Theorizing Communicative Practices within Financial Internet Discussion Sites

Abstract

Financial Internet Discussion Sites (IDS) have the potential to both positively and negatively impact the efficient operation of capital markets. On the positive side, IDS provide a venue for real-time interpretation of publicly available information that can enhance market efficiency. On the negative side, they increase noise, create false market signals, and provide venues for the disclosure of insider information. With this in mind, the specific aims of this project are to: (1) uncover the communicative practices employed within IDS, and identify the contextual factors that influence communication and trading behavior; (2) examine how systematic variations and interaction among communicative practices and contextual factors influence choice; and (3) develop and extend theory linking patterns of communicative practice embedded within IDS-based communication with different trading outcomes under different contingencies. The findings will support development of a mid-range theory for explaining and predicting the social relevance and impact of online communicative practices.

Keywords: Theory development, communicative practices, social media, digital collaboration

Introduction

Management scholar Peter Drucker is famously quoted as saying that “the most important thing in communication is hearing what isn’t said.” While his quote is generally used to emphasize the importance of non-verbal communication within physical environments, it also serves to highlight the challenge of understanding motives and deciphering communication patterns within online environments. Digital social environments where participant identity and message intent cannot readily be ascertained, and where there is often difficulty verifying information (Flanagin and Metzger 2000). This is particularly relevant for financial Internet discussion sites (IDS) where the decisions and actions of participants have material consequence.
Information and its dissemination are central elements in the traditional efficient market view of how financial markets operate (Fama et al. 1969). Financial IDS, it is argued, ameliorate information asymmetries (Choi, et al. 2014) and improve investor information search and decision behavior (Kelton and Pennington 2012; Avery et al. 2015). Participants often have difficulty discerning misinformation online (Flanagin and Metzger 2000; Metzger et al. 2010), and there is evidence that IDS are susceptible to exploitation through the dissemination of rumors (Hu et al. 2011); particularly in situations where objective information is scarce and human factors such as cognitive load impact the quality of decision making (Kambil and van Heck 1998; Rieh 2002).

While IDS have resulted in unprecedented levels of information sharing to guide investment decisions, it is clear that not all forms of knowledge, support and opinion have the same level of reliability. In particular, prior research has reported cases where IDS participants have influenced others strategically for financial gain (Campbell and Cecez-Kecmanovic 2011; Campbell et al. 2009; Campbell 2001), and

Concerns about the unethical and manipulative use of IDS (and other social media) recently led the Australian Stock Exchange (ASX) to introduce continuous disclosure requirements that necessitate listed companies monitor online communication for information leaks and unsubstantiated rumors (ASX, 2013). While the goal of this regulation is to facilitate greater transparency and to protect individuals from deception, concerns have been raised about the superficial nature of IDS monitoring that is being undertaken (Ehrlich 2015). The changes to market disclosure requirements has created new opportunities for media monitoring, with commercial providers responding with a variety of products that incorporate elements of sentiment analysis to categories online communication. However, these products lack granularity, and are often based on simple valence analysis (i.e., negative versus positive comments), ignoring the underlying motivations and communication strategies of participants, which has resulted in an inability to uncover even simple and overt examples of deception (Austin 2015).

Outside of the discipline of information systems, behavioral finance is approaching this problem from the perspective of psychology and economics, with efforts centered on understanding the decision rules employed by participants within online financial communities. Notwithstanding the benefits of this work, which are not insignificant, we argue that we also need to understand how such behavioral strategies are translated into action through communication, and subsequently, in a recursive sense, how different communication strategies then impact participant behavior. How these communicative practices influence both collaborative decision-making and individual trading behavior is a particularly under-researched area (Ackert et al. 2016). Accordingly, our research seeks to develop a new, complementary theory of communicative practices that will identify the constituent elements of communication in financial IDS, and predict the effect of different communicative strategies on participant behavior (Campbell et al. 2009; Campbell and Cecez-Kecmanovic 2011). While our main interest is in understanding how communicative practices reflect the different goals and linguistic strategies used to impact the investment choices of other IDS participants, our research will have wider application in other contexts. Most significantly, we seek to contribute to knowledge by presenting a rigorous specification for the development of a mid-range theory for explaining and predicting the social relevance and impact of communicative practices within online communities and social media more broadly.

