher than average long-term growth potential'.

Matching factors linked strategic context to external context and were outcomes of an FM SWOT analysis whereby the FM assessed its strengths and weaknesses, threats and opportunities, relative to competitors in their competitive environment. FMs sought to create difficult to copy, rare and difficult to substitute resources (Barney 1991). FM matching involved the perceived match of key elements (such as FM philosophy, organizational and team structure and process), and their properties to FM external assets such as reputation, to FM risks taken (and chosen information niche, investment universe and landscape) and to a wide range of potential circumstances (economic and competitive) for the present and long term.

Case FM 4 'Size matters. We recognises our resource limitations and, therefore, make a decision to match the scale and complexity of our organisation structure and investment decision processes to reflect the complexity of our investment universe and markets and the skills and limits of our teams and individuals……

Coherence factors linked strategic context to operational context. Coherence or integration factors in FM firms included categories such as the degree of co-ordination or linkage between key strategic intangibles such FM philosophy and knowledge, and shared aims. Coherence can be interpreted as a key dimension of organisational culture (Schein, 1989). In FMs, organisational culture included FM firm wide shared beliefs (about companies, markets and the FM), implicit values, perceptions, common norms of behaviour in the FM (eg focus on the client), and their collective impact on individuals' thinking, feelings and behaviour in investment teams. These elements were at the heart of coherence.

Case FM 11 : **'**The culture of the fund management firm is vital. This affects attitudes to risk and ..over-weighting and…affect attitudes to companies. …Here at XXXX we are long established.. family firm. We … are here for the long term. We don't have a hire and fire culture. People join us for their whole career. We very rarely lose staff. Staff believe that this is a …worthwhile job and, of course, XXXX …. has a very high reputation'.

The internal organisational context included the FM internal organisational structure and hierarchy or internal places for investment action as well as firm level, investment team and fund level goals. It involved formal investment decision processes set within formal organisational structure. It included formal recruitment, training and in some cases, formal knowledge management functions and processes. At operational levels, it included 'front office' layout and 'back office' support functions. Front office functions and team functions included portfolio and stock investment decisions, research and analysis, traders, and customer and client relations management. 'Back office' included: performance measurement; customer and client reporting, technology and decision support; transaction execution and management; treasury and funds administration; and reporting of risk and

performance to regulators and the public. Highly disciplined 'back office' support functions and IT infrastructure were designed to provide operational support to investment teams and their investment decisions. The operational context also consisted inter alia, of formal control and communication systems, regular and scheduled meetings, standard risk control technology, and risk control procedures at fund, individual, team, and firm levels. The operational context provided order and predictable form to the investment decision process and day. Case FM 4 reveals the form that 'organisation' can take in a FM firm and its impact on decisions in teams.

Case FM 4: 'The overall organisation of our European equity process is based upon several connected parts…..the European equity's Chief Investment Officer ...oversees the team and process across sectors and ensures consistency in implementation for client portfolios.….We have nine ... analysts dealing with sectors. ..asset managers are responsible for deriving our European equities investment strategy. They undertake sector and company research. They generate the stock selection 'alpha' . They do some portfolio management by managing three to seven sectors per team .... These are all supported by teams for quantitative analysis... They maintain the input models for stock valuation or bottom up processes, and the model portfolios for diversification and risk budget for top down process.. ….The investment process is also supported by the order desk which implements all transactions undertaken for client portfolios.

6.4 FM knowledge as key resources.

FM firms had little in the way of physical or tangibles assets. Their core functions and competitive advantage were based primarily on knowledge intensive intangible assets and capabilities at firm, team and individual levels. These can be interpreted as human, structural and relational forms of intellectual capital (Meritum, 2002). The use of knowledge in this way reflected the resource based view of the firm (Barney, 1991). Extensive knowledge use, as well as implicit knowledge creation and knowledge management were often at the heart of ongoing FM investment activities. FM knowledge was key property or resource in its own right and was part of other properties of FM organisation, teams, and individual contexts. The organisational process in the FM firm depended on knowledge and its impact on ongoing decision activities at fund, team and individual levels. As a result, much knowledge of the environment, investment society, markets, corporate value creation, and of investment process, was employed by FMs (individuals and teams) during their investment decisions in specific funds under management. This knowledge was developed in the case FMs during the investment decision making (routine and creative) process and during longer term learning (Holland et al, 2012). The knowledge of internal and external contexts was in part 'owned' as intangible assets by FMs as individuals, teams and firms. This knowledge or intellectual capital (Meritum, 2002) existed as cognitive states in individuals, as explicit and implicit properties of the capabilities of individuals and teams, as properties of FM context and process, and as formal FM firm knowledge about such knowledge and how to use it. The knowledge existed formally in the case FM firms' training manuals and information systems (Holland, 2006). This knowledge was shared at various levels, with say top management skills and experience of many cycles transmitted to teams and individuals managing funds. This extended the skills of teams and individuals and enhanced

their capabilities to take investment decisions and generate fund performance. High strength of a property such as organisational order or creativity was based in part on its knowledge characteristics such as uniqueness, being valuable, being difficult to copy, and high FM ability to exploit, all relative to competition from other FMs or investment teams in the FM's peer group. This reflected the resource based view of the firm (Barney, 1991).

FM own knowledge took many forms in internal and external contexts. Prior FM knowledge about company value creation (Holland et al 2012) was crucial to investment decision activities in the FM. This knowledge included FM theory of company value creation in competitive markets. It included FM knowledge of corporate financial accounting, financial reporting and other disclosure forms and content and how these related to the company business model and parameters in FM valuation models. FM knowledge about companies and markets was often expressed as stable decision heuristics. These were categories of special types of firms, operating in special market and/or economic circumstances, when combined were likely to have value potential. Examples included categories such as 'special situations' 'themes', 'value' and 'growth'. They were use to screen and focus information search in a world of 'information overload'. These heuristics reflected 'bounded rationality' (Simon, 1976) at the level of many individuals in investment teams across the FM firm.

Case FM 15: 'Special situations' can be seen as a flexible but changeable set of broad categories for searching for and identifying companies with potential for value. They are an input to stock selection and are of considerable use in prior screening of candidate companies before major research resources are devoted to intensive analysis of the company. The existing portfolio is mainly made up of companies in these categories and hence is **an output** both of Special Situation screening and detailed stock level analysis'.

7. The FM organisational process and contexts

Section 7 outlines the FM organisational processes in the case FMs. The FM organisational processes were identified in the grounded theory data processing in the case FMs as two broad process categories operating within the FM hierarchy. *Firstly*, as an integrated set of hierarchical processes or firm wide processes of control and influence. These included control processes which were used as the organising means to control behaviour, risk, incentives, and degree of independence at all levels in FM firm. They included control and development processes over knowledge and other resources. *They included hierarchical control over the allocation of resources. Secondly* they existed as firm wide and team information production and exchange processes. The latter included information production processes as the organising means (at all organisation, team, individual levels) to narrow down the focus of the search for information on risk and return. The two sets of connected and overlapping organisational processes created the support means for investment teams and their decisions and actions. They were designed to augment the quality of investment decision making, to control risk in these investment teams, and to improve their probability of success in investment decisions.

