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**A SELF-CONCEPT MODEL OF WORK MOTIVATION:
A CASE STUDY OF KNOWLEDGE WORKERS IN THE
INFORMATION TECHNOLOGY INDUSTRY**

A Thesis in

Industrial Relations and Human Resources

by

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Abstract

Traditional theories of work motivation such as hierarchical needs, goal setting, job characteristics, and reinforcement models are constructed with the premise that people attempt to realize maximum individual values within organizations. However, those models cannot fully explain non-calculative behaviors nor account for variance in dispositional and situational factors. Shamir (1991) and Leonard et al. (1995a, 1999) proposed an alternative and supplemental explanation based on a self-concept theory to explain a wider range of behaviors and thereby overcome some of the weaknesses and limitations found in traditional motivation models. Derived from previous socio-psychological literature (e.g., theories on social identity and cognition, self-presentation, and self-efficacy), the self-concept theory states that people are fundamentally motivated to behave in ways that conform to their perceptions of “phenomenal self” (Leonard, et al., 1999; Snyder, 1982). This thesis investigated this supplemental model of work motivation and how self-concept influences work motivation in different social contexts. By applying the self-concept work motivation theory to two Information Technology (IT) organizational settings, I explored the validity of the self-concept theory with qualitative research methods and investigated if self-concept helps account for general sources of work motivation and supplements traditional models. The self-concept model appears to indicate that organizational social contexts (situational factors) play an important role in determining employee motivations.

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A SELF-CONCEPT MODEL OF WORK MOTIVATION: A CASE STUDY OF KNOWLEDGE WORKERS IN THE INFORMATION TECHNOLOGY INDUSTRY

1. INTRODUCTION

The advent of computer-based information systems and technology has dramatically influenced and changed the organizational structures, organizational cultures, job-related skill requirements, and managerial strategies in the work organizations of today (Erez, Kleinbeck, & Thierry, 2001). In this information age, people face new technical, managerial and cultural challenges to work effectively and productively. As more and more companies are tied intimately to the global economy, human capital, as an important organizational competitive advantage, is an important variable to organizational survival and success. In the general corporate environment of technological innovations, deregulations, and globalization, how to leverage human capital, build and retain a workforce that is competitive, and minimize operational risks and costs, have become the key issues for the management staff in the knowledge-driven workplace (Dessler, 1999).

It is undeniable that the innovation and application of information technology in workplaces during the 1980s lead to the increased productivity and organizational efficiency of the 1990s; however, most researchers acknowledge that technology alone cannot gain the competitive advantage in the globalization of economic and business operations (Dessler, 1999). Pinder states that human factors (e.g., employee ability and employee motivation) are key determinants of productivity at the organizational level (Pinder, 1984, pp. 3-6). Similarly, Pfeiffer

(1998) points out, people, the human side of enterprises are still the first and foremost resources in achieving organizational goals and maintaining competitive stances in terms of successful knowledge management. Pfeiffer further suggests the study of work motivation is fundamental to understanding work-related behavior in organization (Pfeffer, 1997). Thus technologies alone cannot address the demands associated with the changing and challenging social dynamics of work in the 21st century. Strategic human resources management is still a major force in the quest to obtain a sustainable competitive advantage (Luthans & Stajkovic, 1999a).

People, the embodiment of the human capital, are subjected to the influences of the changes of the organizational culture, and these changes might well influence their work attitudes. Although applications of new technologies in the workplace improved work efficiency to a level that was never achieved previously, new technologies also created issues related to ongoing organizational change and reduced job security. A study of Intel employees indicates that instrumental rewards such as money are no longer prime movers for Intel employees; instead, employees at Intel viewed “the opportunity to grow and develop” as the top work motivator (Quinn, 1996). Other intangible rewards or recognitions were also considered critical in employee motivation (Quinn, 1996).

Amid the dynamics of changing work environment, identifying what motivates employees, and understanding how to motivate people to work effectively, have become significant managerial problems and core concerns to human resource management. Dewett (2001) identified that technology-driven organizations are suitable targets for the study of information technology impacts

on the organizational characteristics and consequences for employees. The majority of employees in these organizations differ from the physical labor workers in traditional manufacturing setting as their work encompasses the use, analysis, creation, and transfer of knowledge (Malonis, 2002). Therefore, knowledge workers are the primary targets for this study.