Conceptual Model

Our conceptualization of communicative practices draws on linguistic theory to distinguish between message content and actor intent. This allows communicative actions to be classified by the focus of participants’ postings (e.g., subject matter or self-expression) and also by participants’ orientation (e.g., towards mutual understanding or towards influencing others). Our contention is that participants’ involvement and communication in IDS reflect both personal aims and strategies to achieve those aims. Figure 1 presents our conceptual model which was derived from the literature and initial pilot work. This work established that different communication strategies impact trading behavior, and that different communication strategies have the potential to influence knowledge co-creation (co-created understanding of both subject and context) and collaborative decision making (socially rationalized investment choices). The pilot work also identified that communicative practices, knowledge sharing, collaborative decision making, and market behavior were sensitive to a range of extraneous factors, including the regulatory environment, the specific characteristics of the financial IDS, and user characteristics and motivations. Accordingly, the objective of this research is to better understand the interplay and impact of these different considerations to develop better theory.
Figure 1: Conceptual model of IDS communication

Our model posits that information sharing within IDS communities is far more complicated than just providing a forum for the dissemination of stock market and company-specific information. Our approach to understanding IDS communication distinguishes between content and intent. Message content refers to the information being communicated while intent refers to the purpose that a particular actor has in communicating to others. Drawing on speech act theory (Searle 1975), we see that actors typically employ different communication strategies to influence the actions of others, depending on the intent of the communication. Communicative practices within online environments have also long been claimed to influence knowledge sharing and collaborative decision making (Wakso and Faraj, 2006). Henri (1992) was amongst the first to examine the value of computer-mediated communication as a tool for collaborative learning. Building on Henri's work, Gunawardena et al. (1997) provide a five-phase Interaction Analysis Model that focused on answering two questions: “What degree of knowledge construction is achieved by the cooperative group?” and “What degree of evidence is there that the knowledge of individual participants changes?” In general, the first question is answered by the dominant cognitive phase observed within the message, while the second question is answered by individual expressions which demonstrate the application of changed knowledge (meta-cognition).

Prior research has shown that the communicative practices embedded within IDS postings can influence investment activity (Gu et al. 2007; Lu et al. 2010). For example, several studies have reported that increased IDS posting activity is a proxy for market sentiment, and that it precedes significant changes in next-day trading volume and share price returns (Antweiler and Frank 2004). Prior research has also shown that companies identified as takeover targets in IDS discussions were, on average, associated with subsequent positive abnormal stock price returns (Clarkson et al. 2006). Campbell and Ceeez-Kecmanovic (2011) found that the nature (knowledge domain) and motivation (action orientation) of communicative actions within an IDS change significantly over time and, most importantly, that these changes are linked to market behavior. IDS communication is also influenced by systemic (e.g., regulatory environment) and human factors (e.g., personal motivations). As discussed above, the existence of IDS has led to the
development of policy and regulation seeking to mitigate adverse consequences from individuals seeking to manipulate or misinform capital markets.

Together these contextual factors help to shape communicative practices and knowledge co-creation. The systemic context reflects the need for IDS-based communication to comply with the relevant jurisdictional regulation. In the case of Australian IDS, communication is governed by the Australian Securities and Investment Commission’s regulatory guide 162 (ASIC 2007). While IDS must conform to this guide, individual forums also seek to differentiate themselves by offering additional services within their sites. The features and functionality of IDS include options for membership, specific policies relating to conduct of users, as well as research and performance tools to assist users to evaluate information and source credibility.