Case FM 2: The key input is our philosophy or our long term and fundamental views on risk and return ….This deals with ....exposure and risk we are prepared to take... number of stocks in our portfolios, the weightings, weighting limits, and the tracking error for the.. portfolio. These reflect customer needs and our risk preferences. .. this is a long term input to fund management. …..We also have our organisation structure, ... our board, senior management and asset allocation committees….We encourage independence in our individuals in... investment decision ... we also control individuals through various committees and team approach to stock selection and asset allocation decisions. ….We have risk controls... a model portfolio for the whole firm, and benchmark portfolios for clients….We have firm wide control …over the risks ..from investment teams. ... bottom up investment process... is placed in the context of the top down processes. Another factor interacting here is our technology support for the strategic structures and processes and for the immediate ongoing decision activities. …..All of these factors interact with our shared beliefs and preferences during investment decisions.

The FM firms had many FM purposeful drivers to the organisational process. These included firm culture, philosophy, and investment policy (or risk return preferences) and firm wide investment goals. This context included prior strategic choices on preferred information niches, class of investment products, and investment and risk universe to match policy. It included prior strategic choices about organisation processes and contextual resources. Within this strategic context, established FM organisational process and resources played a central role in supporting teams and their 'top down' and 'bottom up' investment decision processes.

Co-ordinated organisation processes were essential for effective functioning in the FM. They were based on FM wide strengths such as explicit and broadly understood FM philosophy, culture, and shared beliefs, and shared FM knowledge about companies and markets. They were based on clear, explicit and shared narratives about the FM firm and its purpose, and modus operandi. They were based on operational strengths such as; well understood forms of team autonomy, organization and composition, clear and explicit meeting schedules and freedom for informal exchanges. They also required robust technology closely matched to FM communication processes and investment tasks. These forms of co-ordination did not imply high centralization, but did imply greater unity and agreement about shared aims and activities.

The purposeful organisational processes were the means to allocate, co-ordinate, and mobilize FM resources for decision making teams and individuals to exploit. Co-ordinated organisation processes and resources and their purposeful interactions were the means to support FM individuals and teams to take well informed 'bottom up' stock selection and 'top down' asset allocation investment decisions (Holland, 2006), to exchange information within and between teams, and to produce diversified portfolios with the desired financial performance. In Figure 1, the FM organisational processes and contextual resources 'surrounded' teams, individuals, and their decision routines. They played a role in directing them, to moderate and mediate their responses to external stimuli and circumstances. This system created a collective FM firm wide means designed to enhance *decision* conditions in investment teams. In turn, these conditions were expected to improve team and individual processes for information search and risk control in investment decisions. They enhanced decision processes and places for the creation of information, meaning, knowledge, and for learning. In turn, they were expected to improve the chances of FM success via

new information production and improved quality of decisions.

More specifically, the FM organisational processes mobilised resources within FM structure or hierarchy to support team conditions. These firm wide interactions were designed to help individuals and their investment teams to focus down on information sources about investment opportunities and their risks, and make effective use of the information in investment decisions ('top down' and 'bottom up').The FM organisational process (for control and information production) and the FM organisational resources and their peer group strengths, and were expected to purposefully interact as collective and integrated FM organisational means with each other and with characteristics of individuals and teams. The interactions were expected to enhance the capabilities of individuals and FM teams; to take action, to 'behave', to reduce the complexity of new information flows, to exchange information, to focus their analysis, to look forward in imaginative ways, to find new ideas, and to 'make sense' of this qualitative and quantitative information in stock selection and asset allocation investment decisions. The combined elements were expected to help FMs avoid their own negative behaviour, to exploit the behaviour of others, and to perceive value in the actions of others.

7.1 Interpretation through the theoretical literature on the firm:

Cyert and March (1963) argued that organisational process is the means for uncertainty avoidance and conflict resolution in the firm. Weick (1999) explained that informed organisation contexts (as key resources) were required to help individuals and teams make sense of equivocal messages, with a multitude of possible meanings in a rapidly changing information environment. Organisational process was required to develop, allocate, mobilise and exploit resources in the FM firms. Key resources (as in the RBV, Barney, 1991; Fahy, 2000) were interpreted as the properties of contexts. Excess firm resources or 'slack' (Cyert and March, 1963) were interpreted as high strengths of the properties of contexts relative to internal needs and external competitors. The FM firm wide organisational processes and context based resources were integrated means to cope with and reduce the uncertainty associated with equity investments (Hellman, p236, 2000). Strengths in team and individual characteristics, and of firm properties of knowledge, coherence and matching, were expected to play a role in uncertainty avoidance and conflict resolution in the team based and goal seeking task sequences (Cyert and March, 1963) of FM investment routines, both 'top down' and 'bottom up'. They were also the joint base from which creativity could be stimulated in individuals and teams. Teams were the focus of attention because they were the primary area for investment decision making.

7.2 Interpretation through the theoretical literature on hierarchy and capital allocation:

Stein's (2002) seminal paper on hierarchy, decision costs and capital allocation is an important reference point for this research. Stein's question of (2002) of 'how well different organizational structures perform in terms of generating information about investment projects and allocating capital to these projects' was investigated relative to banks. Stein (2002, Chen et al (2004), Berger et al (2005) and others have focussed on (the centralisation of) organisational structure as the primary source of 'hierarchy' or decision costs. Chen et al (2004) argued that hierarchy costs arise in (mutual) fund management hierarchies when the 'the process of agents fighting for (and potentially not having) their ideas implemented will affect agents' ex ante decisions of what ideas they want to work on'. Stein (2002) argued that when hierarchy costs exist *in large centralised firms,* small organizations ought to outperform large ones at tasks that involve the processing of soft information or personal, subjective and difficult to verify information. Agents in centralised firms find it difficult to convince others of their ideas especially as it is transferred up the organization. In contrast centralised firms are better at incentivising agents to collect and communicate hard or quantifiable information, and ought to outperform small firms when processing hard information.

Some differences to Stein (2002) and Chen et al (2004) can be noted in the behavioural theory of fund management firms. Top management in the FMs asked: "What strategically balanced clusters of organizational factors and processes — does the best job of finding new information and allocating capital and other resources to competing funds or portfolios?" FM decision or hierarchy costs were determined by more than (the centralisation of) organisational structure alone, and that the use of hard and soft information was more subtle than suggested in Stein's (2002) model. The issue of resource allocation was more varied and concerned, inter alia, financial capital, pay, knowledge, and top management attention. Despite these differences Stein's analysis is valuable as decision costs such as hierarchy costs and 'soft information' problems were present in the FMs and influenced their decisions (strategic and operational).

The issue of centralisation illustrates the difference to Stein (2002). Some degree of centralised organisation and hierarchy was required to control risk, adverse selection and moral hazard at all levels in the FM firms. However, in the case FMs there was awareness that increasing size could lead to high centralisation, rigid bureaucratisation and inflexibility of organisational processes. There was awareness that centralising of resource allocation and of risk controls, controls over knowledge, and controls over parts of information production could lead to sub optimal decision conditions. They could lead to adverse incentives and high decision costs and their impact on the use of expertise of individuals in teams and exchange of expertise. Decision costs could also arise from limited hierarchy control over FM behavioural problems such as bias and overconfidence, and excessive risk taking. Perceived decision costs arising from over-centralisation and complexity also included isolated information production, limited exchange between teams and up and down the hierarchy,

misplaced focus on quantifiable sources or 'soft' sources alone, emphasis on historic data as opposed to future looking information, all contributing to under performance. These were closely related to the hierarchy costs identified by Stein (2002).