In this study, I sought to explore the nature and processes of knowledge workers work motivation in the information technology sector. I incorporated the ideas from the “self-concept” model and the meta-theory of work motivations initiated by Shamir (Shamir, 1991) and Leonard, Beauvais, and Scholl (1995a, 1999), in an effort to analyze and better understand the characteristics of work motivations for knowledge workers. I examined how the “self-concept” model of work motivation might help explain some of the variances in motivation sources.

My main research focus was how the self-concept approach to work motivation can help better explain and understand non-calculative sources of work motivation by focusing on dispositional and situational factors. This study sought to identify how the differences in social context impact how people perceive their relation to their work. This study focused on the self-concept work motivators of knowledge workers in the information technology sector, such as programmers, system analysts, database administrators, etc. Specifically, I took into account the relationships among the influences (social contexts) of employment relationships, employee perceptions, organizational changes, reward systems, work processes, and work-related behaviors. I employed a multilevel and integrated qualitative analytical approach for the study of the above-mentioned research problems.

Individual and group level analyses were executed and summarized, and future managerial implications will be briefly discussed.

2. CONCEPTUAL BASES

2.1 The Nature of Work Motivation

This study of work motivation originates from the study of people's job attitudes at work (Herzberg, Mausner, & Snyderman, 1959). After decades of development of work motivation theories, there are many versions of its definition. Pinder states that "work motivation is a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior, and to determine its form, direction, intensity, and duration"(Pinder, 1984, p. 8). Motivation can be defined as the reason, cause, desire, or willingness of human behaviors (McKean, 2005). Traditional studies of motivation focus on the selection, activation, and regulation of behaviors (Manstead & Hewstone, 1999). Similarly, work motivation can be generally defined as "the process by which behavior is energized, directed, and sustained in organizational settings" (Leonard, et al., 1999, p. 970). Or simply put, work motivation is the desire or willingness to achieve work-related goals. As work provides workers with both satisfaction and grief, it is natural for the researchers to examine the individual attitudes workers have toward their jobs, the factors behind those attitudes, as well as the consequences of those attitudes (Herzberg, et al., 1959). Ambrose summarizes work motivation as "the set of internal and external forces that initiate work-related behavior, and determine its form, direction, intensity, and duration" (Ambrose, 1999, p. 231) and she attributes

work motivation as “a middle-range concept that deals only with events and phenomena related to people in a work context” (Ambrose, 1999, p. 231).

2.2 Traditional Models

The traditional theories of work motivation are grounded largely on the study of individual psychology and organizational behavior (Erez, et al., 2001; Shamir, 1991) with emphases on “individualistic-hedonistic assumptions”(Shamir, 1991, p. 405). Many theories are built on the assumptions that individuals are inclined to seek maximum rewards within organizations, though some researchers turn to the perspectives of social environment and personality to account for dispositional and situational factors. In the following paragraphs, I will review eight of the more influential classic theories of work motivations.

2.2.1 Herzberg’s Two-factor Theory

Traditional theories of work motivation are based on the study of employees’ social needs regarding their work and work environment (Ambrose, 1999). After integrating previous motivation studies of the “causes, correlates, and consequences of job attitudes” with their own research on engineers and accountants, Herzberg and his fellow researchers in 1957 hypothesized that the causes of positive and negative job attitudes are different and that job satisfaction could not be viewed simply as the opposite of job dissatisfaction (Pinder, 1984, pp. 20-21). Herzberg’s theory is generally referenced as the motivator-hygiene theory. The intrinsic factors are the motivators, or a certain pattern of motives such as achievement, recognition, nature of work, and responsibilities that are commonly

seen as related to job satisfaction. On the other hand, the extrinsic factors are the environmental factors in the work settings, such as company policies and administration, employment relationship, technical demands, and working conditions which are related to the context of the work.

Furthermore, Herzberg's two-factor theory proposes that the two sets of human needs are basic survival and growth. Survival refers to people's basic physiological needs, and growth relates to people's psychological needs for achievements and successes. Empirical studies have documented Herzberg's two-factor theory is positively related to successful quality improvement management as management can use the two-factor theory to change and improve the design of work, work environment, and other factors such as recognition, pay, status, and job security (e.g. , total quality management, and quality improvement, etc.) (Timpe, 1986; Utley, 1997). However, Herzberg's theory also generates debates, mostly centered on the research techniques and the results. Lots of other researchers still respect his theories despite the fact that they sometimes obtain mixed and controversial results using his theory (Ambrose, 1999; Pinder, 1984).