Human factors such as bounded rationality and opportunism also come into play. IDS participants have limited information processing capabilities and do not have the resources or cognitive abilities to gather and evaluate all information about existing and future market outcomes (Cowan et al. 2004). Many will tend to act on heuristics and be guided by underlying intrinsic and extrinsic motivation (Metzger et al. 2010). While some IDS users are motivated by a desire to inform and assist, others are motivated by a desire for personal gain and will seek to manipulate the flow of information for short-term reward. This sort of opportunistic behavior is evidenced in the incidence of market rumor and speculation. Van Bommel (2003) developed a model that articulated the economic motivation associated with rumors in financial markets. Based on the Kyle (1985) auction process, his model showed that an investor with private information has limited wealth and is unable to capitalize on their knowledge until this information is in the public domain. Through the use of rumors, investors can obtain advantage by selectively releasing information to followers who then trade on this information. As the share price moves in the direction of the rumor the investor can profit by taking an opposite position when the price overshoots its true value. Campbell (2001) differentiates this strategy from "pump and dump" schemes where uninformed investors buy a thinly traded stock and profit from false rumors about the stock.

Our model also includes controls for characteristics of users and the IDS community. IDS users bring different elements of themselves to their communities. Some will have substantial experience or expertise in relevant areas or a well-developed network of contacts in a particular sector. Participants also display a range a risk preferences and investment horizons (e.g., short-term trader versus long-term investor), and even dissimilar investment philosophies (e.g., technical versus fundamental). IDS communities are dynamic and evolving and this is revealed through the changing relationships between key members, and the leadership roles they fulfil with the continuing support of other community members. These individuals often provide detailed intelligence about particular securities and trading strategies (Campbell et al. 2009).

An underlying feature of this perspective is the credibility of the person spreading the rumor. In a repeated game, bluffing and cheating erode the reputation of the rumor-monger and eliminate any profits. Van Bommel (2003) concludes that on the whole, rumors are informative as if they were only ever false they would not survive. Followers can profit from trading on these rumors thereby providing explanation for why IDS participants could rationally have an expectation that messages posted may contain credible information. If messages consistently contained false rumor there would be no followers willing to trade on the information.

**Research Gaps**

Despite the pervasiveness of financial IDS, there is very little research that has examined how the different elements of IDS-based communication affect investor decision-making. There is also a scarcity of research examining the quality of information that is generated from the perspective of IDS as a human computation system (i.e., creation of new knowledge). Such perspective highlights the diverse roles that IDS members play in a problem-solving process. These roles include providing factual data, undertaking independent research, decomposing problems and performing human program synthesis. This project will address this deficiency by examining how collective intelligence can be generated from financial IDS. In so doing, this study will help to create more transparent and better informed markets.

With the above discussion in mind, we identify three significant theoretical gaps that provide the focus for our research:
Gap 1: uncover the communicative practices employed within IDS, and identify the contextual factors that influence communication and trading behavior;

Gap 2: examine how systematic variations and interaction among communicative practices and contextual factors influence decisions and choices for different individuals and groups of individuals; and

Gap 3: develop and extend theory linking patterns of communicative practice embedded within IDS-based communication with different trading outcomes under different contingencies.

**Addressing Gap 1: Communicative practices in IDS-based communication**

IDS communities are a microcosm of the financial markets’ information environment. Using the activity and content of the posts on these sites allows us to directly observe how a subset of the investment community interprets and responds to information and noise. These observations also occur within the context of other information releases (outside of the IDS) and financial market activity. This provides an opportunity to directly observe how participants both individually, and collectively, respond to and utilize the information associated with these events. Despite the potential of IDS-based communication to enhance market efficiency, the interaction processes within financial IDS, and the information generated by participants, remain largely unexplored. We also know little about how participants establish social interaction and share knowledge, or what characterizes their communication behaviors, how this impacts on participants’ engagement with IDS, and their subsequent trading behavior.

Prior research has also shown that some IDS participants have intentionally sought to abuse forum communication for their own purposes by manipulating others and using the IDS as a marketing channel to vent rumor and hearsay (Campbell and Cecez-Kecmanovic 2011; Campbell et al. 2009; Campbell 2001). To this end, earlier research has demonstrated that text-based IDS artefacts embody important communication patterns which can be used ex ante to predict short-term market movements, and that user experience and market knowledge can influence the extent to which communication practices shape actual investment decisions (Campbell and Cecez-Kecmanovic 2011).

