

Intuition in Investment Decision-Making Across Cultures

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Abstract:

Interest in the phenomenon of intuition in the fields of business and management has grown rapidly in recent years. However, whilst this subject has seen significant theoretical advances, empirical work in this area has tended to lag behind. Even fewer studies have examined intuition from a cultural and cross-cultural perspective. I studied the phenomenon of intuitive decision-making in the asset management sector through the use of in-depth semi-structured interviews (N=42) and self-reported cognitive tests (N=30) on a population of seventy-two experienced professional fund managers from both China and the West. The present research found that Chinese and Western fund managers were not significantly different in their preference for an intuitive cognitive thinking style. However, Chinese fund managers were more likely than Western fund managers to use intuition in their investment decision-making. It is thus concluded that the use of intuition is different from intuitive predisposition. In other words, individuals may have a dominant or preferred cognitive thinking style, whereas their decision-making behavior is influenced by the demands of the situation or task. Based on these findings, I update the typology of intuitive and contextual "signalling", created by Hensman & Sadler-Smith [2011]. The updated typology provides a basis for practical recommendations and offers potential directions for future inquiries into this vital aspect of investment cognition and decision-making behavior.

KEY WORDS: Intuitive decision-making behavior, cognitive thinking style, fund managers, cultural differences.

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1. Introduction

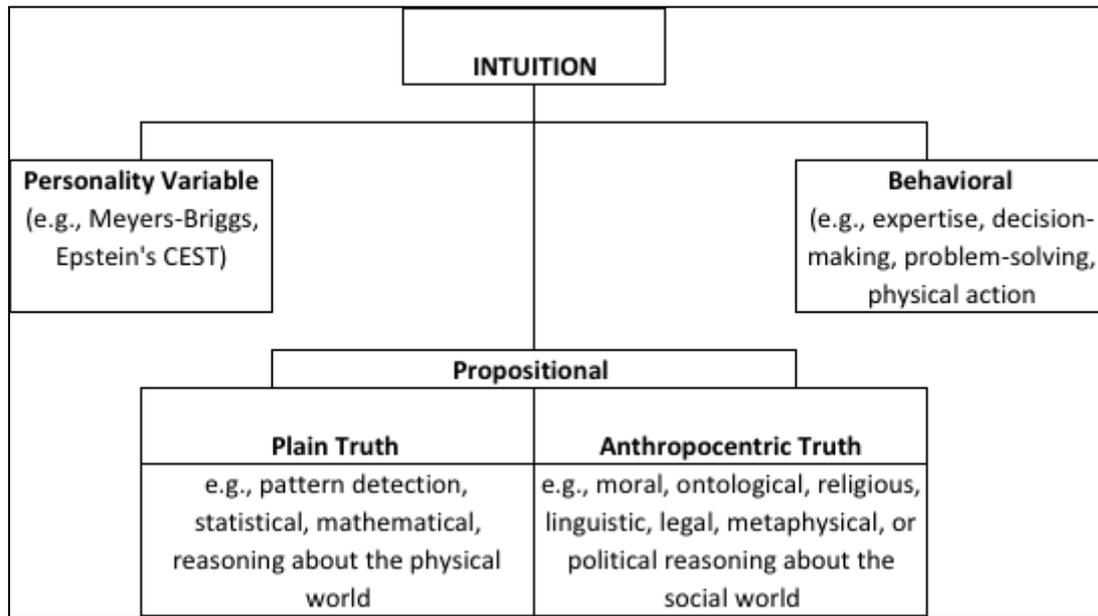
In an attempt to come to grips with a financial world characterized by dynamic change and increasing uncertainty, fund managers today are searching for new methods of decision-making. Authors, such as Hayward and Preston [1998], argue that linear rational models do not perform satisfactorily for businesses operating within a climate of rising pressure and ambiguity (Andersen [2000]; Kuo [1998]). The phenomenon of intuition has, therefore, been posited to help guide a wide range of critical decisions involving high complexity and short-term time horizons, such as corporate planning, stock analysis, and performance appraisal (Hayashi [2001]; Isenberg, [1984]; Shirley and Langan-Fox [1996]). Although there has been great interest in the role intuition may play in business and management in recent years, there is limited research available on the different ways intuition is used by professional investors from a cultural and cross-cultural perspective. It is little known whether there is any culture-specific definition of intuition when it is used as a means for decision-making. However, due to the increased internationalization of financial markets, understanding the mentality of other cultures – including factors such as intuition - has become a priority for investment practitioners and academicians.

The context for my study is the asset management industry. Investment decision-making within the financial markets is of enormous importance. A crucial function of these markets is the channeling of investment capital into certain activities over others. Thus, the decisions made by fund managers - to purchase or sell shares, government or corporate bonds, etc. - are the most important aspect of this process. Moreover, the amount of capital involved in these investment decisions is huge. For instance, a single asset management firm, BlackRock – admittedly the world’s largest – controls assets totaling \$3.45 trillion, which, as Kolhatkar and Bhaktavatslam [2010] have pointed out, is more than the GDP of Germany. Against this background, a number of questions can be raised, for example: is the term intuition understood in the same way by Chinese and Western fund managers? What properties are ascribed to intuition and how is it used? Can differences be identified in the way Chinese and Western fund managers use intuition and intuitive cognitive thinking in general? These questions, which I have aimed to answer by interviewing and surveying a population of fund managers from both China and the West, are important from the perspective of theory building, investment practice, investment education and training, and a broadening of interpretations of decision-making beyond a reductionism that equates “decision making to analysis” (Mintzberg [2003], p. 38).

The Concept of Intuition

The definition of intuition has triggered many debates because the term is used in a myriad of settings and situations in which its meaning is altered. As Epstein [2008] noted, "Intuition has been given so many different meanings ... that it makes one wonder whether the term has any meaning at all" (p.23). Haidt and Kesebir [2011] have summarized four major categories of research on this subject in the following chart:

Figure 1: Major categories of research on intuition



Source: Haidt and Kesebir [2011], p.213

Moreover, the definition of intuition can often mean different things among individuals from different cultural backgrounds. For example, for Western philosophers, intuition was often perceived as the most pure and immediate way of knowing (Osbeck[2001]; Wild [1938]). It represented access to divine or inborn knowledge. In the East, many Buddhists viewed intuition as a means of obtaining penetrating knowledge and as a "gateway to a wider and richer world" (Guenther, [1958], p.26). To date, little is known about the definition of intuition as it is used in financial decision-making by both Chinese and Western fund managers and whether significant cultural differences exist. One of the key aims of my research is to bring greater clarity to this currently ambiguous area.

