

## A Proposal for Examining Factors Leading to Knowledge Equity

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### Abstract

*Knowledge equity is a concept which can mean different things to different people. This research project addresses fair access to knowledge in organizational settings and develops a comprehensive view of knowledge equity within organizational units. The aim of the project is to explore attitudes toward knowledge equity, examine the cultural affects of cognitive schemas on knowledge equity, and determine the role knowledge equity plays in organizational operations. The high level view this study takes is critical to understanding why knowledge equity would be viewed as important to some organizational members while not necessarily to other members. The project emphasizes a structured approach for examining knowledge equity aiming to provide significant theoretical contributions regarding the role of knowledge equity in organizations. Specifically, the goal of the study is to establish a theoretical foundation on knowledge equity and determine the role of knowledge equity plays in organizations.*

### Contribution to Knowledge Management Theory

Knowledge management in organizations has had a strong presence in the literature in recent years [14, 17]. Yet, little is mentioned in the literature about the role knowledge equity plays in organizations. A widely accepted definition does not exist but researchers agree that knowledge is more than information [14, 33]. Acknowledging the difference between knowledge and information, the optimal relationship between the terms involves a close association between knowledge, data, responsibility, and authority [3]. Thus, knowledge management requires getting data to individuals with the ability to synthesize and extract valuable knowledge [3]. Subjectively targeting the flow of information can initiate perceptions of inequity hence creating the need for defining knowledge equity and developing a theory of knowledge equity in organizations.

Knowledge equity theory would provide insight to who needs to access to what information and when access to organizational information is important. Available information technologies, such as email, instant messaging, and intranet sites, allow easy dissemination and access to organizational information. Individuals are also embedded in social networks within organizations that affect their exposure to and understanding of organizational knowledge.

Developing an understanding of knowledge equity, however, is a complicated proposition because people perceive situations differently. Differences in accessibility to information are justified by individuals through an awareness that certain standards exist in different social situations [16]. But while an awareness of differences exist individuals still view the same situation differently resulting in differences in expectations [20]. Individual differences literature shows that perceptions of inequity can vary based on an individual's demographics and personality [21].

Equity theory assumes the perception of inequality by an individual leads to a state of tension/dissonance [30] and individuals experiencing inequitable conditions try to decrease the inequity [8]. While equity theory focuses on group processes and the perception of how resources are distributed, the theory has been applied to other areas, such as marketing and information systems, to focus on fairness situations or procedures [20, 27]. The lack of existing research on knowledge equity directs us to equity theory for guidance in how to examine a concept that is often referred to in conversation with different interpretations.

Despite the interest in knowledge in organizations a literature review revealed a lack of any substantial research on knowledge equity. A series of exploratory interviews indicated individuals acknowledge knowledge equity within organizations with different references of comparison. Knowledge management and sharing are important to an organization's innovativeness and performance therefore the establishment of knowledge

equity is needed to provide a holistic understanding of knowledge's role in organizations.

*The purpose of this research* is to threefold: 1) to explore the role knowledge equity plays in organizations including how perceptions of knowledge equity are managed and how policies and practices could lead to lead to perceptions of knowledge equity; 2) To understand how differences in organizational communication practices impact an individual's perception of knowledge equity and 3) to examine how knowledge equity impacts an organization's innovativeness and performance – in particular how perceptions of inequity affect behavior. Research questions are presented in the following sections.

### **The Role of Knowledge Equity**

Research has supported the equity norm in various situations [8]. Initially the theory viewed the equity judgment to be a direct comparison between the individual and a third party [1, 2]. Later researchers stated individuals may perceive their treatment is consistent with others but believe the system is designed unfairly [8]. A person believing that a situation is inequitable feels tension. This feeling of tension causes an individual to adopt behaviors and attitudes to reduce the tension [26]. While the perception of inequity is transitory and lessens as time passes, the feelings of inequity can reoccur each time a person makes a comparison [8, 10].

Equity theory [1, 2] recognizes that organizational members feel an essential need to be treated fairly in exchange relationships. This need can influence the behaviors and attitudes of individuals seeking the introduction of changes in effort to restore fairness [26]. Thus, equity is often used synonymously with fairness by researchers [8, 26] and is incorporated in justice research [6, 16].