This project will extend this communicative practices framework to examine the importance of different systemic (e.g., regulatory environment and IDS characteristics) and human factors (motivation and individual characteristics) on information sharing within an IDS community, and importantly, how such communicative practices impact different investment performance outcomes.

Three categories of market performance will be examined: (1) market outperformance, (2) comparative market performance, and (3) market underperformance. These patterns will be identified using reverse engineering to examine the communicative practices embedded within historical IDS communication where investment performance outcomes are already known and observable. Our research is amongst the first to explore how these factors influence communicative practices and knowledge sharing within financial IDS communities. A better understanding of these issues is critical to our evaluation of IDS intelligence, and our desire to use this information to understand and predict decision-making behavior.

**Addressing Gap 2: Impact on decisions and choices**

Literature on financial markets has normally relied on trading activity (changes in price and volume of trades) to measure the market's interpretation of an information event (Fama et al. 1969). The problem with this approach is that it is virtually impossible to isolate a particular event from other confounding events and factors. The findings of such research are only ever tests of association (not causal) and may often be contaminated by competing events. This research makes a valuable contribution to the challenge of understanding the impact of crowd-sourced intelligence on investment decisions by pioneering the use of an advanced combinatorial methodology—Discrete Choice Analysis. While crowdsourcing has been studied in a number of other contexts, including healthcare (Chen and Straub 2015), there is work needed to understand the underlying decision processes and collaborative decision rules within such environments.

In this project we employ a novel combination of Discrete Choice Analysis-related methods. This is done by conceptualizing individual choices as a process of decision states, where respondents compare options and make a decision that involves trade-offs between the components of these options. The result of this process is a ‘choice outcome’ that can be deconstructed to identify the decision rules of individuals (and groups of individuals) based on the marginal utility for each of the ‘options’ available within the choice task, conditional upon some underlying experimental design. Recent advances in experimental design
theory and Discrete Choice Analysis modelling has resulted in extremely efficient models that minimize the cognitive demands on respondents while obtaining robust estimates of preference that are extremely accurate at predicting future behavior (Keating et al. 2010; Anderson et al. 2011). Stated simply, the use of Discrete Choice Analysis will enable us to better understand how systemic and human factors influence communicative practices and knowledge co-creation within IDS, and how such communication impacts decision-making.

However, the use of Discrete Choice Analysis alone may underestimate social influences on decision making. Social capital, affective interaction and sense of community tend to drive information flow in online environments (Campbell et al. 2007; Huffaker, 2010; Wakso and Faraj 2006). Consequently further digital field experimentation may be required to adequately assess these factors.

**Addressing Gap 3: Theorizing the link between communicative practices and investment outcomes**

The history of asset markets and, in particular, stock markets is punctuated by periods of over exuberance and apathy in which otherwise intelligent individuals have succumbed to the herding effects of social behavior. The general use of charting and other technical analysis tools in modern stock markets suggest that traders also perceive that there are patterns of herding behavior in markets that can be exploited with technical indicators (Malkiel 2003). In periods of uncertainty, such behavior can affect a group of investors into making poor investment decisions (Quiamzade and L’Huillier 2009). Different factors have been suggested for reducing the effect of errors passed by word of mouth, including credibility, trustworthiness, and enthusiasm of the influencer; and informational factors such as timing, vividness, negativity, and consensus. There is compelling evidence that information can be more easily manipulated in online environments, particularly in the early stages of information dissemination when objective viewpoints are scarce (Hu et al. 2011). Particularly online environment characterized by conflict and identity shape-shifting (Campbell et al. 2009; Greenfield and Campbell 2006).

To this end, Campbell et al. (2009) demonstrated that communication within IDS are highly influenced by character roles. Further, these roles change over time and are directly linked to market behavior. A significant contribution of this project is to extend this work through the formal specification and preliminary validation of a mid-range theory to explain and predict the impact of communicative practices on choices and actions adopted by different actors within online communities.