In the current literature, there are two broad categories, which are widely recognised to define intuition in regards to decision-making (Boucouvalas [1997]; Sinclair and Ashkanasy [2005]; Shirley and Langan-Fox [1996]). The first category is represented

by research that stresses the importance of sensory and affective elements in the intuitive process (e.g., Bastick [1982]; Epstein [1998]; Parikh et al. [1994]; Petitmengin-Peugeot [1999]; Dane and Pratt [2007]). In the second category, researchers view intuition as an experience or expertise-based phenomenon that draws on tacit knowledge which is accumulated through experience and retrieved through pattern recognition (e.g., Behling and Eckel [1991]; Brockman and Anthony [1998]; Isenberg [1984]; Klein [1998]; Simon [1987]).

In addition, the non-linear, non-sequential nature of holistic processing is generally implied in most definitions of intuition found in the literature to date. For example, the Jungian concept of the “big picture” or seeing things in the broader context (Andersen [2000]; Singer [1994]), the contemporary strategic perspective stressing directness of knowing (see Behling and Eckel, [1991]; Brockman and Anthony [1998]) or the global ability to synthesize “unconnected memory fragments into a new information structure” (Mintzberg, Ahlstrand and Lampel [1998], p164). Furthermore, apart from holistic processing, Sinclair and Ashkanasy [2005] discerned a further two commonalities surrounding the different definitions of intuition used in decision-making: (1) that intuitive events originate beyond consciousness, and (2) that intuitive perceptions are frequently accompanied by emotion.

Research on Cross-Cultural Differences in the Use of Intuition

In recent years, there have been significant developments in understanding the psychological and neuro-biological mechanisms that form the basis of human intuition. One such advance can be recognised in dual-process theories (Epstein [2008]; Epstein et al. [1996]), which have largely been assimilated into cross-cultural psychological research in an attempt to understand the differences between Eastern and Western cultures (Abel and Hsu [1949]; Ji, Peng, and Nisbett [2000]; Masuda and Nisbett [2001]; Park, Nisbett, and Hedden, [1999]). The key emphasis of these theories is that information is processed by means of two parallel, yet interacting systems: a rational system (intentional, analytic, primarily verbal and relatively emotion-free; information is encoded in abstract symbols) and an intuitive systems (automatic, holistic, primarily non-verbal, associated with emotion and feeling; information is encoded in concrete forms).

For example, cultural psychologists have found that the Chinese are both more holistic and intuitive in their thinking than Westerners (Abel and Hsu [1949]; Ji et al. [2000]; Masuda and Nisbett [2001]; Park et al. [1999]). Westerners were found to set aside intuition in favour of formal reasoning more than Chinese and Koreans. Conversely, Chinese and Korean participants were seen to rely on intuitive strategies more than

European Americans (Norenzayan, Smith, Kim, and Nisbett, [2002]). Not only are there cultural differences in terms of tendencies to engage in intuitive and analytical reasoning, Buchtel and Norenzayan [2008] also found that cultural differences exist in the perceived value of analytical versus intuitive reasoning. Relative to Western participants, East Asians rated intuitive reasoning as both more important and more 'reasonable' than analytic reasoning. East Asians exhibit a more holistic, field-dependent attention mode and Westerners exhibit a more focused analytic, field-independent attention mode. (Abel and Hsu [1949]; Ji et al. [2000]; Masuda and Nisbett [2001]; Park et al. [1999]). In addition, Westerners tend to use deterministic rules when categorizing objects, whereas East Asians rely more on the similarities and relationships between objects (Chiu [1972]; Norenzayan et al. [2002]). When dealing with contradictions, Westerners are likely to confront conceptual conflicts or contradictions and "polarize" their decision, that is, to make a principled choice between opposing positions. In contrast, East Asians opt to avoid such conflicts and are quick to find a compromise solution between opposing positions (Peng and Nisbett [1999]).

However, there is also a growing body of research that does not support the traditional dichotomy of an 'intuitive East' versus an 'analytic West'. For example, a comparison of Chinese and American adult students in higher education (Huang and Sisco [1994]) revealed that there was no difference in their analytical and synthesis thinking styles. Allinson and Hayes [2000], in research into cross-cultural variations in cognitive style, discovered that the British corporate managers were more intuitive than the Singaporean managers. Similarly, Abramson and his colleagues found that Canadian MBA students scored higher in the 'intuiting' aspect of cognitive thinking style than their Japanese counterparts (Abramson et al. [1993]). Contrary to what might be expected from the 'intuitive East', in a later extension of this study, Japanese participants were discovered to be slower and more careful decision makers than Canadians or an equivalent group of Americans (Abramson et al. [1996]).

Despite mixed empirical results, researchers appeared to agree on that Chinese and Western participants did show differences in their use of intuition. It is important to note that the laboratory or field settings of these earlier cross-cultural studies on intuition are far from isomorphic with an investment market setting. Although there have been significant theoretical advances, for example, Ji et al. [2000]), Masuda and Nisbett [2001], and Norenzayan et al. [2002], these studies do not offer a substantial empirical basis for the financial markets investment domain, mostly because there is a paucity of field data sourced from participants' subjective accounts of the phenomenon of intuition. Noticing the dearth of evidenced-based accounts of the use of intuitive judgment in the decision-

making of professional investors across cultures, I identified a pressing need for further work of a more inductive nature within this field. Thus, with the aim of generating insights into the perceptions of fund managers regarding *intuition-in-use*, I focused on utilizing qualitative methods by carrying out a series of in-depth, face-to-face semi-structured interviews (see Study 1).

It is worth noting that, conceptually, the actual use of intuition is not always synonymous with cognitive ability or intuitive preference. Sinclair and Ashkanasy [2005] have criticized the previous literature on intuition stating that, "many studies failed to identify clearly whether they focused on intuitive predisposition, preference, ability, or actual use." Leonard, Scholl, and Kowalski [1999] found three bipolar cognitive style dimensions operating at different levels of cognitive processing. The first level was pure cognitive style, which relates to the way individuals process information. The second was decision-making style, which indicates individual preferences for various complex decision processes. The third level was decision-making behavior style, which reflects the ways individuals approach a decision situation. The first level, cognitive style, historically has referred to a psychological dimension representing consistencies in an individual's manner of cognitive functioning, particularly with respect to acquiring and processing information (Ausburn and Ausburn [1978]). For example, Messick defined cognitive style as "consistent individual differences in preferred ways of organizing and processing information and experience" [1976, p.5]. Similarly, Tennant [1988] defined it as, "an individual's characteristic and consistent approach to organising and processing information". Therefore, individual differences in cognitive style are found to be stable over time and across tasks (Witkin et al. [1977]). In contrast, the use of intuition in the second and third level cognitive processing appears to be dynamic and contingent on a range of specific triggers (Sinclair and Ashkanasy [2005]). To date, no study has distinguished the differences between intuitive predisposition and actual use of intuition in decision-making by professional investors from different cultural backgrounds. Therefore, in addition to interviewing, I utilized a self-reported cognitive style test (Allison and Hayes [1996 & 2012]) to gauge the pure cognitive style of fund managers devoid of the decision-making context (see Study 2).