Organizations have to process information to resolve problems but changing business environments require organizations to be dynamic and create information and knowledge [34]. The construction of knowledge equity theory requires the merging of knowledge with equity theory in an organizational context. This merge creates the challenge of going beyond access to information to examine access to knowledge. To make this examination we recognize the role of human actions and view knowledge as “created and organized by the flow of information, anchored on the commitment and beliefs of its holder” [34 p. 15].

Within the organizational environment, internal inputs, external outputs, and administration of resources have been mentioned as possible dimensions of equity [8]. In the context of knowledge this requires examining inputs, outputs, and resource access as applied to “*explicit*” knowledge, coded knowledge that is easily transferred, and “*tacit*” knowledge, knowledge harder to communicate due

to its personal nature. Within the environment of an organization, explicit knowledge is stored in places such as, data files, company documentation, and email messages. Access to this knowledge can be easily regulated with the need for access privileges usually understood by employees. For example, most company employees understand that payroll information does not need to be accessed by all employees. Access to tacit knowledge, on the other hand, is dependent on formal and informal interactions involving who you know and what meetings you attend. While some companies encourage the sharing of tacit knowledge by removing certain employees from the traditional environment of the organization and creating remote “skunkwork” operations, there is no guarantee that tacit knowledge will be shared.

*Research Question 1:* What are the organizational characteristics that lead to perceptions of knowledge equity?

Equity theory has been used to measure criterion variables such as, buyer patronage, user satisfaction, knowledge transfer, and alliance performance [20, 27, 44, 46]. Furthermore, equity when measured as fairness has provided insight on the affects of pay satisfaction and turnover [39]. Previous findings from various applications of equity theory give cause to question how knowledge equity impacts organizations. In other words, what behavior and attitude changes occur when an organizational member perceives inequality in access to knowledge? And more importantly, how does this perception of inequality impact the organization's innovativeness and performance?

Access to explicit knowledge is easier for employees to recognize and compare. Perceived inequalities might result from comparing the political allocation of information technology (IT) resources between departments or access privileges to information systems (IS). Possible behaviors for perceived inequities in access to explicit knowledge stored in IS are users' resistance to new system implementations, sabotage, and non-usage [27]. Additional responses have been the emergence of “shadow systems” developed to circumvent organizational policy and bootleg or rogue applications that people use when they can't have can't use the real thing. Users may also resort to using resources outside of the organization (e.g., external wiki's, blogs, ftp servers, etc.) to circumvent access restrictions.

A perception of fairness in the workplace affects an organization's climate which influences an individual's intention to share explicit and tacit knowledge with other organizational members [7]. Organizational climate is a class of organizational characteristics that explain an organization's formal and informal practices for

individual's actions [15]. A climate where access to knowledge is perceived as equitable should cultivate satisfaction since a feeling of dissonance does not exist. Maintaining a climate supportive of individual's showing initiative is important since climate can have a positive impact on performance [5].

Perceptions of outcome fairness are developed differently in dissimilar scenarios and are based on three principles [12]. First, the equity principle introduced by Adams [1] posits that outcomes should be distributed based on individuals' contribution. Thus, individuals who contribute more should receive a larger share of the outcome. The second principle promotes equality of distributions [12]. In certain scenarios, outcomes should be distributed equally between all members of the social group. The third allocation principle argues that distribution should be positively biased towards those with the greatest need. In scenarios that involve sense of social-responsibility, need based allocation is perceived as just [38]. From these principles of equity, it follows that knowledge as a source of capital could be distributed according to individual contribution, equally across all organizational members or based on need. The value proposition for the organization is affected by attitudes toward equitable knowledge distribution. Organizational cultures that support equitable knowledge sharing and work practices in measurable ways create value for knowledge workers and lead to the development of the knowledge enterprise [14].

*Research Question 2:* What value does knowledge equity have in organizations?

## The Impact of Communication Practices

People learn through communication with other people [19]. Groups the individual associates with act as information processing systems that impact what and how individuals learn and what information is retained. The communication process allows individuals to acquire knowledge while memory plays a critical role in communicating effectively [40]. As individuals communicate with others they learn who has expertise in specific knowledge areas [19]. Knowledge sharing allows individuals to encode and store acquired knowledge into memory for later retrieval [45]. As individuals participate in knowledge sharing with other individuals their memory structures are updated on who the experts are in the organization.