**Approach and Methodology**

We designed a four-stage, sequential mixed methods approach (Clark and Creswell 2011) to theories the link between communicative practices and investment outcomes. Initial results from the pilot study (Stage 0) suggest communicative practices predict trading activity. Stage 1 will explore how systemic and human factors affect communicative practices and information sharing. Stage 2 will examine the interplay between factors and their impact on investment decision making. During the final stage we will validate the resulting model linking communicative practices and investment outcomes. See figure 2 below.

![Stage 0: Pilot Phase](Task 1: Literature review
Task 2: Communicative practices
Task 3: IDS characteristics

Stage 1: Explanatory Phase
Task 4: Update literature review, selection of IDS
Task 5: Key informant interviews

Stage 2: Prediction Phase
Task 6: Analysis of posts
Task 7: Discrete Choice Analysis and digital field experimentation

Stage 3: Theorizing Phase
Task 8: Formal specification of theory
Task 9: Preliminary validation

**Figure 2: Overview of the approach and methodology**

**Stage 0: Pilot Phase**

Preliminary research was required to develop the conceptual model and assess the feasibility of the proposed project.
Task 1: Review of relevant literature. To provide an informed foundation for this study, we undertook a comprehensive review of the academic and practitioner literature that has accumulated over the past two decades in relation to Internet discussion sites and communicative processes within social systems. Details relating to this review are reported in Conceptual Development section.

Task 2: Communicative practices conceptual framework development. The literature review guided the development of our conceptual framework (see Figure 1). This framework considers the impact of the characteristics of typical IDS on knowledge co-creation and decision-making behavior. As a first step in validating this model, we identified the dominant communication processes present within an IDS, and demonstrated that these processes have a measurable impact on stock market trading activity. The results of this initial work demonstrate strong support for our use of text-based communication analysis to better understanding stock market fluctuations and investment performance. However, the veracity of our framework and conceptual will be re-examined through key informant interviews scheduled in Task 5.

Task 3: Characteristics of the financial IDS. Within our conceptual framework we acknowledge that different IDS provide different features and different levels of support. We would expect that such differences may impact on a user’s ability to evaluate the quality and reliability of information that is communicated within IDS, and may ultimately influence whether users act on such information. To assist in the operationalization of the ‘IDS characteristics’ construct, we have undertaken preliminary content analysis of existing sites to aid in the identification of a taxonomy of the various features and functionality available within financial IDS.

Stage 1: Explanatory Phase (aligned with Gap 1 - communicative practices)

Task 4: Update literature review, and select IDS. An important preliminary task relates to updating the literature review and selection of the focal IDS for our study. In choosing an IDS site(s), consideration will be given to three main criteria: (i) length of operation, (ii) the composition of membership, and (iii) available performance metrics. The length of operation is important as we will be seeking to understand how changes in communication practices affect trader decision-making over time, and to identify the communicative patterns that underpin co-created knowledge and market activity. We have decided to focus only on sites that have been in operation for more than 10 years. This length of time is important as it will provide a sufficient pool of data for analysis, and will also guarantee a good cross-section of membership.

Task 5: Key informant interviews. Using the ‘communicative practices framework’ Campbell and Cecez-Kecmanovic (2011) and the ‘interaction analysis model’ of Gunawardena et al. (1997) as a starting point, this task will involve a series of interviews with key stakeholders in the Australian trading community to examine the validity and relevance of the constructs and processes conceptualized in our model (Figure 1). The interviews will provide an opportunity to elicit information on the efficacy of these frameworks, and to observe the decision making models of participants, the importance of systemic and human factors, and the particular types of information that have the greatest impact on trading behavior. The interviews will involve purposive sampling, with the intent to ensure that we canvas a broad range of opinions from a cross-section of IDS-users, institutional investors, merchant bankers, and government regulators. Each interview will take around 90 minutes and will use a semi-structured interview technique. While we expect to conduct 30-40 key informant interviews, the actual number will be determined by theoretical saturation.