2. Research Method

To the best of my knowledge, previous research has rarely examined the use of intuition in stock market decision-making within a real-life setting and from a cross cultural perspective. Therefore, it is safe to say that, from a qualitative viewpoint, comparatively little is known about the different ways intuition manifests itself in the asset management

industry in China and the West. Thus, in Study 1, I interviewed participants in this specific context, using semi-structured questions and interpreted meaning from their responses using a grounded theory methodology. I was strongly of the view that research into the intuitive decision-making experiences of fund managers could only be approached by requesting their first-hand accounts, and that such data was unlikely to be available via any other means. The benefit of using a semi-structured interview or standardised non-schedule interview (Richardson, Dohrenwend, and Klein [1965]; Brown and Rutter [1966]; Tuckett, Boulton, Olson, and Williams [1985]; Tuckett [2011]) is that it offers scope for employing the human qualities of the interviewer in the communication, which has been found to be more satisfying for both the interviewer and the respondent. At the same time, a certain degree of structure provides the interviewer with a topic guide based on the research issues he/she wishes to explore. The interviewer can ask questions within the parameters of this guide and at the same time probe statements made by the interviewee to ensure that the interviewee understands what is being asked. The purpose of a grounded theory method is to generate concepts concerning social processes, which are grounded in data, such as using participants who have experienced the process under investigation (Creswell [2007]).

In Study 2, I utilized the Cognitive Style Index (CSI) test developed by Allinson and Hayes [1996] to measure the pure cognitive style preference of a group of Chinese and Western fund managers. Self-report or questionnaire is a commonly used form of assessing cognitive style (Allinson and Hayes [1996]; Paivio [1971]; Riding, [1997]). Within the range of self-reported instruments, the CSI developed by Allinson and Hayes [1996] is widely used by business managers due to its clearly formatted questions, ease of administration to participants, and objectively measured scoring, compared to other instruments, such as the Myers-Briggs Type Indicator (MBTI) (Myers [1962]) and Matching Familiar Figures Test (Kagan et al. [1964]). The CSI has also demonstrated good reliability in regards to internal consistency, as measured by Cronbach's alpha (Allinson and Hayes [1996]; Doucette, Kelleher, Murphy, and Young [1998]; MacGillivray [1999]; Murphy, Kelleher, Doucette, & Young [1998]) and test re-test reliability (Allinson and Hayes [1996]; Armstrong, Allinson, and Hayes [1997]; Murphy et al. [1998]). In addition, there is also growing evidence that CSI scores relate to factors that are of interest to both researchers and practitioners. Studies have found relationships between CSI scores and entrepreneurial behavior (Allinson, Chell, and Hayes [2000]), mentor-protégé relationships (Armstrong, Allinson, and Hayes [2002]), relations between supervisors and research students (Armstrong, Allinson, and Hayes [1997]), group behavior (Armstrong and Priola [2001]) and performance in management education (Armstrong [2000]).

STUDY 1: Actual Use of Intuition in Investment Decision-Making

Study 1 is an investigation to test the hypothesis that Chinese investors and Western investors show differences in using intuition in their investment decision-making process using a qualitative interview method.

Participants

Forty-two interviews were conducted by the author between April 2014 and May 2015 with twenty-eight Chinese and fourteen Western fund managers. The choice of sample size was based on the so-called saturation point: when a researcher begins to hear similar comments repeatedly (Grady [1998]).

The Chinese group included all ethnic Chinese: twenty-seven mainland Chinese who were working in mainland China and one Hong Kong Chinese who was working in Hong Kong at the time of interviewing. In the Western group, there were ten British, one French, one Italian and two American fund managers who were working in the UK at the time of interviewing. The purpose of using a cluster of Western countries rather than a single country as a comparison group was to reflect the more international nature of the fund management industry in the UK. Furthermore, Western countries (such as the UK, Canada, Australia, Western Europe and the US) are often seen to represent the cultural value of individualism, in comparison with China, which is seen to represent the cultural value of collectivism (Triandis [1989]; Hofstede [2001]).

The two groups of participants were significantly different in their investment tenures (in years): $M=17.65$, $SD=9.15$ for the Westerners, and $M = 5.82$, $SD =4.95$ for the Chinese. Age information was not collected, because tenure is a more significant factor here than age and moreover. Moreover, age and tenure are normally highly correlated (Boyson [2003]).

Material and Procedure

Participants were recruited in a variety of ways, included approaching fund managers at investment related conferences and seminars, via the author's personal network, through cold calling, and by contacting different financial institutions. No estimate of response rate is available.

In order to investigate the actual use of intuition in the investment process, participants were asked to recall a few examples of investment decisions they had recently

made. After deciding which experience to discuss, the interviewees were taken through the process in detail using probes, e.g., (a) "how did you feel about it?" (b) "did you talk with anyone else?" and "how did you first find it?". This enabled a detailed delineation of the participant's thinking when making specific investment decisions. In addition, the methods of Burke and Miller [1999] were also adopted, with decision-makers being asked direct questions relating to intuition, e.g., whether they used intuition and if so, under what conditions. See Appendix 1 for the general guide used in these interviews.

The length of each interview ranged from between thirty-three minutes to eighty minutes in duration, being, on average, about forty-five minutes long. Interview data was recorded via shorthand notes in steno notebooks and, when possible, was also digitally recorded (for six interviews the audio recording was not permitted). Field notes and summaries were also documented after each interview. For the interviews with Chinese fund managers, data was originally recorded in Chinese on site, whereas the post-interview field notes and summaries were written in English. Thus, translating and summarizing occurred simultaneously, an advantage enjoyed by the author as a bilingual researcher. The same researcher conducted all the interviews in order to maintain consistency in the method used.

Data Analyses

The process of data analysis followed the typical steps of a qualitative grounded theory approach. This included initial coding and categorization of data, concurrent data generation or collection and analysis, writing memos, theoretical sampling, constant comparative analysis, theoretical sensitivity, intermediate coding, selecting a core category, and theoretical saturation (Birks and Mills [2010]). The emphasis of this process is that data collection and analysis are merged, with the researcher moving back and forth between the two processes in order to root the analysis in the data. I also followed the recommendations of Turner [1981] who suggests keeping a second set of data records, such as a category card, during data analysis. This card provides a record of categories as well as the data incidents from which the category was abstracted. The process of adding each data fragment or observation to a category card requires that the data fragment is compared to those already on cards. This additional action enhances the technique of constant comparison - the major component of the grounded theory method. By utilizing this inductive approach, I ensured that research material was analyzed gradually throughout the data collection process rather than at the end. Appendix 2 shows an example of the initial or open coding process, which was the first step of data analysis (Goulding [2011]). It provides a way to identify important words or groups of words from

the data and then highlight them accordingly. Subsequently, any investment stories or comments related to the relationship between intuition and analysis were grouped together, which then formed the intermediate coding process, i.e., categories or sub-categories were linked or connected together (Birks and Mills [2010]; Strauss and Corbin [1967]).