2.2.2 Maslow's Hierarchical Theory of Needs

Another prominent theory of motivation is Maslow's hierarchical theory of needs (Maslow, 1943; Pinder, 1984). Maslow postulates five levels of human needs and claims that as long as the more basic needs are not satisfied, the higher level of human needs cannot function as motivators. From low to high level, physiological needs, safety needs, love needs, esteem needs, the desire to know and to understand, plus the need for self-actualization are the rudiments of his theory

(Maslow, 1943). Basically, Maslow argues that these general types of deficiency-needs (e.g., physiological, safety, love, esteem) of human beings must be satisfied before they can reach the state of self-actualization. People tend to seek information and compare alternative courses of action at different levels of the hierarchy and decide the priority of their “self-actualization” needs. However, little empirical evidence supports the relative importance of his classification system and the corresponding theory (Pinder, 1984; Wahba & Bridwell, 1976).

2.2.3 Expectancy Theory

The expectancy theory or VIE (Valence, Instrumentality, & Expectancy) theory by Vroom interprets work motivation as a general framework of the constructs of expectancy, instrumentality, and valence (Ambrose, 1999; Vroom, 1964). According to Vroom (1964), people are goal-oriented and an individual’s behaviors are direct or indirect results of the influence of his or her personal values and beliefs. Basically, this framework can be used to assess, interpret, and evaluate employee behaviors by using the multiplicative model of expectancy, instrumentality, and valence to examine their effects on five criteria: performance, effort, intention, preference, and choice (Ambrose, 1999). Expectancy theory can be more systematic, interpretive, and comprehensive when combined with other theories of work motivation. Expectancy theory is most often used to predict and analyze job satisfaction, career choice, turnover rate, and productivity at workplaces (Behling & Starke, 1973). Empirical studies indicate that expectancy theory is a process theory of motivation, and managers can take advantage of the subjectivity of expectancy of employees and motivate them primarily via reward systems (Daly

& Kleiner, 1995; Moussa, 1996; Villere & Hartman, 1990). Successful implementation of the expectancy may lead to better workplace productivity. However, this theory is criticized for the exclusion of individual (e.g., personal traits and values) and situational (e.g., organizational culture) factors that could influence individuals' behaviors (Brenner & Singer, 1984) as employees' performances are based on many of these factors. Exclusion of dispositional and situational factors can weaken the general framework of the expectancy theory.

2.2.4 Equity / Justice Theory

Equity/justice theory proposed by Adams (1963) provides a ground for understanding fair treatment of employees in comparable work situations. It rests on the assumption that people usually include the value of justice in their beliefs of fair treatment relative to other employees which should lead to an equitable exchange between employees and employers (Adams, 1963; Gardner, 1996; Pinder, 1984). Unfair treatment will lead to a worker's actions that try to restore justice or fairness in a work environment. The consequential actions such as negative work ethics are usually against positive work performance or are detrimental to unit productivity. As Ambrose (1999, p. 241) states: "inequitable comparisons result in a state of dissonance or tension that motivates the person to engage in behavior designed to relieve the tension" and it is generally related to the understanding of job satisfaction and job attitude, employee behavior, and organizational citizenship. This work motivation theory on distributive justice and equitable treatment in work settings posits equity as the most fundamental psychological motivator, and it initiates and directs other need-related human and work behaviors (Pinder, 1984).

Although equity theory is useful in analyzing employees' behavior when unfairly treated, a lack of longitudinal evidence exists about the effect of unfair treatment of employees and the mixed relationship between procedural justice and equity theory is yet to be explored (Ambrose, 1999). As a result, equity and justice theory might not be able to better explain daily work behaviors over time, which is a critical concern for employers and employees.