Stage 2: Prediction Phase (aligned with Gap 2 - decisions and choices)

Task 6: Analysis of posts. Using the findings of the pilot study and the interviews as a guide, we will capture and analyze information within particular threads in the two selected communities over the ten year period from 2007-2016. This period is significant as it will enable us to track and isolate the influence of key external events such as the global financial crises. The content analysis will investigate the flow of communication (in terms of technology moderated speech acts), and how this communication contributes to the construction and sharing of knowledge, and maintenance of social interaction within an IDS.

The study will involve analysis of communicative practices within IDS associated with different market performance profiles. This phase will draw on historical ASX data to examine patterns of communicative practice and their link with market behavior across three broad categories of performance: (1) market
Communicative Practices within Financial Internet Discussion Sites

outperformance, (2) comparative market performance, and (3) market underperformance. These patterns will be identified using automated semantic analysis based on the communication processes identified, where the goal is to uncover different communication, knowledge co-creation, and collaboration patterns within the text posts. This work will assist in the identification of realistic posts for inclusion in Task 7.

Our initial assessment of market performance will be determined ex-post using both overall returns and risk-adjusted returns as measured initially by the Sharpe ratio (Sharpe 1994) and subsequently using the Modigliani-Modigliani risk-adjusted performance (M-Squared) measure (Modigliani 1997). M-Squared provides a measure of the relative performance between different investments adjusted for some benchmark level of risk (market, sector, etc.). If a suitable risk benchmark is not available, Jensen’s alpha will be employed to assess stock performance in relation to a risk measure (beta) derived from the capital asset pricing model (Baigent 2015).

Task 7: Discrete choice analysis and digital field experimentation. The data for this stage will be collected via an Internet-based survey with three sections. The first section will ask respondents to answer a number of questions that will be used to create a profile of the respondent (i.e., risk orientation, incentive preferences, motivation, trading experience, sensitivity to the regulatory environment, etc.). The second section of the survey will present the respondent with a series of choice tasks. Following Van Bommel (2003), we will use scenarios to contextualize the choice tasks, where each scenario will present a series of IDS posts constructed to systematically vary (i) communicative practice, (ii) knowledge co-creation, and (iii) collaborative decision making. In line with D-optimal design theory, we will operationalize these factors using extreme high-low levels based on actual posts identified in Task 6. The final section of the survey will include manipulation checks for the experimental tasks.

Assuming that strong support is observed during the explanatory phase for the factors identified in Figure 1, we would anticipate 16 scenarios with each scenario representing a different version of the survey. Respondents would be randomly allocated to a survey version where they would be asked to read the scenario and choose their preferred investment option. Each option within the choice task will present three different combinations of price, volume, volatility, arbitrage and market cycles, where the levels of these factors will also vary based on an underlying experimental design.

The survey will be conducted online with a sample of Australian stock market traders. Pilot testing will be undertaken virtually with a sample of respondents. Following the pilot testing, the final survey will be sent to a demographically balanced sample of 1000 IDS users for each survey version. The sample will be drawn randomly from a commercially available SPAM-compliant list of over 40,000 persons who regularly use a popular financial IDS, and who have traded online during the preceding 12 month period. We anticipate a resulting sample size of around 100 per survey version, which will be sufficient to permit the desired statistical analysis (Gefen et al. 2011).

To establish the relative importance of each factor, we will first examine whether the parameter estimates (from the conditional logit model) vary among respondents as a function of each manipulated factor in the scenarios. To do this, we first need to control for scale factor inequivalence. Using the procedures outlined by Swait and Louviere (1993), we will identify a base model, then estimate a scale factor multiplier for each of the other models in relation to the base model. We will then test whether the parameters vary statistically across the 16 scenarios using multi-group analysis. While the analysis and comparison of the 16 Discrete Choice Analysis models will provide insight into how the factors influence of trading behavior, if we are to examine the impact of the systemic and human factors identified in the first section of the survey, we will need to introduce covariates to analyze for heterogeneity. One way of doing so is to overlay a latent class (finite mixture) model on top of the original logit model to capture some of the unexplained variance in decision-making. By introducing covariates we can observe how individual characteristics impact on the interaction among the communicative practices, knowledge co-creation and trading behavior. This analysis will result in the identification of class-level models that will provide a much more detailed picture of the requirements for investment success.