The applications of theoretical sampling principles and data analysis led to the attainment of theoretical saturation, which is represented by a pattern or theme that makes sense to the researcher (Grady [1998]; Morse [2007]). In the current research, three themes emerged from the data, and these were further divided into eleven sub-themes. These three themes were: (1) the definition of intuition, (2) the relationship between intuition and analysis, (3) investment market contextual factors

Reliability

I evaluated the reliability of the above analysis in terms of intra-rater (i.e., temporal) reliability and inter-rater reliability. An intra-rater reliability P statistic percentage test revealed 88.9% of the 'first cut' emergent themes matched the final version of the categories captured two weeks later. For the inter-rated reliability of the analyses, a bilingual researcher blind to the purpose of the project was given the list of super-ordinate themes and sub-ordinate components along with the forty-two interview notes and summaries. The inter-rater agreement was 89%. The above 80% agreement level provided assurance that the level of reliability in the coding and classification procedures was acceptably high.

Findings

The findings, commentaries, and illustrative quotes (numbers in parentheses, 1-42, refers to participants based on the sequence in which they were interviewed) are described below. Findings are presented in terms of the three themes that emerged from the interview data (see Appendix 3)

Definition of Intuition

Firstly, a large number of Chinese fund managers (n=12) showed a pronounced interest in intuition than Western fund managers (n=2). The self-accounts and conceptualizations of intuition provided by participants appeared to show the affect/expertise divergence: the two defining categories for intuition found in the previous literature. (Boucouvalas [1997]; Sinclair and Ashkanasy [2005]; Shirley and Langan-Fox [1996]). Among the Chinese participants who touched upon the topic of intuition (n=12), 100% stressed the

importance of the sensory, affective elements of the intuitive process. Although two Chinese fund managers mentioned the importance of experience, the experience they referred to was not specific to an investment context but rather, had been acquired from living in a certain place or a culture. Therefore, it appeared to relate to a holistic processing of local knowledge, or knowledge gained outside of the domain of the individual's investment expertise, which is consistent with an affect perspective of intuition. For example, Chinese 9 commented that,

"As a Chinese, I just know that the government had to take measures to do that sooner or later. It is the knowledge I have gained from living in China for over 30 years."

Western managers did not pay much attention to intuition (as revealed by the next theme). Only two Western fund managers touched upon the definition of intuition, and their responses were equally divided into the two categories of affect and expertise. For example, a Western fund manager who had over twenty-five years of investment experiences emphasised that intuition is an experience-based phenomenon that draws on tacit knowledge accumulated through experience and retrieved through pattern recognition. These findings suggest the presence of a cross-cultural difference in defining intuition in this setting is likely.

For example, the description given by a Chinese manager (Chinese 14) of his investment process fits well with Dane and Pratt's definition of intuition as "affectively charged judgments that arise through rapid, non-conscious and holistic associations" (2007, p. 40). The participant stated,

"Investment is not something can be described properly. It is like some arcane martial arts skills. They can only be taught by experience and meditation, rather than by words. Sometimes it is difficult to tell why I have confidence on this stock, why I think it will make money, it is not about more information or not." (Chinese 14)

These comments resonate with the notion of intuition offered by German Psychologist, Gerd Gigerenzer, who writes, "good intuitions must go beyond the information given, and therefore, beyond logic" (Gigerenzer [2008]).

In addition to describing their perception of a sensory and affective process at work in their application of intuition, Chinese fund managers also tended to stress the involvement of a holistic processing of knowledge from beyond the investment domain.

These individuals seemed to experience confirmation of the 'genuine' nature of intuition through a specific feeling, such as certitude (Cappon [1994]; Petimengin-Peugeot [1999]), which could be recognized as an accompanying symptom of the intuitive process. For example, a Chinese fund manager (Chinese 25) described his intuitive thinking process in dealing with the "Euro crisis" by using his so-called "philosophical level" approach. By doing so, his prediction of an enormously complex event, which was based on very limited information, was given a sense of certitude. He said:

"During Euro crisis, our thinking is that after Lehman breakdown, we didn't think the government would allow another big crisis and the government would definitely come to rescue. We were not as pessimistic as others. After a big crisis, it is very rare to have another big crisis. It is from philosophical level, not micro level, as it is impossible to follow what Germans said and what the US said. It is a philosophical approach. In terms of macro, it is very difficult to model. If you go into very details, you will be as pessimistic as others. So it is better not to think in too much details, such as how to achieve it and how to solve it. It is better to think from philosophical level and think about macro. It is not model based." (Chinese 25)

Similarly, another Chinese manager (Chinese 9) obtained his sense of certitude through holistical processing by utilizing his experiences of living in a particular place:

"In 2010, I sensed that China's estate market showed some sign of weakness. As a Chinese, I just know that China's housing markets is going to cool down and commodity prices are overvalued. ... I don't need to visit companies, unlike foreign managers. I just know about China. Chinese know China the best." (Chinese 9)

In contrast, the comments provided by a Western fund manager (Western 7) with over twenty-five years of investment experiences resonates with the second category of intuition - expertise.

"At the moment, my practice of intuitive decision-making is not often enough. Going forward I should use intuition more. At the moment, it is about 25%; in the future hopefully it can reach 35% or more. Because I have enough experiences, it gives me good intuition. I practise meditation, which also helps. People needs to have sufficient experiences in order to trust their intuition". (Western 7)

However, it may be misleading to focus too heavily on the proponents of an experience-based perspective of intuition (e.g., Simon [1987]), as it may preclude the use

of intuition among novices or those people who lack the required experience and domain-specific expertise (Behling and Eckel [1991]; Isenberg [1984]; Simon [1987]). Mintzberg [1989] and Langley et al. [1995] argued that less experienced decision-makers may also arrive at solutions intuitively by utilizing an affective approach. This is shown in the findings of the current research whereby, in contrast to the more experienced Western fund managers, the Chinese fund managers with shorter tenures were just as effective when using intuition as a holistic tool. Under this premise, everybody, regardless of experience and expertise, can draw on their subconscious to grasp a whole new structure. Baylor [2001] has even suggested that novices might be intuitive because they lack analytical knowledge of a subject, which would interfere with their ability to generate novel insights. Furthermore, the proponents of experience-based intuition may overly focus on the cognitive elements of the construct at the expense of the emotional or affective component of intuition. This group tends to regard emotion as detrimental to the intuitive process (Simon [1987]). Hammond et al. [1987] have cautioned, that conceptualizing intuition as 'expertise frozen into habit' may reduce it to a form of 'non-conscious' analysis (Klein [1998]). Affect proponents have found that positive types of emotional response are positively related to intuitive preference (Agor [1989]). They also stress the value of knowledge from beyond the individual's domain of expertise as an important source of intuitive insight (Monsay [1997]), such as the experiences of living in a specific environment as mentioned by Chinese 9.