As an individual communicates with people they build social networks. Network ties are formed as individuals communicate to exchange or share resources [18]. When strong interpersonal relationships are formed tacit and explicit knowledge are easier to transfer between the individuals involved [36]. If the relationships are weak,

i.e., fewer exchanges with less information shared, knowledge is more difficult to transfer. Tacit knowledge is easier shared with experts who have strong ties or share the same expertise whereas implicit knowledge can be efficiently transferred by individuals with weak ties or diverse expertise [36].

Consideration of the overarching social environment is imperative when interpreting communication exchanges [28]. While Carl Jung proposed communication activities shape and reveal individual differences in perceptions, strong ties can influence decisions on which media to use for communication [18, 41]. Strong ties also show robustness under changing conditions by actively seeking more media and channels for communication [18]. Individuals with strong interpersonal relationships are more likely to communicate and share knowledge than individuals with weaker relationships [36]. This situation may cause an organizational member who does not have a social network developed to perceive a lack of access to knowledge. This lack of access may be interpreted as an inequity in trying to execute job task thus creating dissonance.

An organization encouraging open communication by establishing communication practices using group meetings, email, video conferencing, and documentation may circumvent perceptions of dissonance. Yet, social processes, such as a preference for face to face communication, that have been established over time may be hard to change.

*Research Question 3:* How do organizational communication policies/practices influence knowledge equity?

Information technologies rely on any number of resources including people, networks, hardware, software and data. As presented in the previous sections, access to knowledge affects perceptions of equity. The use of information technologies to store, organize, and disseminate knowledge within the organization heighten real and perceived notions of equity. Access to knowledge resources can be controlled via software in the form of intrusion detection systems, firewalls, access rights, user profiles, and the like. Physical security implementations can also limit user's access to knowledge resources. Organizational policies are established to provide access based on user need. The term "on a need to know basis" provides an example of how organizational policies become instruments of defining which persons need to know. The control of access becomes one focal point for communication as members seek others with access to information deemed necessary or desirable.

The existence of legacy systems can affect perceptions of equity. While most individuals accept that some restrictions to knowledge are required a perception

of idiosyncrasies can lead to a feeling of unfairness [16, 37]. When organizations restrict access to legacy systems problems can arise. For instance, in Company XYZ new engineers may have system privileges for only the new system whereas long-term employees may have system privileges for the new and old systems resulting in the some new employees experiencing inequity. Groups examine communication processes among members and assign blame and failures on the basis of member distribution and other characteristics [43]. One feature of this process is the accessibility of other members to resources, including information. Group or organizational failure can be blamed on a lack of access to necessary information. The feeling that other members of the organization has access to knowledge and failed to communicate that information becomes a post hoc explanation and blame for failure.

A person enters a situation with a history of access or information availability. The ability to access information is a sign of trust by others in the person permitted access. In addition, the ability to access confers status because nonorganizational members (and in some cases only some of the organizational members) have access to the information. The old adage that “information is power” indicates that those unable to have access now lack power in the organization. Participation in future communication becomes restricted because the access to that knowledge has not been gained. Factors that increase or decrease access to information serve to include or exclude members from meaningful participation in organizational activities. The perception of access is a combination of both actual access as well as accessibility (the ease of gaining access). Those without access or accessibility are by definition denied knowledge equity.

Knowledge equity may also be affected by an individual’s confidence in their ability to access knowledge resources using information technology. Self-efficacy is defined as a person’s beliefs about his or her capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave [4]. The extent to which a user is comfortable with technology (i.e., computer self-efficacy, [9]) could affect their beliefs regarding access to knowledge. If there is a prevailing attitude that knowledge is locked away in the system, users might perceive inequitable access to knowledge resources. Access to knowledge via information technologies extends the reach and range of knowledge resources [29]. Use of such technologies is affected by their perceived usefulness and perceived ease of use [11]. Perceived usefulness is the degree to which a person believes that using a particular system would enhance his or her job performance. Perceived ease-of-use is the degree to which a person believes that using a particular system would be free from

effort [11]. The extent to which users find technology enables access to knowledge resources could affect their perceptions of equity.