7.3 Seeking a strategic balance:

The case FMs tried to deal with issues of complexity, risk, soft information, and adverse incentives by using, a strategically 'balanced' set of organisational, team and individual factors. This involved a strategic balance between the various organisational processes for control such as: hierarchical control of risk (financial and behavioural); control over autonomy; control by using behavioural incentive schemes; control over knowledge creation and exchange; all relative to processes for information production and exchange. They also sought a balance between organisation processes and allocation of strategic resources. Part of the strategic balance emphasised simplicity and clarity in organisational factors such as clear philosophy and simple hierarchy. Another part focused on exploiting organisational 'glue' as shared knowledge, explicit culture, 'coherence', and 'matching'. This allowed the development of collective mindfulness' (Weick 1979, 1995) and of 'adaptive' bureaucracies which avoided problems arising from high centralisation and complexity. The case FMs sought to mimic the conditions of autonomy, choice, of forward looking and of 'soft' information processing in teams and smaller organisations. They tried to reduce the problems of large organisation, and to gain the benefits of large organisation. Adaptive FM bureaucracies were based on flexible and effective organisational processes and contextual resources with explicit matching and coherence properties (see Section 8 for examples).

A 'strategically balanced' set of these organisational, team and individual factors was expected to reduce decision costs in and between teams. Collectively they were expected to compensate for or countervail some of the problems caused by centralisation. Collectively the strategic balance of organisational factors was expected to determine decision conditions, decision costs, information collection incentives, and the kind of information collected by FMs. They were expected to encourage the production and transmission of both 'soft' and 'hard' information throughout the FM, both up and down the hierarchy and cross hierarchy. They also created the conditions in which effective ('mosaic') combinations of 'soft' and 'hard' information could be combined in FM (team and individual) judgements about investments.

In Stein's (2002) terms these choices can be interpreted as a strategic trade off between increasing hierarchy costs from organisational controls (for risk, adverse incentives and behaviour) and reducing hierarchy costs from flexibility (via knowledge, coherence and matching resources) and desirable team and individual characteristics. This led to reduced net hierarchy costs designed to enhance information production and performance at team, individual and portfolio levels. FMs firms sought a competitively superior combination of organisation processes, resources, teams and individuals to achieve desirable economic costs

('top down', cross hierarchy, 'bottom up' costs) of decision making. These were intended to create the conditions for superior production of information and performance.

7.4 Prediction:

If we assume that a such strategic choices have been made and a strategic balance achieved, the behavioural theory of FM predicts that the higher the relative co-ordination and implementation of FM firm organisation process and the contextual resources, and the higher the strengths of properties of investment teams and of individual contextual resources, then the higher the chances of creating desirable conditions and processes in investment teams. As a result, the theory predicts higher expected mediation and moderation effects of these organisational processes and contextual resources during decision making by individuals in their investment teams. This is expected to lead to higher quality of FM firm and team information search, control, and production processes and to lower decision costs. These collective properties of FM, their strengths, and their impact on information production and investment decision making in teams, were expected to marginally alter the investment odds in the favour of the investment teams. These were expected to help them create investment portfolios expected to be robust across a range of potential circumstances, and to produce desired performance. High (peer group) relative strengths in these processes and resources were the perceived basis for creativity, for competitive advantage, and for beta creation (return for risk) and potentially alpha creation (excess return). These organisational processes and use of resources could be ineffective, fail or face barriers due to problems with human capital, technology, organisation, culture and other factors. These problems are discussed in section 9 and could increase hierarchy costs and were the likely basis for much FM underperformance (Cuthbertson et al, 2006, 2008).

8. The impact of organisational processes and resources on teams and individuals

Section 8 discusses how FM organisational process and hierarchy and their properties of integration and coherence when combined with knowledge and narrative were unifying forces and had a direct influence on individuals and teams and their investment decisions. These forms of co-ordination and integration did not imply high centralization, but did imply greater unity and agreement about shared aims and activities at all levels in the FM firm. The coherence factors encouraged a shared 'bottom up' and a 'top down' process of understanding, sense making and agreement about these matters. This contrasts with a policy of high centralization and authoritarianism by top management. The latter may create high decision costs (Stein, 2002), whereas the former is tailored to the creative and autonomous dimensions required in much of FM team and individual behavior. This was one way in which large FMs sought to deal with problems of size and complexity and was an alternative to a centralizing policy alone.

8.1 The impact of FM organisational process on individuals (and their qualities)

Organisation processes involved FM firm wide co-ordination, exploitation and control of individual qualities such as psychological traits, experience, and knowledge. Individual qualities were influenced by FM firm organisation process and context with this contributing to team conditions (such as trust and understanding) *and decision costs* during both 'top down' and 'bottom up' investment decision processes. Psychological traits, states and behavioural errors (such as overconfidence and mistaken risk taking) at the level of individuals in teams managing specific funds, were mediated by the degree of control from 'top down' investment processes and by organisational factors or properties such as firm wide knowledge. Incentives to make explicit and discuss 'soft' information were expected to increase with shared knowledge. Holland et al (2012) discuss how emotional responses and FM prior knowledge were important means whereby FMs made collective sense of different but complementary types of 'soft' and 'hard' information. Psychological traits of individuals in teams were also mediated by FM firm investment policy and type of FM. For example, overconfidence was expected to reduce as one moved from hedge to growth, to value to index funds. The FM firm policy for job security, pay, and degree of autonomy, were similar organisational factors which were used to further alter the individual and team experience. As incentives became riskier and autonomy increased the likelihood of overconfidence errors by individuals could rise, and performance could decline. As FM firm penalties (on individuals and teams) for fund performance failure rose then avoidance of downside risks rose and 'quasi indexing' were expected to increase (Holland, 2006). There were limitations to this FM firm influence;

Case FM4: '…..there is a reality …behind this organisational structure and process…..you see a lot of individual behaviour by stars and personal characteristics persisting in this highly structured process. .. there are personalities here and stars here with different rationality and different ..skills and .. competences...events are dynamic and change all the time with new information coming all the way through and these create dynamics in the real business which means the highly structured process is changing all the time'.

8.2 The impact of organisational process on *team decision conditions, costs and processes*

Team conditions and processes were central to fund management. The organisation processes, hierarchy and resources, and team and individual contexts (and their resources) illustrated in Figure 1 were all intended to enhance *decision* conditions and atmosphere in investment teams. The target team conditions included trust, consensus, understanding, and focus on task. They included behavioural tendencies and biases, acceptable behaviour range, shared understanding, degree conflict allowed, and shared purpose conditions in teams. They included time and space to think and reflect, as well as quick response capabilities. They included the clarity of the investment task and goals of the investment team for specific funds under their management. These *decision conditions in and between teams* were deemed critical factors in increasing the chances of success

in investment decisions.

Case FM 7: The members of the FM team face each other and are in regular conversation and in exchange of views…..We therefore seek a good atmosphere and focus for the team space and for their interactions. We try to get a mix of introvert and extroverts, youth and age, so that we can good interactions and debates using a variety of viewpoints.

Enhanced decision conditions in teams were the basis to improve team processes (in and between teams) for control and information search and to improve adaptive capabilities in teams. These processes included; improved communications (formal meetings and informal conversations); the focussed search for information; exchanging of new *information ('soft' qualitative and 'hard' quantitative);* encouraging imaginative forward looking (ex ante) search for new ideas; active and purposeful argument; controlling behaviour such as managing argument, conflict and risk taking; and to subsequently use these processes (in sense making, Weick, 1995) to improve investment decisions and performance. Satisficing or use of 'just enough' information and analysis (Simon, 1957) was also noted. The responsive and adaptive capabilities in investment teams were based on properties such as shared experience and knowledge in a range of circumstances, and on individual psychological characteristics.