Prejudice about these two differing notions of intuition in an individual could cause misperceptions among fund managers from different cultural backgrounds. For example, the experienced Western fund manager (Western 7) was critical about the application of intuition by Chinese fund managers. He was of the view that Chinese managers were simply too lazy (or perhaps too inexperienced) to do hard analysis. However, a Chinese fund manager (Chinese 1) thought that the reason he used his intuition was because that his confidence in this approach was greater than most Western managers. We can compare the following statements,

"Chinese fund managers do less analysis. They don't produce good excel sheet, and too lazy to do hard analysis ... In my view, the first stage is all about solid data analysis. Then it is about intuition or other factors: meeting management team, observe Guanxi, communication and visits. If you don't get analysis right, you just have not done your job. If you get intuition wrong, then it is a different matter, perhaps called Western way of thinking, which is more forgivable" (Western 7)

"I think that my intuition about market and market changes is better than my British colleagues. However, I can be more easily influenced by the market noises or other people's views than my British colleagues. Chinese people are good at feeling the market consensus; on the other hand, Chinese people tend to be more prone to herd behaviors than Western peers. People in the West are likely to be an independent thinker than those in China." (Chinese 1)

In summary, the findings from these interviews showed that, in their use of intuition, Chinese fund managers stressed the importance of feeling or emotion, while Western fund managers focused on past professional experience and expertise, supporting the view that cross-cultural differences in the definition of intuition reflect an affect/expertise divergence. This variance may be related to differences in external factors such as the investment experience of the two different groups. Internal factors, such as those highlighted in the comment by Chinese 1, may also have an impact, in that Chinese fund managers may be genuinely good at affective processing, and therefore naturally tend to rely on their emotion when utilizing intuition.

Relationship between Intuition and Analysis

Similarly, more Chinese fund managers (n=17) seamlessly integrated intuition with analysis during the investment process than Western fund managers (n=4). Among the Chinese participants who commented on the use of intuition in investment (n=19), most Chinese fund managers (89%, n=17) tended to use intuition in their investment process, and within this group, the majority (82%, n=14) used intuition in tandem with analysis (see Appendix 3). For example, Chinese 8 commented that,

"The decision to purchase stocks is purely based on logical analysis. However, the timing when to buy is more related to intuition."

In contrast, among the Western participants who commented on the use of intuition in investment (n=8), half of the Western fund managers (50%, n=4) revealed the tension between intuition and analysis, and therefore they tended to reject it because "our whole investment process is intended to get rid of intuition" (Western 23). For the remainder of Western fund managers who used intuition (50%, n=4), all of them (100%, n=4) combined it with analysis in varying degrees. In other words, intuition and analysis could occur simultaneously, with the amount of intuition suggested by percentage. For example, Western 7 stated,

"At the moment, my practice of intuitive decision-making is not often enough. Going forward I should use intuition more. At the moment, it is about 25%; in the future, hopefully it can reach 35% or more."

This suggests the presence of two different patterns in the use of intuition among the Chinese and Western fund managers. When asked about the roles of intuition and analytical reasoning, Western fund managers tended to offer statistics, while Chinese managers tended to explicate real-life situations. This contrasting response could be due to cognitive differences between the Chinese and Westerners, as past research has found that Westerners are better at probability thinking and judgement than the Chinese (Wright and Phillips [1980]). It may also be explained by an external factors: the difference in length of investment tenures between the two groups. In other words, the Chinese fund managers, who tended to report shorter tenures, may lack necessary expertise or experiences in analyzing data and, therefore, may rely on intuition entirely in certain situations, e.g., identifying the right time to purchase a particular stock (Chinese 8) or finding the right sector from an investment universe (Chinese 2).

Market Contextual Factors

Chinese participants were acutely aware of the effects of investment market contextual factors on their individual intuitive decision-making. The list below highlights six reasons given by the Chinese fund managers that intuition may be more useful than analysis:

- 1) "Due to lack of transparency in Chinese markets, very often sudden news was announced or surprising event occurred, which required quick judgement and reaction. At this situation, intuition and feeling would be more useful than rational analysis." (Chinese 2)
- 2) "Chinese markets are irrational, emotional, and immature." (Chinese 5)
- 3) "There are many retails investors in Chinese markets, so professional fund managers have to adopt retail investors' mentality and do less analysis." (Chinese 9)
- 4) "There are many hidden rules in Chinese markets, and therefore data analysis very often does not work." (Chinese 5)
- 5) "Companies in Chinese markets are not very well developed." (Chinese 1)

6) "Information at the markets is sketchy, not accurate." (Chinese 1)

Summary of Findings

In summary, evidence from the interview process in Study 1 highlighted differences in the definition of intuition used by Chinese and Western fund managers. Chinese fund managers focused on the emotional elements of intuition, while Western fund managers concentrated on experience. When asked to describe the role of intuition, the Chinese tended to describe real-life situations when they actively used intuition, whereas Westerners preferred to offer a percentage of how much intuition they used. Overall the Chinese managers used intuition more regularly than Western fund managers in their investment process, which could be due to market contextual factors as shown in the interviews data. Thus, it raises an interesting question: to what extent is the use of intuition a variable of investment experiences and market contextual factors, rather than cultural differences expressed through preferences in cognitive style? This question will be addressed via the use of cognitive preference tests in Study 2.

STUDY 2: Intuitive Predisposition

Study 1 showed that Chinese fund managers were more likely than Western fund managers to use intuition in their real investment process. Study 2 was established to test the pure cognitive preference of both groups of participants to see if there are noticeable differences in cognitive style across cultures within this context.

Participants

The complete data set comprised thirty fund managers from two cultural groups: mainland China and the West (four nations were represented). Individuals participating in Study 2 were different from those participating in Study 1, to avoid a subject taking part in both studies. Data was collected by the author between May 2015 and December 2016. Demographic controls for investment tenure, gender, asset under management (AUM), nationality of the fund they were actively work, and highest education level were selected. Investment tenure was selected rather than age, because tenure is a more significant factor here (Boyson [2003]). As in Study 1, the majority of Chinese participants (60%) in Study 2 had fewer than five years of investment experiences. In contrast, the majority of Western participants (73%) had more than five years of investment experiences. Details

of sample sizes and the demographic characteristics used in the present analyses are presented in Table 1.