*Research Question 4:* How do information technologies impact knowledge equity?

## **The Impact on Innovation and Performance**

The equity process can influence an individual’s participation in innovative activities [33]. First, innovative work behavior (IWB) involves idea generation, idea promotion, and idea realization beyond the organization’s ordinary job expectations [24]. Individuals who perceive equity between effort and rewards received when job demands increase tend to use innovative ways to deal with the increase in demands [24]. Secondly, fairness and innovativeness in conjunction with a positive perception of department affiliation contribute to creating a climate conducive for innovation [7]. Glick [15] defined organizational climate as “a broad class of organizational, rather than psychological, variables that describe the organizational context for individuals’ actions” (p. 613). Creating a positive organizational climate encourages individuals to share explicit and tacit knowledge [7, 25].

Equity theory can be used to predict the affect of inequity on knowledge equity. When feelings of inequity to knowledge access are perceived in an innovative environment the individual may try to alleviate the added stress by withdrawing from innovative behaviors [8, 33]. Feelings of inequity can result in an individual’s expectations of the organization being disconfirmed thus reducing any perceived obligations to approach job tasks in innovative ways [35]. If dissonance is experienced by too many individuals the organization’s climate may suffer. Part of the motivation for innovation is the perception of an organizational deficit that requires action. A perception of denial of access to information provides the individual with the opportunity to blame the deficit on organizational policy restricting access to information rather than the actual elements of the organization.

*Research Question 5:* How does knowledge equity impact an organization’s innovative nature?

Knowledge management can help organizations achieve strategic benefits via knowledge creation [30]. When organizations create a positive organizational climate they encourage a climate for initiative [5]. A climate for initiative indicates the organization has formal and informal practices and procedures to encourage and direct organizational members to take a proactive, self-starting, and persistent approach towards organizational activities [5]. By promoting active involvement, realizing

ideas, and attacking problems organizations can positively impact their performance [5]. Organizational performance is also impacted when organizations actively foster novel and new ideas [30].

The benefits of organizational climate are not limited to the organizational level. First, teams benefit from working in positive climates. Affirmative environments promote cooperative learning in teams helping to improve their overall work performance [25]. When teams have a positive cooperative learning experience their work performance is significantly impacted. Second, managers with intermediate job demands perform better when they perceived equity between effort and rewards [22].

Knowing the importance of climate to performance in innovative organization one can easily assume equity theory is important. Good relationships have to exist between organizational members for knowledge creation to be effective [42]. Organizational members in innovative environment benefit believing they can take risk and be safe from embarrassment, rejection, or punishment [13]. Knowing that inequity creates tension logical thinking implies individuals do not feel safe when inequity exists.

Individuals in innovative organizations require access to knowledge resources. Whether information is gathered from interacting with people or accessing stored data, knowledge requires measuring the meaning the information processor has placed on the information [14]. If an individual feels they lack the access a counterpart has to needed knowledge they may become disengaged and lose interest in contributing to innovation [8, 33].

*Research Question 6:* How does knowledge equity impact an organization's performance?

## Research Methods

A Fortune 500 international gaming organization has agreed to participate in this study and provide management support for this project. The company meets the needs of this study since the company's innovativeness in the gaming industry has led to rapid growth nationally and internationally. This growth has created a need to examine how information is communicated and accessed throughout the organization so the existing innovative culture is not lost. The existing culture was built on face-to-face communication and informal social networks. Growth in the company created some classic organizational dilemmas; how can the company maintain good communication across all organization units in light of increased decentralization? How can the organization dismantle functional silos that have arisen as a result of rapid growth? How can the organization use information technologies to support growing appetites for organizational know-how? The organization has attempted to address these questions through the implementation of

an enterprise resource solution. The solution has created some organizational issues with regard to who has access to both old and new systems.

The organization's interest and commitment to this study will allow data to be collected across work sites in all 50 states and several international sites starting in 2007. The Vice President of Information Technologies and the Director of Information Systems have agreed to allow thirty to forty-five minute face-to-face interviews and teleconferences. The company has agreed to allow all the interviews to be conducted at their main office location. Interviews will be digitally recorded to allow accurate transcripts to be constructed. The Vice President of Information Technology and the Director of Information Systems will elicit and coordinate participation from employees nationally and internationally.