2.2.5 Goal-setting Theory

Goal-setting theory, or feedback theory, states that individuals make deliberate considerations and decisions about their desired objectives. Many researchers regard goal-setting theory as "an elaboration of expectancy theory" (Snyder, 1982, p. 264). This theory states that once individuals determine the goals they intend to achieve, these goals and intentions direct, motivate, and determine the individuals' efforts to attain them (Locke & Latham, 1990; Locke, Shaw, Saari, & Latham, 1981). The goal-setting theory states that work performance level is tied with the level of task difficulty, and goal-setting is most effective when a certain level of feedback has been obtained by the workers enabling them to assess their progress (Locke & Latham, 1990; Locke, et al., 1981). It assumes a linear model of work at the individual level with the pre-assumption that individuals possess the necessary skills to achieve their goals. The self-efficacy system of goal setting and feedback are both effective in determining the general performance level of workers and in influencing the distributive management of individual work efforts on a daily basis (Kleinbeck, 1990). Goal-setting theory is robust in field applications and straightforward in demonstrating the efficacy of personal variables such as self-

esteem and self-consciousness in complex multitasks (Ambrose, 1999). Empirical studies have demonstrated that participation in goal-setting and acceptance of the goals are critical to employee commitment. Similarly, receiving feedback on goal achievement is also critical for motivation (White, 1998).

2.2.6 Cognitive Evaluation Theory

Similar to Herzberg's two-factor theory, Deci's cognitive evaluation theory encompasses an intrinsic subsystem and an extrinsic subsystem of work motivations (Ambrose, 1999). He hypothesizes that internally-motivated people attribute their work behavior to the fulfillment of their intrinsic needs and the cognitive evaluation theory addresses the effects of social contexts on intrinsic motivation (Deci & Ryan, 2000). The fundamental idea underlying cognitive evaluation theory is that intrinsic motivation is based on people's needs to be competent and self-determining.

Cognitive evaluation theory predicts that awards or rewards given to an individual in an achievement context can either enhance or undermine that individual's intrinsic motivation, depending on how the reward is perceived by the individual. If the reward is given in such a way that it is primarily perceived by the performer as a positive source of information about his or her competence, then the intrinsic motivation will be facilitated. If the reward is given in a way that the performer primarily perceives the reward to be a controller of behavior, then the individual's feelings of self-determination are reduced. As a consequence, the individuals' intrinsic motivation is undermined (Amorose & Horn, 2000). Despite its strong theoretical foundation for motivation theory, the cognitive evaluation

theory has lost its luster due to recent research emphasis on the perspective from organizational culture and employee empowerment (Ambrose, 1999). There is a lack of empirical studies of cognitive evaluation theory to address the motivation issues in contemporary organizational settings.

2.2.7 Job Characteristics Theory

Job characteristics theory originally proposed by Hackman & Oldham (1976) is a three-stage model composed of job characteristics, psychological states, and work outcomes. This theory is based upon substantial empirical findings that five core job characteristics (skill variety, task identity, task significance, feedback, and autonomy) have important impacts on the development of the critical psychological states related to the development of internal work motivation (Hackman & Oldham, 1976, p. 250). In turn these important psychological states (experienced meaningfulness, experienced responsibility, and knowledge of results) can be transformed to positive individual and organizational outcomes by influencing a set of affective and motivational outcomes such as job satisfaction and work motivation (Ambrose, 1999). This model also states the importance of individual attributes as determinants of work behaviors (Hackman & Oldham, 1976). Job characteristics theory is based on the measurable characteristics of different jobs and the view that people may respond differently to these, taking a psychological approach to job satisfaction (Kleinbeck, 1990). Most recent research findings support the validity of job characteristics model; however, some researchers omitted the psychological state stage in their application of job characteristics model and modified it to a two-stage model (Behson, Eddy, &

Lorenzet, 2000). Though the abridged model of job characteristics theory stands, it misses the key psychological states component which is tightly related to positive work attitudes and could lead to “unexpected results and misdirected organizational intervention” (Behson, et al., 2000).

2.2.8 Reinforcement Theory

Reinforcement theory, or consequence influence behavior theory, provides three rules for influences and it proclaims that behavior is controlled through reinforcements, so any positive or negative outcome that happens after a response will either increase or decrease the likelihood that the behavior will be recurring for the individual (Luthans & Stajkovic, 1999b; Skinner, 1953). In other words, as human being’s behavior is controlled by consequences, the instructor and the learner in this model are rewarded or punished by each other’s behavior. Usually, positive reinforcement leads to better outcomes than negative reinforcement and neither positive nor negative reinforcement extinguish the occurrence of a behavior. While reinforcement theory is a powerful influence tool, it does have several serious limitations as it is difficult to differentiate the rewards and punishment and the sources of reinforcement are difficult to control (Ambrose, 1999). Additionally, there is lack of empirical study of reinforcement theory on monetary incentive plans in different organizational settings.