Case FM 7:
…we use a wide range of information when we have discussions.. we know we need to absorb the information collectively and come to a decision and act with conviction…..I like to push people to argue. Someone may shout out some information .... I like to see who responds to it and why….We need trust within the team … other team members will back them up if they can provide a good rationale for problems or changed decision…..We do not have stars. We prefer to focus on a team effort within a disciplined investment process

Team factors were subject to strategic guidance based on 'front line' experience.

Case FM 13: .. what is the best team size? .. the UK Fund Management Team is seven…. five core fund managers who make the decisions… two graduates ….as human capital investment but ...they need to **learn** quite a bit. .. teams can get too big to function . we try to get a consensual process within them. …we have all these information sources coming into the..team

Despite the strategic guidance, problems arose with investment teams and it was never clear what the optimum design of teams could be.

Case FM1: When we hire staff we use a range of criteria to guide the search for people … in our teams. …It is not clear what the optimum behaviour is at individual or team level. It is.. difficult to have an action plan to influence behaviour in an optimum way...our approach is much more …organic here and contingent upon circumstances, except for our approach to recruitment, training and behavioural issues … we have tried to manage these.

The expected strengths of investment teams (such as investment committees, and fund specific teams) were based: on a high degree of shared knowledge (of companies, markets, and FM investment processes); a range of individual psychologies (and understanding of biases); broad skills and experiences; shared experiences of many cycles (circumstances); and formal review processes for teams and individuals. These strengths were expected to influence individual states and create team conditions of high trust, decision consensus capabilities, and improve high quality 'conversations' for the exchange of 'soft' information and subtle signals.

FM organisational processes and contexts (organisational, team and individual) were intended to be the collective means to control and influence individual and team behaviour such as 'overconfidence' at both 'top down' and 'bottom up' levels. They were the means to create an atmosphere of trust and understanding in investment teams and to encourage informal

'conversations' in such groups and between them. They were the means to promote the production, exchange and flow of *'soft' and 'hard'* information about risk and return within and between investment teams (fund specific teams and the investment committee). They were intended to be the joint means to both create and resolve conflicts in positive ways, and to reduce uncertainty (Cyert and March 1963) within, and between fund specific teams, as well as between 'bottom up' teams and the 'top down' investment committee.

Case FM 3: '..The next thing is to be organised to be able to quickly recognise when these things begin to occur and to act quickly to exploit them .. a lot of this is about organising your meetings and your information systems so they are adaptable so that you can quickly discuss and pick up these salient changes in the market behaviour and relate it to your fair value and market value difference and to your votes on each stock '

FM investment teams, with these team properties and decision conditions and guided by a firm wide organisational process and resources, were expected to have higher quality argument processes, to conduct fruitful and managed conflict, and to be successful information producers. Team members were expected to have lower levels of overconfidence than fund managers operating as isolated teams or individuals in FM firms, or individual investors in markets. As team factors such as trust and knowledge increased in strength, then the likelihood of the use of poor information and of overconfidence errors could fall, and performance could improve.

Case FM 7: 'We know a lot about companies and how to get information from them…during company visits by our team ….We drill our staff….in our company checklist …but we keep an open mind. Decision-making is collective and even junior fund managers are encouraged to contribute ideas - and take responsibility - early. This is facilitated by a generalist approach, with team members cross-covering company visits. Open plan offices facilitate communication'

8.3 The integrated FM organisational system.

The FM organisation processes, hierarchy and contextual resources were expected to be connected together in a purposeful and coherent manner and work as one dynamic and integrated system or business model (IIRC, 2011).

Case FM4: '..fund managers here have learnt over time that there are good internal reasons for the structures and processes to be.. formal. ..we need ..structure in this investment process because we need people to work together….we have learnt over time that highly structured decision processes, good organisational structure and good use of information do have major advantages in.. decision process. This.. enhanced our ability to tell our value creation story internally and externally. Our structure and our story help us tie together ...people and ...control bias in behaviour and get the best team benefits out of them.

The organization processes and contexts (organization, team, individual) were linked and integrated in a purposeful way through coherence factors such as FM philosophy and knowledge, culture (as core beliefs, shared values) and shared aims. They were linked by connections between FM firm goals and the sub goals of investment team areas. FM firm culture in the form of shared beliefs (about companies, markets and value), and common norms of behaviour in the FM (eg focus on novel information and the client), were at the heart of coherence, and the purposeful linking of the factors in Figure 1. Many other dimensions to organisation process enhanced these linkages. These included formal and informal communication processes, and the use of FM firm 'story' of how it conducted fund management. They included the technology for firm wide

communication systems and other tangibles such as office layout and building design. For example, technology was a critical means to support the organisations processes for FM wide control and information production. They were key means to improve communication and information exchange throughout the hierarchy and within and between teams and individuals.

Case FM 2 'We use our own advanced technology to communicate global research... information exchange with ..bottom up process... and the top down interactions.....This ... exchanges information around the globe between different analysts, different sector managers and different .. portfolio managers. It ..overcomes... problems of distance … in a global FM. .....All internal analysts, all fund managers can see what information has been created within a sector or fund management group at any point in time. .....This technology stores research notes by internal analysts, company meeting notes, internal fund manager meeting notes, news that people have picked up and are transferring around, and our current valuations,.....We cannot work on a global basis without this formal information exchange.....The same information system also flags forthcoming company meetings ....Without this system it is hard to see how bottom up research .. could extract value out of these information sources in such a systematic way'.

Each case FM had their theory (or conceptual framework) how all of these elements were connected together in a purposeful and coherent manner. This explored how many factors such as philosophy, organisational structures, functions and processes, human capital and control mechanisms all worked together to help the FM to focus down on information about sources of risk and return. It explained how the FM managed and exploited these to take actions to create value and diversify risk.

Case FM 2:
'We have our own basic theory of fund management… includes the 4P's of philosophy, people, process, and performance….. Other parts include risk management and technology. All these work together and produce performance.

This theory was made explicit in the FM narrative or 'story' of how these factors interacted and worked together. This became essential for guiding the internal interactions and internal decision making and hence for integrating the organisational processes. Boyce (1996) and Boje (2001) discuss the role of stories within internal corporate communications. Story telling is used as a vehicle for 'collective centering and collective sense making' within organisations such as FM firms, (Boyce, 1996) but management can exploit story telling in their interests. FM firms also use their story in structuring external communications and marketing in markets. Holland (2005, 2009) has shown how the 'value creation story' was an oral and/or written narrative for firms to disclose qualitative information to external markets.

Case FM 7: Our story is clear.... organisation and good discipline are important – in research, in risk management, in investment decision process, in team interactions, in taking action. This all leads to educated ..'bets' on stocks. If you have a good structure, and a good process for research, risk management and investment decisions, and stick to the process, and implement decisions without emotion, and buy and sell according to your convictions then the bets will probably come out in your favour.

8.4 Organisation processes and exploiting knowledge resources

Knowledge was a key property or resource of organisational, team and individual contexts and had a major impact on team decision conditions and costs. It was developed, mobilised and exploited by the organisational process during the investment decision making (routine and creative) process and during long term learning and knowledge creation (Holland et al, 2012). The FMs recognised the

importance of existing FM knowledge about companies, markets and other FMs, and the need to ensure that this was widely shared within the FM firm. As a result, considerable organisational effort was put into exploiting and transferring existing knowledge through recruitment, training, and moving staff around to encourage knowledge exchange.