Table 1: Sample characteristics and demographics

Culture Group	N	Gender	Nationality	Nationality of Fund	Mean Tenure (Years)	Mean AUM (USD million)	Education (Highest degree)
China	15	Male	Mainland China	China	6.94 (SD=6.68)	271 (SD=291)	Masters in Finance-related subjects
West	15	Male	UK (N=11); US (N=2); France (N=1) Spain (N=1)	UK & US	13.2 (SD=9.15)	13,650 (SD=32,047)	Masters (N=5); BA (N= 8) ; High School (N=2)

Material and Procedure

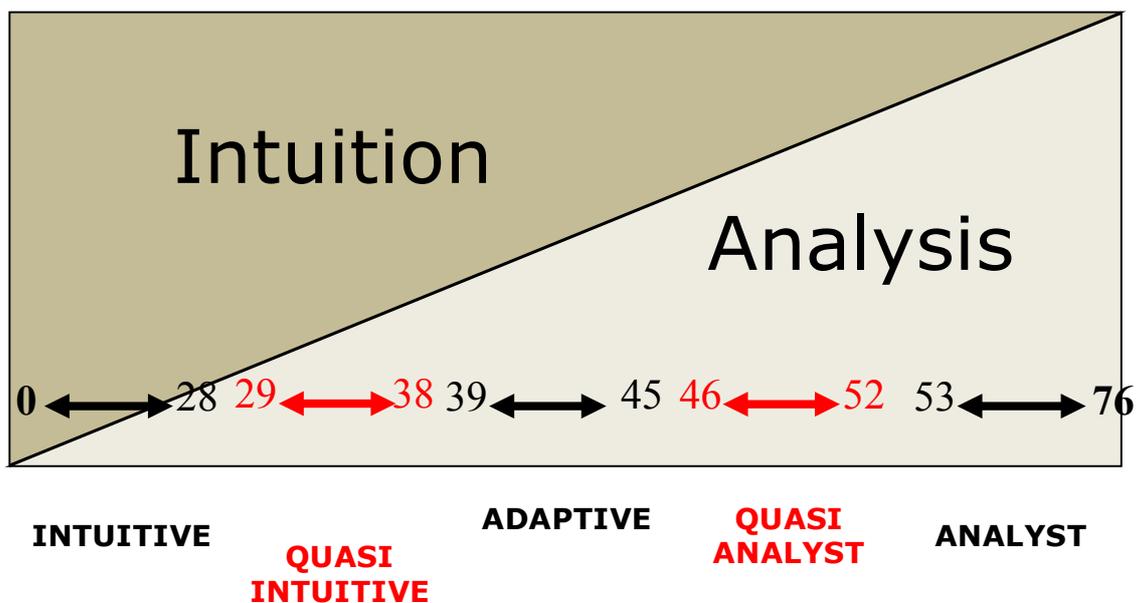
As we observed in Study 1, Chinese fund managers were found to be more likely to use intuition in their investment decision-making and also regarded intuition to be more important than their Western counterparts. However, the response of fund managers in the earlier study were likely to reflect the ways they approached a specific decision-making situation, which could be highly influenced by the demands of the task at hand as it related to market contextual factors. Simultaneously, they might exhibit a different dominant or preferred thinking style. Thus, to gauge the difference in intuitive predisposition or pure cognitive style between the Chinese and Western fund managers required the use of a measure which was without the constraint of the decision-making context. Based on this rationale, I selected the Cognitive Style Index (CSI) questionnaire to specifically test cognitive style preference in Study 2. This self-report measure developed by Allinson and Hayes [1996 and 2012] assesses the intuitive-analytic dimension of the subject's cognitive process.

The final version of the CSI which was used consisted of thirty-eight question items, which were derived from eighteen of the dimensions related to cognitive style from the literature search (Allinson and Hayes [1996]). Items were placed in random order on the final form. Some examples are as follows: (a) "Formal plans are more of a hindrance than a help in my work", (b) "I am most effective when my work involves a clear sequence of tasks to be performed", (c) "My philosophy is that it is better to be safe than risk being sorry", (d) "I am inclined to scan through reports rather than read them in detail".

Each of the thirty-eight items had a true-uncertain-false response mode, and scores of 2, 1 or 0 were assigned to each response, with the direction of scoring being dependent upon the polarity of the item (seventeen items having been reversed to control for acquiescence response bias). The nearer the total score to the theoretical maximum of

seventy-six, the more analytical the respondent. On the other hand, the nearer to the total score to the theoretical minimum of zero, the more intuitive the respondent. Whereas some individuals may be wholly intuitive or wholly analytical, the majority of individuals will have a preference for processing information through both intuition and analysis. As shown in Figure 2, the 'adaptive' style sits in the middle of the spectrum between 'intuitive' and 'analyst' style, as it blends the two cognitive modes. As defined by Allinson and Hayes [2012], "Adaptors do not have a strong preference for either intuitive or analytic modes of information processing. They are comfortable drawing on both, in whatever combination seems appropriate at the time, in order to improve their understanding of a situation and make decisions about how to act". The 'quasi-intuitive' and 'quasi-analyst' styles imply a tendency towards, but not the full adoption of, one of the more extreme cognitive modes.

Figure 2. The intuitive-analytical dimension of cognitive style



Source: Allinson and Hayes [2012]

A trichotomous true-uncertain-false response mode for each of the thirty-eight items provided a central category for subjects who wished to indicate genuine uncertainty on the grounds that the extreme categories did not apply consistently. It also overcame the problem associated with Likert scales of five or more points that some subjects tend toward the extremes while others habitually avoid them (Kline [1993]).

The original CSI test was created in English. In order to administer this test among Chinese fund managers, it was necessary to translate it into a Chinese version, using a back translation procedure. Therefore, it was first translated into Chinese by the author

and then another bilingual researcher translated the Chinese version back into English to ensure that the full meaning and intent of the questions was retained. The author made changes accordingly if there was any discrepancy against the original English version. This process was repeated twice in order to produce the final Chinese version.

Results and Discussions

According to Chi-square statistical results, the majority of both the Chinese managers (73%) and Western managers (80%) were rated in the middle range of 'quasi analyst', 'adaptive' and 'quasi intuitive'. There were more Chinese (27%) rated as 'analyst' (the highest analytical score) than Western managers (7%). In contrast, there were more Western managers (13%) rated as 'intuitive' (the highest intuitive score) than Chinese managers (0%). It appears to show that the Chinese managers were more analytical than Western managers. However, the difference is not significant at 5%. Hence, in this test, the Chinese fund managers were not found to be more intuitive in their cognitive style than the Western managers.

Consistent with Chi-square tests, t-test results also showed a similar pattern. Although the mean score for the Chinese fund managers ($M=45.87$, $SD=10.50$) was higher than the mean score for the Western fund managers ($M=40.27$, $SD=13.04$) which implies that the Chinese participants were more analytical than the Westerners, the difference is not statistically significant: $t(28) = 1.30$, $p=.21$. Thus, the hypothesis that Chinese fund managers are more intuitive in cognitive style is not supported.