Stage 3: Theorizing Phase (aligned with Gap 3 –communicative practices)

The final two tasks will involve the development of theory.

Task 8: Formal specification of the theory. We will use Gregor’s (2006) common components of an IS theory as a template for synthesizing the results of the explanatory and prediction phases, and presenting
a formal specification for a theory of communicative practices within IDS communities. Specific considerations include (i) means of representation, (ii) constructs, (iii) statements of relationship, and (iv) scope. The goal of this work is to generalize from the findings in a specific context (financial investing) to specify a mid-range theory for explaining and predicting the impact of communicative practices within a particular class of IDS communities. Social network analysts suggest that opinion within these kinds of communities is heavily influenced by the structural elements of a social system and the status of the communicator (Pinheiro 2011). Drawing on epidemiology metaphors, the research on social networks identifies certain roles that individuals can take on, suggesting that these roles significantly influence the uptake and diffusion of information within a social system. To this end, one of the authors has used character theory as a way of classifying different online communities according to the level of conflict and the role of social identity (Campbell et al. 2009).

In addition to the common components, Gregor (2006) also identifies components of theory that are specific to different types of theorization. In line with the requirements for a theory of explaining and predicting, this task will identify specific testable propositions relating to the application of communicative practices given a range of contextual contingencies needed to inform mid-range theorization. The goal of this work is to propose specific statements of relationships between constructs in such a form that they can be tested empirically by future research.

Task 9: Preliminary validation. As the goal of this project is to derive a mid-range theory for explanation and prediction, we believe that it is appropriate that we include a preliminary validation of this theory. While it is not possible to provide a lot of detail regarding the validation stage as this task will be based on work yet to be completed, we can provide a general overview of our plans for this task. We will use an advanced behavioral laboratory facility to run a series of experiments to test the resulting hypotheses. In general, the experiments will require participants to interact with a computer-based simulation of financial IDS that will seek to manipulate one or more of the theoretical constructs, and examine the impact of these manipulations on communicative practices and trading behavior. Participants will also be asked to complete a post-activity questionnaire that will further probe their responses to the experimental tasks, and clarify their motives and underlying decision models. It is not possible to determine the required number of participants at this stage, as this will depend on the resulting hypotheses, the final number of constructs, the number and type of manipulations, and how many experimental tasks each participant completes. For example, assuming one construct with four levels (i.e., communicative practices), and four constructs with two manipulation levels, we would need a minimum of 20 participants if every participant completed a single task and there were no interaction effects hypothesized.

Contribution
Financial IDS and similar venues have the potential to both positively and negatively influence the efficient operation of capital markets. On the positive side, these sites provide a venue for real-time interpretation of publicly available information that can enhance market efficiency. On the downside, these sites can increase noise in capital markets, thus creating false markets and providing competing venues for the disclosure of private or false information. Understanding how knowledge is co-created and shared within IDS along with its impact on investment decision-making is critical for understanding different market outcomes.

Further, continuous monitoring of IDS by regulators and affected corporations is at present exceedingly difficult due to the volume of information and limited available resources. At present, Australian sites are largely self-monitored by IDS management against ASIC (Australian company and financial services regulator) guidelines with a growing obligation on the part of listed companies to monitor social media activity under continuous disclosure rules. In linking communicative practices with investment performance the findings from this research can assist regulators, corporations and investors through the further development of tools that will aid in the detection of healthy market information flows as well as market manipulation or unauthorized information disclosures.

Most significantly, we seek to contribute to knowledge by presenting a formal specification for a theory of communicative practices within IDS. We propose to do so using Gregor’s (2006) common components of an information systems theory to synthesize the results of the explanatory and prediction phases from this project. The ultimate aim is to specify a mid-range theory for explaining and predicting the impact of communicative practices within a particular class of IDS communities.
References