Case FM 13: ' ….we reshuffle teams once per year. ... for people in their first, second and third years at the start of their career. They can add a fresh view on how we do things. ....senior people also move around... to develop their experience…. transfer their experience to other people and question existing practices and beliefs. This spreads best practice around and makes staff more rounded and better able to understand other roles. It freshens up teams and people and allows us to match teams to new investment areas and client needs. This all makes our individuals and teams more responsive to change'

The FMs sought low external turnover of quality staff relative to labour markets and high turnover of weak or disruptive performers. They also sought internal movement of high quality staff within the firm. These were means to protect and develop the human capital resource. Knowledge once developed and mobilised was expected to have major impacts on team conditions, information production and control processes, and investment decisions.

FM case 6: '… it is not just external sources of information that are important here… the prime capital here is the human capital. We invest in people, in fund managers and internal analysts. This is the single most important element in good stock selection and asset allocation and financial performance in fund management'.

FM firm wide knowledge buttressed individual knowledge and other personal factors in controlling potential behavioural errors. As personal knowledge increased due to internal knowledge transfer, it enhanced the exchange of 'soft' information. In addition, the likelihood of overconfidence errors could fall, and performance could improve at both top down asset allocation levels and bottom up investment processes. Thus knowledge was at the core of FM sustainable competitive advantages and the likelihood of relative success and failure. Key knowledge areas concerned company value creation and market valuation processes. Prior FM knowledge about company value creation was a key to understanding company 'fair' value, to new information production and hence to many investment decision activities in the FM. Holland et al (p575, 2012) noted that;

'New information from company 1:1 meetings was interpreted within prior FM knowledge of the existing corporate business model... This could be used with the causal links in the company value creation narrative to support the earnings prediction process. The 1:1s also helped the FMs to think about their feelings about the company investment situation. … FMs responded to the 'atmosphere' of 1:1 interactions, and this generated impressions, feelings (of confidence and conviction) concerning the companies'

FM existing knowledge included ideas about how markets understood company business models and fundamentals as the basis for the stock price. It included FM theories of the dynamics of behaviour in market and how this created short term variation in market price around FM views of 'fair' value. This knowledge was used in active 'gaming' behaviour by investment teams.

Case FM 14: 'We watch stocks prices every day and we do look at technical analysis... price changes …. We match this with our analysis of company economic performance... of gaming by others to try and see how these might be driving the price changes……Technical analysis of price by itself is no good. However, we can learn a lot by analysing how real economic information about a company, and how gaming behaviour, all drive prices individually and together. We try to separate out... effects of real economic information about a company, from …gaming behaviour…

9. Fund Manager success and failure

Section 9 uses the behavioural theory of FM to explore issues of FM success and failure and new ways of researching FM performance**.** The organisational processes and contextual resources were expected to function together in a purposeful FM wide system to generate successful performance outcomes. The combined system was the base for creativity and success, especially if relative peer group strengths existed in its key components. Weaknesses and failure in these elements and their integration was a basis for FM underperformance and failure. These insights provide new ways of investigating FM performance issues.

9.1 FM creativity and success.

The case FMs were very aware of the threats to effective internal communication, creativity and the production of novel information at team and individual levels caused by organisational form and processes. They organised to avoid rigid 'bureaucratisation' and negative decision costs (such as hierarchical costs, Stein, 2002) by encouraging contextual and process conditions for creativity in which forward looking (ex ante) and unique 'soft' or qualitative information produced by individuals could be valued, made explicit, analysed and used in teams and in the wider FM firm. The combined FM system was the base for creativity, especially if relative peer group strengths existed in its key resources and processes.

Case FM 13:
Consultants ...and trustees … ask us, what is your edge?.. you have.. no more information than anyone else. ....We argue, ... we.. have a structure which allows us to make better decisions on the basis of our information. This ... is about our team structures and decision processes. ... it is the blend of team that counts and the size of the team that counts. This allows us to process information quicker than the average person. It allows us to process it better than the bureaucratic fund management team which is too top heavy. We can see the wood from the trees. This helps us make choices in our stock selection and helps us build up stakes based on informed position.

The case FM findings match the findings on creativity and context in the wider organizational literature. As Heuer (p75, 1999) noted 'new but appropriate ideas are most likely to arise in an organisational climate that nurtures their development and communication'. Ford and Gioia (2000) found both context and decision process were sources of factors that influenced the creativity of managers' decisions (in commercial firms) and especially the novelty and value dimensions of creativity. Amabile et al. (1996) argued that dimensions of the work environment contributed to the capacity of individuals and groups to be creative. These include supportive organisations, reward systems, supportive supervisors, and work groups valuing creative effort. They include autonomy and resources for individuals and teams, as well as removal of impediments such as rigid structures. Creativity in FM individuals and their investment teams involved exploiting peer group strengths in contextual resources at FM firm and team levels. These creative organisational resources included a strong research orientation, adaptive external information sources, tailored work incentives, time and space to think and reflect, valuation of creative efforts etc as well as the unique characteristics of individuals (open mindedness, imaginative etc). Creativity also

involved ‘breaking away’ from existing structures, routine processes and established conceptual frames and knowledge (Nonaka & Toyama, 2005, Holland et al 2012). As a result, variation and adaptability were built into routines, meeting cycles, forms of analysis, into behaviour in teams (challenge culture, scepticism, autonomy), and into the range of experiences and psychological outlooks of individuals. Creative elements were added by varying the working day and by encouraging informal conversations and meetings. Each FM sought its own unique balance between routine and creative elements in the pursuit of its aims. There was tension between routine and creativity aims and processes. Creative activity in immediate and ongoing investment decision processes by individuals and their investment teams involved, inter alia, use of, and knowledge of how to use: flexible routines; active and challenging team conversations and of ‘positive’ behaviour; and ‘brainstorming’ in investment teams. They involved intense probing by investment teams of investee companies, pressurizing problem companies and noting their response. They also included a probing external research capability, and ability of individuals and their investment teams to recognize when they were receiving urgent and often value significant feedback from stock markets and from the ‘market for information’.

The above were the combined organisational means for the case FMs to encourage creative conditions in investment teams, and in their associated information search and control processes. They were means to significantly alter the odds in their favour and to create robust investment portfolios expected to produce beta and potentially alpha in range of circumstances. Organising for creativity, for competitive advantage and for beta and alpha creation was based on perceived superior dimensions or strengths to FM contextual resources and processes. This reveals the close perceived links between organising for creativity, for competitive advantage and for alpha creation.

Case FM 2: Where are our competitive advantages? They lie in our price and intrinsic value philosophy, in our high quality, globally organised investment organisation and process, in our globally organised proprietary research, in our optimal approach to portfolio construction where both bottom up and top down views of risk are integrated, in our cutting edge risk analytics. They lie in the expertise and range of our employee capabilities, and strong knowledge of our clients. These ..lead to superior risk adjusted performance.

In the search for strategic balance between the organisation processes, and use of resources, FMs recognised they were more likely to find ‘second best’ solutions. These allowed FMs to perform as ‘best we can’ as close as possible to beta return goals with the occasional alpha performance. The FMs combined a form of strategic satisficing behaviour (Simon, 1957) with a search for reduced decision costs (Stein, 2002).