I compared these results with findings of other studies in which similar measures had been used, i.e., non-context-based self-report questionnaires. The outcome of the current study was found to be consistent with conclusions drawn by those research, which also did not support the idea of a traditional dichotomy between an intuitive East and an analytic West. For example, using the CSI measure, Allinson and Hayes [2000] discovered that the most intuitive corporate managers were located in the Anglo and North European categories and the most analytic were in the Developing Countries and Arab categories. They therefore concluded that the intuitive preference is more strongly determined by the stage of industrial development of a country than by cultural tradition. Similarly, Phelps and Krabuanrat [1999] administered the CSI to four hundred and sixty-six corporate managers and found higher average rationality scores for the East Asian managers compared with previous samples of Western managers. They suggested that the dichotomy between an intuitive East and an analytic West was due to a misperception, which emphasizes occasional non-rational decision-making behavior specific to East Asian managers by concentrating on the exceptions rather than the norm. For example, in their

study, some East Asian managers would seek the advice of a fortune-teller in reaching a decision. The researchers argued that although such apparently irrational processes provide colorful stories (because they are so different to established Western practice) concentrating on these specific occurrences rather than on the broader picture creates an exaggerated impression of intuitive decision-making in East Asian firms.

In addition to this explanation, I would like to suggest an additional cause for such findings that run contrary to the traditional dichotomy. The inconsistency may also be due to the populations that were taken into account in the different studies. Traditional cultural studies tended to refer to the general population or, in some cases, to scientific or religious groups in mainland China, from a historical perspective (e.g., Needham [1962]). In the experiments of cultural psychologists (e.g., Ji et al. [2000]; Masuda and Nisbett [2001]; Park et al. [1999]), participants were commonly university students, often those majoring in psychology. In contrast, the participants in the research studies using CSI were specific groups in the population, from corporate managers, lawyers, MBA students, engineers and, in the case of this study, investment fund managers. These groups are often characterized by having both a good education and sophisticated training in analytical skills. In my study, for example, all the Chinese fund managers had a master's degree in economics, finance or science related subjects, all of which have highly analytical curricula. Fund managers who attended Chinese universities may also have been taught 'Western' methods of finance and investing because, as far as the author is aware, there is no competing Chinese or Asian technique in finance or economics. Past research (e.g., Choi, Koo and Choi [2007]; Ramsden and Entwistle [1981]; Schmeck [1988]) has shown a close connection between educational environment and cognitive style. For example, Choi, Koo and Choi [2007] found Korean students of oriental medicine scored higher on the Analysis-Holism Scale than Korean students of non-oriental medicine. Thus, it is argued, the results of the CSI studies need not necessarily contradict the traditional dichotomy of an intuitive East and an analytic West. It is possible that, as a general population, the Chinese are more intuitive than those from the West. However, with a specific population group, such as investment fund managers, who form a highly analytical group within the wider population, the effects of education and training may outweigh cultural influences, resulting in a very rational style of thinking regardless of the inherited backgrounds.

3. Conclusion and General Discussion

The data collected in the current research provides detailed descriptions of the phenomenon of intuition by a group of participants within a cross cultural context. As

stated in the rationale for these studies, although extant research provides surface level descriptions (e.g., Agor [1989]), correlational analyses of relationships between quantifiable variables (e.g., Khatri and Ng [2000]), and compelling accounts of intuitive judgement in complex, time-pressured situations outside of business management (e.g. Klein [1998]), little qualitative research that attempts to describe and explain intuition in the financial sectors (for two examples, see Lipshitz and Shulimovitz [2007]; Hensman and Sadler-Smith [2011]) has been published. Furthermore, to date, no study has combined qualitative accounts of the use of intuition in the financial sectors alongside testing for cognitive style using self-reported measures. Given the complexity of intuition as a concept, Sinclair and Ashkanasy [2005] proposed that a comprehensive measurement of intuition cannot be achieved by means of a single tool, and that a cautious approach should be employed, in the spirit of 'triangulation' (see Jick [1979]). Their approach recommends utilizing a combination of measures, with each tapping into a different facet of intuition. In the current research, I incorporated this scheme using a methodology of both qualitative interviewing and self-report questionnaire. In so doing, I aimed to present a more nuanced and detailed understanding of the workings of intuition, over-and-above the picture provided by descriptive surveys and correlational analyses, so as to complement the extant body of research.

The findings of this research reflect two different levels of cognitive processing, including pure cognitive style - which relates to the way individuals process information - and decision-making behavior style - which reflects the ways individuals approach a decision-making situation. As noted by Leonard, Scholl, and Kowalski [1999], "individuals may have a dominant or preferred decision-making style, but their decision-making behavior is influenced by the demands of the situation or task." The data collected by interview in Study 1 revealed that Chinese fund managers tended to use intuition more often than Western fund managers during the investment decision-making process. Simon [1987] has suggested that the choice of decision-making style is determined by dispositional and contextual factors. Because Chinese and Western fund managers were found not to be significantly different in their cognitive preference for intuition in Study 2, it is therefore concluded that differences in using intuition during the investment decision-making process relates more to contextual factors rather than cognitive factors. In the model developed by Sinclair and Ashkanasy [2005] there are four broad categories of factors that can affect decision-making behavior: (1) problem characteristics, (2) decision characteristics, (3) personal disposition, and (4) decision-making context. Therefore, the use of intuition appears to be a dynamic process, contingent on a range of specific triggers. The conclusion of this research, that intuitive judgement is embedded in the organisational and social context, also resonates with the views expressed by Huff et al. [2006] who

noted that strategic decision makers require an abundance of tacit knowledge, intuitive judgement, social competences and a deep understanding of the local context.

The contextual factors in Chinese markets (such as irrational retail investors, sketchy information and accounting fraud) may be a source of contextual signals, which affirm for individuals that they share the same assumptions. These contextual signals may reflect conventions, defined as a self-sustaining "social arrangement which allows people to cooperate with each other", and which are difficult to replace (Boyer and Orlean [1992], p. 166). For example, as a coping strategy for the fact that there are too many retail investors in Chinese markets, a professional fund manager (Chinese 9) was forced to adopt the mentality of retail investors and do less analysis.

Building on and interpolating from the results of my empirical study it is possible to update the theoretical typology of signal coherence by Hensman and Saddler-Smith [2011] from a cultural and cross cultural perspective. According to their typology, when intuitive signals and contextual signals are in agreement there is congruity, whilst disagreement results in incongruity. As shown in Study 2, the average cognitive test score for the Chinese fund managers ($M=45.87$, $SD=10.50$) was on the borderline between 'adaptive' (39-45) and 'quasi-analyst' (46-52), but tilted more towards 'quasi-analyst'. However, the Chinese fund managers tended to prefer intuitive investment decision-making because of contextual factors in the market. Therefore, it appears that, for the Chinese fund managers, intuitive signals and contextual signals are in incongruity. In other words, contextual signals have higher justificative power. In this situation, according to Hensman and Saddler-Smith [2011], a mismatch of contextual (high) and intuitive (low) signals may be subject to individual reflection and inquiry, which could lead to 'individual double-loop learning' by Chinese fund managers. In contrast, the average cognitive test scores for the Western fund managers ($M=40.27$, $SD=13.04$) were rated as 'adaptive', which means that intuitive signals would be higher than for the Chinese fund managers who, on average, rated as 'quasi-analyst'.