## Research Process

The proposed research will be conducted in several phases over the course of two years: (1) define the research questions, (2) conduct exploratory interviews, (3) evaluate initial findings, (4) reevaluate research questions, (5) develop the corresponding instrument, (6) collect data, (7) transcribe interviews, (8) code data, (9) analyze data, (10) summarize and report findings.

Several phases of the project are completed or are in progress, as represented by this proposal. Data will be collected using interviews conducted face to face or through teleconferences. For phase 1, the research questions were formulated and an instrument was developed for conducting exploratory interviews. Phase 2 consisted of exploratory interviews with 25 employees to identify differences in perceptions about knowledge and the sharing of information within the organization. Phase 3 used the transcribed interviews to review the initial findings. All the researchers reviewed the transcripts. During the review a need for theory on knowledge equity was identified. Phase 4 used the insights gained from these interviews to reevaluate the research questions. The findings accompanied by a literature search were used to reformulate research questions appropriate for theory development. In Phase 5, a script of questions for conducting the interviews is in development. The script will be evaluated by all the researchers and 3 outside researchers for face validity and flow.

In Phase 6, data is collected by interviewing employees on campus (see previous section for description of sample). The Director of Information Systems has agreed to contact employees asking them to participate with the understanding that the interviews will be recorded. The employees contacted will be a representative sampling from the company's global operations. The Director has agreed to schedule a date and

time for the participating employees to be interviewed. Two researchers will participate in the interviews.

In Phase 7, a professional administrative service transcribes the digital file recordings made during each interview to ensure quality. Communication with the service has estimated each hour of an interview takes at least 4 1/2 hours to transcribe.

In Phase 8, the transcribed data is coded. In Phase 9 the coded data is analyzed. Finally, in Phase 10, the results are summarized, documented in written papers, and disseminated appropriately (see next section for a discussion of possible dissemination outlets).

The completion of the initial round of data collection, transcribing, coding, analysis, and results dissemination is expected to take approximately twenty-four calendar months.

### Contributions to Theory and Practice

To date there is little theoretical understanding on knowledge equity. Knowledge equity is mentioned in conversation and literature, however a shared understanding of what knowledge equity is and how knowledge equity impacts organizations does not exist. The establishment of a theoretical foundation on knowledge equity will provide organizational researchers with the grounding needed for future research. A shared understanding of knowledge equity is needed so dialogue between researchers can have a common reference.

This proposal is designed to benefit practitioners also. By establishing theory on knowledge equity practitioners will be provided a foundation for organizational change. Theoretical insights can provide a foundation for developing communication policies and practices in organizations that encourage innovation and help organizational performance. The proposed research is designed to ensure insight on different perceptions organizational members have on knowledge equity. The inclusion of data from international operations should help magnify these differences.

### Strengths of the Proposed Approach

The research study proposed here has many strengths. First, this study will provide a needed theoretical foundation for future research. Methodologically, the research is sound and is enhanced by the exploratory interviews already completed. Each phase is clearly delineated with specific activities and outcomes. The participation of a large multinational firm ensures a varied sample with open-ended questions permitting a comprehensive picture to be obtained of various perspectives on knowledge equity. The richness of data obtained in this study cannot be obtained from the more commonly used cross-sectional survey instruments.

The research team brings expertise in many areas—management, information systems, and communication. Together, the researchers possess the experience, skills and abilities necessary for this project. The combination of talents provides the necessary background in industry, technology, business, communication as well as the methodological experience and expertise to analyze data collected through interviews. The ability to combine a number of different methodological and substantive areas of expertise provides a quality, depth and completeness of background to give this project a high degree of success.

Finally, the research approach provides maximum opportunity to share results with interested parties. Because of the phased approach and the multi-discipline research team, information can be disseminated at different times during the study in many different formats and venues. The results are of interest to both those in industrial practice as well as those engaged in academic analysis and research. The combination of experiences of the investigators indicates a combination of academic excellence and commercial experience. These results can help others working in this and similar areas without waiting for the traditional journal article publication outlet and its associated time lags.

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