Case FM 13: All of these mechanisms, ..organisational structure, layout of offices, the teams, ..top down and bottom up investment process, ad hoc meetings, formal meetings, sector meetings are somewhat fuzzy ways of exchanging information. .....the US consultants ... ...want.. it all to be absolutely clear. However, it is not clear what is the ..optimum structure ... Our combination of small teams, one floor ....ad hoc meetings, formal meetings and ..global sector meetings is the best we can do at present. They can all be seen as a... rule of thumb.

9.2 FM weaknesses, underperformance and failure

These organisational interactions and resource use could fail or face barriers due to problems with human capital, technology, organisation, competition, culture and with many other factors. These were likely to be the source of problems with decision conditions and costs for individuals and teams leading to the poor financial performance reported by many FMs (Cuthbertson et al 2006, 2008).

Case FM 6 : What are the barriers to effective fund management.. stock selection and asset allocation decisions, to developing information and to effective action? ..there are three main areas of barriers. Number one, people. ... people management skills and behaviour of individuals can be major barriers .. Communication is vital. This can be impeded by a lack of lateral thinking... by a lack of prioritisation or a lack of sense of urgency .. Number three... technical or system barriers. If the system crashes in the middle of an important company or market event then this is a very severe problem.

The FM cases revealed empirical patterns for weaknesses and problems in the many elements of fund management. These revealed patterns in the drivers of FM underperformance. More generally, problems with top management quality could lead to problems with strategic review processes, strategic choices and strategic 'balance' with these leading to continuing problems with organisational processes and contextual resources. These in turn created the problematic organisational conditions to exacerbate weaknesses at team and individual levels leading to higher decision costs, higher operating costs, higher risk, lower returns and hence portfolio underperformance. More specifically, weaknesses in the FM investment process could arise from weaknesses in the properties of FM organisational processes. Table 1, Appendix 2 provides empirical details on such problems. Organisational process problems were based on FM wide weaknesses such as poorly understood FM philosophy, and culture, and limited sharing of beliefs and FM knowledge about companies and markets. They were based on limited narratives about the FM firm and its purpose, and modus operandi. Problematic FM bureaucracies included, inter alia, complex FM hierarchies, with high centralisation, restricted autonomy and narrow control boundaries, poor exchange of knowledge, poorly designed incentive schemes, high staff turnover, and inflexible routines. They were also based on operational weaknesses such as poorly understood forms of team organization and composition, erratic meeting schedules and limited freedom for informal exchanges. Problems with technology reduced the effectiveness of FM communication and control processes. Individual weaknesses and combinations of weaknesses in organizational processes, as outlined in Table 1 in Appendix 2, contributed to underperformance.

Problems also arose from weaknesses in resources for case FMs. More specifically they arose from weaknesses in the properties of contexts (firm, team, and individual) and process, by where they arose (location), and how they arose (systematic and connected, unconnected, key component). Location weaknesses included under investment in functions such as research and

staff training. Behavioural weaknesses arose in areas such as mismatched attitudes to risk, high levels of overconfidence, hubris, and bias etc. relative to the chosen information niche, investment universe and risk universe. Collective and connected weaknesses also arose. For example, weaknesses in internal risk control systems and in staff recruitment and training exacerbated behavioural weaknesses at team and individual levels such as mismatched attitudes to risk, high levels of overconfidence, hubris, and bias relative to the chosen information niche, investment and risk universe for specific investment portfolios. Systematic and connected set of weaknesses in the FM formed a collective exposure for the FM to downturns in economies and markets and during major crises. Weaknesses also developed as major failure in one key central element or component of the FM system. A significant failure in periodic review about say risk control alone could undermine all other strengths.

In Stein's (2002) terms, top management and strategic weakness can lead to errors in strategic choices and increasing hierarchy costs arising from rigid and sub optimal controls (for risk, incentives and behaviour) and from inflexible knowledge and other contextual resources. This can lead to high decision costs such as hierarchy costs seriously impeding ('soft' and 'hard') information production and performance at team, individual and portfolio levels. For example, inflexible bureaucracies that emphasised formal reporting and quantitative measure were expected to negatively affect FM individuals forward looking (ex ante) decisions of what were (value) relevant new ideas to work on. These economic costs were expected to increase in poorly organised FMs with inflexible organisational processes, limited contextual resources, and problems with teams and individuals. This could be the case if individuals were making judgements about subjective, qualitative information, and if they sought to publicly communicate this information within teams, across teams, up or down through the hierarchy, or via FM reporting technology. If these organisational problems were combined with knowledge and incentive problems outlined in table 1, Appendix 2, they were expected to exacerbate problems with risk control and behaviour. These could deepen problems with the generation and exchange of forward looking qualitative information and decrease its information content in teams, between teams, and within the hierarchy. This reveals the problems of managing the negative and positive aspects of organisational or hierarchy costs.

9.3 Developing new tests for success and failure.

The behavioural theory of FM may be of use in advancing the more conventional empirical research programme concerning FM performance. Relative peer group strengths in the properties of individual elements as resources and processes were identified as the basis for

FM success. Various FM specific combinations of organisation process, organisation contextual resources, and team factors were considered to be the source of FM advantage and success. Strengths and weaknesses arose from strategic choices with these depending on the quality of FM top management. Weaknesses in the FM investment process could arise from weaknesses in organisational processes (or in the properties of FM organisational processes) and from weaknesses in resources (or the properties of contexts, firm, team, and individual). The grounded theory thus suggests new ways to think about and test issues of FM performance. The grounded theory suggests that underperformance at fund portfolio, and FM firm level is driven by a linked cluster of these (FM firm) system based factors rather than one or two traditional and unconnected research variables such fund size, style, human capital characteristics track records, training costs, and staff turnover. Given the poor financial performance by many FMs when delivering investment services to investors (Cuthbertson et al 2006, 2008), the role of the behavioural theory of FM in linking such disparate factors/measures and suggesting new linked factors/measures may be critical to performance studies. Jones et al (2011) make a similar point when they argue that FM firm, fund, and manager characteristics should be combined with conventional performance analysis in identifying superior active managers.

10. Summary and Conclusions

The paper has made a contribution to empirical understanding of FM by described a novel behavioural theory of the FM firm. This provides a development of prior research by Holland and Doran (1998), Hellman (2001), Arsnwald (2001), Holland (2003, 2006), and Holland and Johanson (2003) concerning fund management. The FM theory suggests new ways to think about and test issues of FM performance. Variety in FM styles can also be investigated in the same way using the behavioural theory of the FM firm. Appendix 3 uses the theory to provide insights on variety in FM firm types and investment policies. The evidence on FM success and failure in section 9 also demonstrates the variety in FM firm's ability to execute their policies.

The theoretical literature was used to interpret the empirical findings. In the behavioural theory of the FM firm, such firms were developed to exploit and overcome the problems of investing faced by individuals in complex financial markets and in a world of changing economic processes in companies. The purposeful and highly co-ordinated FM organisational process, the flexible hierarchy, the external and internal FM contexts (organisational, teams and individual and their properties, and relative strengths), when combined with matching and desirable

investment team conditions and processes, were interpreted as evolutionary (Nelson & Winter 1982) responses to uncertainty. They were developed in a common institutional setting (Scott and Meyer, 1994; Scott, 2001) and provided a FM firm specific and investment team focus for interpretation of events and production of new information. Holland et al (2012) illustrates how these were the result of long term FM learning and knowledge creation processes.