We have seen most of the traditional theories of work motivation are constructed on the individual level, like individual needs-based theory of Maslow’s and goal setting theory; however, although some theories like Herzberg’s two-factor theory also encompassed ideas that reflects the situational and contextual

factors, there is a lack of higher level analysis that covers organizational and cultural dimensions that regulate the complex sets of issues relating to work motivators (Erez, et al., 2001).

2.3 Self-Concept Model

The self-concept model as related to work motivation is not new, as recent decades saw the development of a plethora of self theories based on the notion of “the phenomenal self” as stated by Snyder in 1982 (Leonard, et al., 1999, p. 973). Snyder defines self theory as “a molar psychological theory that purports to deal with cognition and behaviour in general rather than in only specific contexts such as work organizations” with the assumption that “human beings have a fundamental need to maintain or enhance the phenomenal self” (Snyder, 1982, p. 258). Snyder argues the self is “a central organizing factor” for work motivation and the self perspective is useful to address the criticism of traditional needs-based theories (1982, pp. 257-258).

My study is grounded on the self-concept model of work motivation initiated by Shamir (1991) and Leonard, Beauvais, and Scholl (1995a). Traditional work motivation theories are developed largely on the study of individual psychology (Erez, et al., 2001), but a large amount of study of work motivation can also be found in sociological and psychological literature that encompasses theories on both the individual and situational factors. The self-concept model is based on the recent advancement of self theories which “have been proposed as ways of explaining both consistency and variability in individual work behavior across situations”(Leonard, et al., 1999, p. 973). Self-concept is considered as “a basis for

both calculative or deliberate and non-calculative or reactive explanations of behavior” (Leonard, et al., 1999, p. 982). Other researchers such as Sullivan (1989) and Snyder and Williams (1982) also proposed to incorporate the self-concept theory to the study of work motivation as a supplement.

Shamir points out that the traditional models of work motivations do not suffice in the explanations of diversified human behaviors due to “their overreliance on individualistic-hedonistic assumptions and their over-emphasis of cognitive-calculative processes” (Shamir, 1991, p. 405). Specifically, there are several shortcomings of classic work motivation models: a) an over-emphasis or bias on utilitarian individualism or individual satisfaction with the assumption that individuals seek maximum return; b) inability to address variation in weak work context where goals are not specific and rewards are not closely related to job performance; c) an emphasis on the explanation of discrete behaviors while failing to generalize common behavior patterns; d) limitations of previous intrinsic motivation models due to the negligence of “the symbolic and expressive aspects of human beings” (1991, p. 409); e) the “exclusion of values and moral obligations” (1991, p. 409).

Similarly, Leonard et al. (1995a, 1999) summarize that although traditional models of work motivation, such as expectancy theory and goal setting theory, are strong in support of explaining calculative models of behaviors, the variance of human behaviors across different work settings with expectancy variables cannot be explained using the calculative models. Leonard et al. propose that self-concept as a basis to explain the non-calculative behaviors. Following researchers who tried to

account for internal sources of motivation in the 1970s, Leonard et al. (1999) conclude that internal sources of motivation can be better interpreted with self-concept theoretically viewed as an intervening variable between work contexts (social contexts) and motivation. Leonard et al. also point out that traditional work motivation theories are largely based on the assumption that human beings' inclination to realize maximum values in the exchange relationships with organizations (1995a, 1999). Consequently, they introduce an alternative model based on self concept to explain complicated work motivations.