According to the definition of the 'adaptive' category, the Western fund managers did not have a strong preference for either intuitive or analytic modes of information processing. Their choice of decision-making style hinges on their understanding of the local situation, as they are comfortable drawing on both intuitive and analytic modes of information processing, based on whichever seems most appropriate at the time (Allinson and Hayes [2012]). Because Western markets are at a more mature stage of development, the problems mentioned by the Chinese fund managers, such as irrational retail investors and accounting fraud, are less likely to occur than in the Chinese markets. As a result, my

research has found that Western fund managers, who mainly operate in Western markets, tend to opt for an analysis-based decision-making style, which aligns with the context of their home market. Thus, based on the theoretical typology of signal coherence by Hensman and Saddler-Smith [2011], intuitive and contextual signals both have high justificative power for Western fund managers. In order to enable action, the justificative power of one or other signal needs to be lowered relative to the other, for example, through a process of reflection, inquiry and dialogue, as indicated by Western 23, who stated that

“Our whole investment process is intended to get rid of intuition. However, it is hard to get rid of it completely”.

Figure 3: Typology of justificative powers for incongruence condition

		Intuitive Signal (under conditions of incongruence)	
		Justificative power	Low
Contextual Signal (under conditions of incongruence)	High	<p>Impasse</p> <p>Seek (e.g. through reflection, inquiry, and dialogue) to reduce justificative power of intuitive or contextual signal in order to enable action</p>	<p>‘Conform to convention’</p> <p>Rationalisation of contextual signal</p> <p>Seek to question underlying assumptions of intuitive signal</p> <p>Potential trigger for individual double-loop learning</p>
	Low	<p>‘Go with gut’</p> <p>Rationalisation of intuitive signal</p> <p>Seek to question underlying assumptions of contextual signal</p> <p>Potential trigger for organizational double-loop learning</p>	<p>Indifference</p> <p>Seek (e.g. through reflection, inquiry, and dialogue) to enhance justificative power of intuitive or contextual signal in order to enable action</p>

Source: Hensman and Saddler-Smith [2011]

The conclusions drawn from this research have significant implications for the international investment fund sector. In a multi-cultural team, different preferences in intuitive decision-making behavior may compound the difficulty of reaching a consensus in investment decisions situations. Based on the findings of this research, it appears that

to achieve a good level of cooperation between team members from different cultural backgrounds, having a similar level of understanding of the local market may be more important factors than cognitive or affective factors. Thus, business education and training for fund managers should aim to develop an acute awareness of the investment market context and the skill to use intuition and analysis according to these specific conditions.

4. Limitation and Future Directions

This research was subject to a number of limitations. Firstly, only two cultural groups were examined, with study participants representing China and the West. Although this work of comparison is richly informative and important, the generalizability of these findings to other cultural groups may be limited. A potential direction for future research might be to explore a more diverse set of national cultures, as well as differences within regional boundaries. Secondly, in common with Hensman and Sadler-Smith [2011], the data was derived from a relatively small sample, although it is arguable that the unit of analysis was not the participants per se, but their tenured experience, which was very high – the research total being over three hundred years. Being comprised of retrospective accounts and personal perceptions about investment decisions, the data was also subject to the general limitations of such investigations irrespective of sample size. Thirdly, the coding and interpretation of the textual data was a subjective process and therefore prone to bias. Attempts were made to ameliorate the potential effects of this through the use of multiple researchers and a quantitative assessment of the reliability of the coding procedures.

The results reported here raise a number of questions which future research might find valuable to address: (1) are experienced fund managers (e.g., those with more than ten years' domain-relevant learning) less likely to have greater self-belief in the effectiveness of their intuitive decision making than less experienced fund managers? (2) to what extent is the relationship between a decision-makers' accrued experience in their role and their feeling of intuitive certitude mediated by their level of their education or cognitive style preference? (3) are decisions that are based on gut-feelings more acceptable in market contexts which are relatively emergent, less mature and less regulated?

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Appendix 1

Study 1: General Guide for Interviews

Opening Statement

A. (Establish Rapport) [shake hands] My name is ... Thank you very much for making the time for the interview.

B. (Purpose) I would like to ask you some questions about your background, examples of investment decisions you have made in the recent two years.

C. (Motivation) I hope to use the research result to help fund managers better understand their decision-making process and take more control over what they are doing.

D. (Time Line) The interview should take about 45 minutes. I am going to record it, but everything is confidential. Your name or your fund's name will not be revealed in any of my writing. It is going to be an aggregated result, so no individual can be identified.

Are you available to respond to some questions at this time?

Transition: Let me begin by asking you some questions about your background.

General Questions

"When did you first hold portfolio management responsibility?"

"Please describe your formal background, your qualifications, and your cultural background?"

"What is the benchmark and who are the clients?"

Key Questions

SEMI-STRUCTURED INTERVIEW QUESTIONS

- Which two portfolio decisions you have made in the last two years that have made you feel personally most satisfied? Could you please walk me through the whole process?
- Which two portfolio decisions you have made in the last two years that have made you feel personally most dissatisfied?
- Could you describe how you made your most recent buying decision of a Chinese company?

- Could you describe how you made the decision of purchasing a Chinese company which is the largest holding in their portfolio at the time of interview?
- How do you see the differences in terms of investment styles between Chinese fund managers and Western fund managers?
- Do you do company visit? Please could you take me through what happened?
- How often do you use intuition or feeling to make decision?

Appendix 2

Study 1: Interview Data Fragment Category Card Sample

The highlighted part of the category card refers to the theme: the relationship between intuition and analysis during a fund manager's investment decision-making process. It was the initial or open coding process, the first step of data analysis.

Chinese 25's comments on the importance of feeling and intuition during investment

1. Intuition is important, but it should be used on basis of understanding my own weakness and style.
2. I do not know when or in which situation I use intuition, but it does come from time to time.
3. I have a feeling of the sector after reading a lot of reports. After having those vague ideas, I then do analysis and further research.

Appendix 3

Study 1: Summary of Themes and Sub-themes that Emerged from the Interview Data

Summary of Content analysis				
Category	Sub-category	Participants		Totals
		Chinese	Western	
1) Definition of intuition	Sensory, affective and holistic processes	12	1	13
	experience-based phenomenon	0	1	1
	Totals	12	2	14
2) Relationship with analysis	Intuition and analysis are used in tandem	14	0	14
	Intuition and analysis are blended together in different percentages	3	4	7
	Tension between them (analysis are used to get rid of intuition)	2	4	6
	Totals	19	8	27
Totals		31	10	41
3) Market contextual factors	Chinese markets are irrational, emotional, immature			
	There are many retails investors in Chinese markets			
	Hidden rules			
	Companies in Chinese markets are not very well developed			
	Information is skethy, not accurate			
	Sudden events			