The paper also argued that the FM organisational process and organisation contextual resources were required to help individuals and teams make sense of messages, with a multitude of possible meanings in a rapidly changing information environment (Weick, 1999). Strengths in organisational processes, hierarchy, and contextual resources were likely to lead to reduced fund manager firm 'hierarchy costs' noted by Stein (2002), and Chen et al (2004). Organisational process was required to mobilise and exploit key resources and excess resources in the FM firms (as in RBV, Barney, 1991; Fahy, 2000). The FM theory had many links to Cyert and March's 'behavioural theory of the firm' (1963). Excess firm resources or 'slack' were interpreted as high strengths of the properties of contexts and processes relative to internal needs and external competitors. The FM firm wide organisational processes, hierarchies and resource contexts were integrated means to cope with and reduce the uncertainty associated with equity investments (Hellman, p236, 2000). When combined they were important organisational means for uncertainty avoidance and conflict resolution in the manner suggested by Cyert and March (1963).

The above indicates that the paper has also made a contribution to the literature by using existing theories in new ways, both individually and collectively. Golden-Biddle and Locke, (2007) distinguish between what they call 'field based stories' and 'theoretical stories'. This paper revealed a robust and novel theoretical framework to interpret the FM case data and the distinctive empirical patterns emerging from this data. The paper illustrates how these diverse literatures can be linked together via the analysis of the empirical patterns to form a coherent 'theoretical narrative' for FM. The aim was not to develop these individual theory frameworks, but to position the paper and its issues relative to relevant literature and to demonstrate their collective power in interpreting the combined phenomena, in suggesting new areas and directions for research, and in contributing to further policy development.

The paper is an example of new research agenda in finance based on qualitative methods (Burton, 2007) and new uses of the literature. This joint theoretical and empirical analysis formed a new conceptual framework for understanding FMs and the empirical patterns observed in the cases. This is important in developing thought in finance and on financial institutions.

This approach also offers opportunities to develop Stein's (2002) seminal paper on how different

organizational structures in financial institutions 'perform in terms of generating information about investment projects and allocating capital to these projects'. Models of organisation, resources, process, teams, individuals, decision costs, information production and capital allocation underlie many different financial firms such as banks, private equity and venture capital, and insurance and pension fund firms (Stein, 2002; Chen et al 2004; Chen et al 2014). The theoretical analysis in the paper demonstrates that FM context, process and dynamics can be explained, in part, within conventional theory of the firm, organisational theory, behavioural finance and other related literature. The FM firm is thus similar to many non financial firms in this respect. The joint development and exploitation of this new literature and the Stein (2002) developed literature, with their new insights into financial institutions, has become an urgent matter in response to the post 2007-09 financial crisis environment.

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Appendix 1 – Table of case companies

Firm	Number of interviews	Number of firm representatives & dominant FM style	Language spoken	Number Of researchers present	Type of archival data	Prior Research meetings = R Trustee Meetings = T
Case FM1 10/12/2004 2 hours Frankfurt Germany	1	Chief Investment officer Value	English	1	Public (web) FM firm and fund case data on background, purpose, philosophy, operations	R= 2
Case FM2 13/12.2004 3 hours Frankfurt Germany	1	1 Senior managing director Value	English	1 + 6 Inv Committee members	Cf above	R= 2 T = 10
Case FM3 14/12/2004 2 hours Frankfurt Germany	1	1 Managing Director, Head of equity research Growth	English	1	Cf above	R= 2
Case FM4 17/12/2004 2 hours Dusseldorf Germany	2	Director of European equities, Equity product specialist, Growth	English	1	Cf above	R= 2
Case FM5 6/9/2004, 2 hours Edinburgh UK	1	Chief Investment Officer Value	English	1	Cf above	R= 2
Case FM6 13/9/2004, 2 hours Edinburgh UK	1	Chief Investment Officer Value	English	1	Cf above	R= 2
Case FM7 4/11/2005 2 Hours Glasgow UK	1	Head of Global Equities Value	English	1	Cf above	R= 2

Case FM8 Tokyo, 2 hours April 2006	One	3 main interviewees. 2 senior FM, 1 investor relations. Many other team members present. Value	English	Four	Public (web) FM firm and fund case data on background, purpose, philosophy, operations	R= 1
Case FM9 Tokyo April 2006	One	2 main interviewees, a senior portfolio manager and a head of analysts. Other team members present - Value	English	Four	Ditto	R= 1
Case FM10 Tokyo 2 hours April 2006	One	4 main interviewees, the senior manager, 3 FMs/analysts. Other team members present Growth	English	Four	Ditto	R= 1
Case FM11 10 x 2 hours 2010 to 2012 In Glasgow, UK	10 meetings	Fund Manager + Head of Charities	English	1 + 6 Inv Committee members	Cf above	R= 2 R=1 1998 T = 10 2010-12
Case FM12 15 x 2 hours 2008 to 2012 In Glasgow, UK	15 meetings	Fund Manager + Relationship manager Value	English	1 + 6 Inv Committee members	Cf above	R= 2 T= 15
Case FM13 13/09/2004 28/05/2012 16 x 2 hours Edinburgh	16 meetings	Three Fund managers Thematic	English	1 + 6 Inv Committee members	Cf above	R = 3 1993, 2004, 2011 T= 16 2002-2008
Case FM14 21/4/2006 1.5 hours Edinburgh UK	One	Senior Director of equity investment Growth	English	1	Cf above	R= 2
Case FM15 London UK	Two March 1994 May 2005	Director of UK equities Special Situations	English	1	Cf above & Extensive case development from private and public sources for teaching purposes	R= 2 March 1994 & May 2005

Appendix 2 **Table 1**

Problems with organisational control processes involved; individual weakness – and lack of strategic balance in the following processes;

- Strategic review, learning processes and strategic choice processes not exist and not challenge existing structures, processes.
- There is no strategic balance between the organisational processes, and no balance of these with strategic resources – relative to firm and fund aims - these factors, at times, operated independently of each other, they did not lead to success
- There was high centralisation, rigid bureaucratisation and inflexibility of organisational processes (for risk control, knowledge exchange, & resource allocation)
- These can create high decision costs or hierarchy costs (Stein, 2002, Chen et al 2004), in the form of;

- Complex organisational hierarchies and rigid organisational structures creating complex authority and responsibility chains
- Heavily bureaucratised FM firms that focus too much on quantitative (ex post) information production, formal risk controls and formal (adverse) behaviour controls
- - and lose sight of the potential benefits of 'soft factors' such as qualitative forward looking information, of individual judgement, of informal conversations, and active team argument and debate.

- FM firm wide problems of organising to control behaviour, risk, and the degree of independence allowed in the FM investment teams and individuals.
- such as top management not fully accepting formal risk management as part of the FM culture and philosophy
- The focus is on reputation risk rather than funds and investment risk

- This can lead to limited attention and limited (conceptual and technological) means to measure and report risk at portfolio and firm levels and to report to senior management, fund managers and clients.
- It can lead to poor internal and external accountability of and governance of (risks taken, valuation methods, and performance of) teams and individuals – relative to 'best practice'

Problems with organisational Control processes for behavioural incentive schemes;

- FM incentive and pay schemes not based on cumulative multi-year performance criteria and are mis-aligned with FM firm aims and portfolio aims and investment horizons
- FM incentive schemes with immediate rather than deferred pay and wealth benefits

Problems with organisational control, development, transfer and allocation of **knowledge,** and other resources **included**

- Strategic review, learning processes and strategic choice processes not exist and not challenge existing knowledge, resources
- Personnel policies, human capital, and knowledge development policies being poorly developed, informal and implicit, and poorly related to FM firm aims and portfolio aims
- Knowledge of - investee company business models, models of market use of information, of portfolio & security valuation, and of market pricing mechanisms -
- - based on of beliefs, being implicit and not formally stated, unchallenged, not tested over large data sets, varying circumstances and during ongoing use.
- Absence of tested and 'best practice' valuation methodologies and procedures and of robust internal controls over internal and external financial reporting.
- Powerful individuals (as 'stars') controlling the knowledge agenda (by arguing that FM is an 'art' and not a science)
- Leading to problems with these models when vast amounts of complex data are being processed and when circumstances change rapidly.
- Leading to investment policies and portfolios not being robust relative to a range of economic circumstances
- Poor understanding of own FM firm business model, poor ability to communicate internally and externally
- Problems of mis-matching of above knowledge to chosen investment universe, preferred information niches, investment aims and funds/products

- Above knowledge and incentive problems combine
- Leading to **problems** with training, recruitment, losing/sacking competent staff, and promotion
- Higher risk taking than clients / savers expected, consistent valuation problems with portfolios and reporting of
- And to major underperformance at individual, team and portfolio levels

Problems with resource allocation processes, organisation information production processes and with teams involved

- Operational weaknesses such as poorly understood forms of (investment, research and trading) **team** organization and composition, erratic meeting schedules and limited freedom for informal exchanges.
- Historic, inflexible allocation of resources (research, knowledge, financial, risk control) thinly spread across a wide range of portfolios and investment products

- These team based problems and resource problems could combine with FM firm wide control problems above
- To create poor allocation of resources to - and poor focusing down of research and analysis - on perceived information sources and advantages – for specific portfolios or investment products with distinct investment styles.
- To exacerbate individual behavior weaknesses such as over confidence, hubris, and lack of adaptability.
- To exercise weak control over such behavioral issues such as overconfidence and herd behavior
- To use FM 'stars' (internal, external) as sole reference point for action and behavior with limited skepticism allowed.

- This behavior could lead to other risk based problems such as too much concentrated risk or too diversified portfolios
- relative to portfolio aims and FM perceived information advantages (concerning investee companies & markets)
- And to excessive trading and turnover in the portfolios. Hence underperformance likely.

Problems with technology, data analysis and communication systems

- Such as complex, costly and changing technology for communication, reporting, storage and analysis of data
- Such problems with technology further reduced the effectiveness of FM communication and control processes within and between teams.
- Similar technology problems also reduced the effectiveness of data analysis and formal testing of models (for valuation, for companies & markets).
- These combined with rapid change and the knowledge control issues above to encourage use of untested models to analyze data and to make decisions.
- Hence underperformance likely.

Appendix 3 - Variation in FM and choices about qualitative/quantitative and theoretical/heuristic approaches to investment decision making

The internal FM **strategic context** was manifest as FM philosophy, FM top management and board knowledge and capabilities, core beliefs, and shared values. It was also manifest as FM firm aims (goals) and strategic choices about FM organisation and process. Strategic context gave clear purpose to operational investment decisions by investment teams. Variation in the strategic contexts was the one of the primary contextual driver of differences in FM style or peer group type. The external environment was where the top management of the FM chose its preferred information niche, investment universe, risk universe, and investment goals for the whole firm and variations on these themes for specific investment teams and portfolios (Holland & Doran 1998; Holland, 2006).

Section 5 shows many common features of routine and structured FM investment decision making. However much variation arose in the above investment decisions especially in the choice of mix of qualitative and quantitative methods in the case FM. Variation also arose in the use of finance theory, heuristics and own rules and knowledge concerning investment decision making.

Case FM 11:

We try to take the emotion out of investment decisions and our assessment of risk versus reward. …..We use a range of quantitative and qualitative approaches to assess the reward we expect our investments to generate. We use rigorous valuation techniques to arrive at a valuation for these returns. ….This is compared against a large number of risk factors…..there are many objective and subjective company and industry risk factors……Our approach to evaluating risk and reward is the way we think we can generate superior risk adjusted returns over the long term

The case FMs were acutely aware that they did not know the future. They used a range of responses to deal with uncertainty in decision making and to diversify their information sources and decision models. In both stock selection and asset allocation decisions they used a mix of heuristic rules, finance theory, own theory, and (incomplete) new information to make investment decisions under uncertainty. The case FMs also made choices concerning the extent to which structured decision processes were driven by numbers based on the decision logic of valuation theory (say NPV or options models) and modern portfolio theory (MPT), or were driven by experience, judgment and intuition (or by a combination of these). The FM strategic context, core beliefs and philosophy drove such choices (also see Holland, 2006).

For example, in the case of asset allocation, the case FMs used a range of information sources in their portfolio construction decisions and they varied in their use of theory. Holland (2006) notes that FMs used the historic numbers ((average return, variance, covariance, weightings) required in Modern Portfolio theory (MPT) to project forward expected sector and portfolio returns and sources of risk diversification. The future was unlikely to fully match the past numbers and so the FM updated forecasts of portfolio risks and return using new macro and sector forecasts. Case FMs added further insights from the 'new facts' of finance (Momentum, over reaction, mean reversions, small firm effect, Cochrane, 1999) and assumed that some longer term empirical patterns in market prices were predictable. They used this as new information to forecast expected sector and portfolio returns and sources of risk diversification. FMs that preferred this information set were normally referred to as a 'Quantitative' FMs (Holland, 2006 p 312). Other case FMs were using increasingly subjective information in asset allocation. If they had a strong preference for subjective judgments based on the new macro forecasts, 'new facts' and behavioural finance and made little use of the MPT numbers they were normally referred to as a 'Qualitative' FMs.

In the case of stock selection, the case FMs also used a range of information sources in their stock decisions and they varied in their use of valuation theory and set of valuation models. FM knowledge about, and a ' mosaic' of private and public information about an investee company, were used to estimate numbers for important valuation variables, within a 3 to 4 year 'forecastable horizon'. Looking beyond this forecastable horizon, the knowledge advantage was the basis for an act of faith in FM judgement concerning future value arising in the company beyond this horizon (Holland, 2006, p306). A set of valuation models was used to explore the implications of the information for valuation. Each valuation model (say NPV, payback or P:E) used slightly different information sources and each model had information deficiencies. The use of 3 or 4 models and the convergence of their valuations increased FM confidence in the valuations. Divergences revealed where the key information problems were and where a new search should begin. The case FMs argued they were diversifying model and information risk by such behaviour. Their preferred use of a specific set of 'house' models depended on FM culture, core beliefs and investment philosophy. Walker et al (2004) and Iman et al (2008) note the range of valuation models in use by analysts. Iman et al (2008) argued 'analysts' actual usage of valuation models also requires an understanding of social and economic context and motivations'.

In all of the current set of FM cases (and in the cases in Holland (2006)), there was recognition that the FM stock selection or asset allocation investment decision problems could not be solved by numbers, valuation theory or MPT alone, especially when there was strong or sole reliance on public domain information. The structured stock selection and asset allocation decision processes, and organisation processes and supporting contexts, were designed to make full use of all available information. They also provided a working base from which the insights of valuation theory, MPT theory, econometric theory, as well as FM firm specific theory and proprietary knowledge, could be implemented according to FM preferences and beliefs.