2.3.1 The Definition of Self

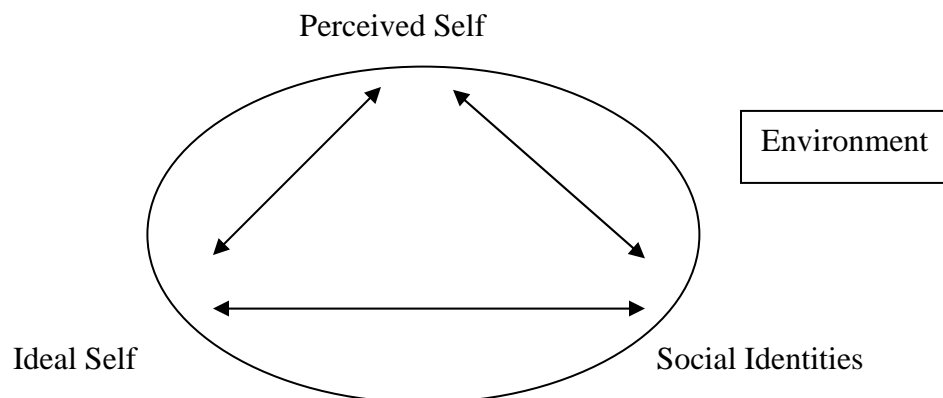
Self, as a sociological and psychological construct, can be simply defined as a person's social and personal conceptions and knowledge of him-/herself (Manstead & Hewstone, 1999). Additionally, self is defined as "the active agent that makes decisions and initiates actions" and the embodiment of a complicated array of attributes (Manstead & Hewstone, 1999). Self-concept can simply be referred to as "the person's knowledge about self"(Manstead & Hewstone, 1999). Theories about the self-concept emphasize how identity is constructed through interaction with others and those theories emphasize the processual nature of self-identification (Strickland, 2000). For example, how people see themselves can also be affected by the self-fulfilling prophecies they have constructed. In other words, the self-concept is a person's representation of himself or herself, the sum of all self-related beliefs, feelings, perceptions, and memories which have been produced through interactions with others. Self-representation can be thought of as a projection screen of all self-relevant events that go on inside and outside of a

person.

2.3.2 Structure and Development of Self-concept

According to Leonard et al. (1999), self-concept is composed of three interrelated self-perceptions: the perceived self, the ideal self, and social identities (see Figure 1). The perceived self consists of three general attributes such as personal traits, competencies, and values in two separate dimensions of level and strength (Leonard, et al., 1999). By the construct of ideal self, Leonard et al. mean people usually believe they have a certain type and amount of personal traits and motivate themselves through the reference group in their work environment (Leonard, et al., 1999). By the construct of social identities, they suggest people consciously identify themselves with a particular social group and form a sense of belonging while linking them to their reference groups such as normative reference groups (Leonard, et al., 1999).

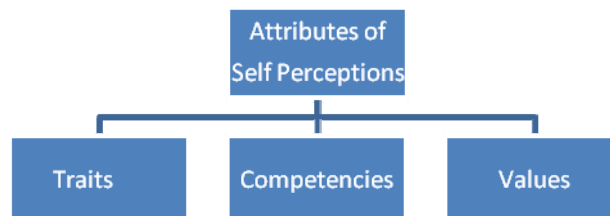
Figure 1: Structure of the Self Concept



At the root level of understanding the multidimensional nature of the self-concept structure, Leonard et al. argue that three general sets of attributes should be

studied on "perceived self": traits, competencies, and values (1999, pp. 974-975) (see Figure 2). Traits are defined as the "broad reaction tendencies" and the "relatively permanent patterns of behavior"(Leonard, et al., 1999, p. 974). In other words, traits are behavior patterns from internal individual attributes which can be consistent in different environments and cultures regardless of external influences. Leonard et al. use phrases like "ambitious and lazy etc." as examples to label people based on behavior observation. Competences are the "perceptions of what skills, abilities, talents, and knowledge they possess" which can be specific job skills or general competencies such as management skills (Leonard, et al., 1999, p. 975). Values are defined as general and consistent "concepts and beliefs" people hold. Examples of values can be individual outlook of cultures, environment, and personal moral beliefs, etc.

Figure 2: Attributes of Self Perceptions



As self-concept is a dynamic construct, the determinants of self-perceptions are subjected to the early-stage interactions between the physical and social environments. The social feedback system is considered the prevalent feedback system for individuals to evaluate their attributes of self-perceptions. In other words, self-perceptions are determined via the interaction between individuals and

the environment (Leonard, et al., 1999, p. 976). Different levels and types of social feedback especially can influence individuals' self-perceptions through the process (Leonard, et al., 1999). To achieve "ideal self", individuals will adjust their behaviors to develop desired personal attributes based on the values commonly shared within a certain social system (Leonard, et al., 1999). The development of social identities depends on the social feedback provided by reference groups. Kemper defines reference groups as "the social mechanism by which individual achievement is ultimately fostered" (1968, p. 32). According to Kemper, one basic type of reference groups is normative. Normative reference groups like the managers and comparison reference groups such as peers can play an important role affecting work motivation outcomes. As a result, individuals develop global identities as well as specific identities, relevant to their self-concepts within specific organizations.

2.3.3 Impact of Self-Concept on Behavior

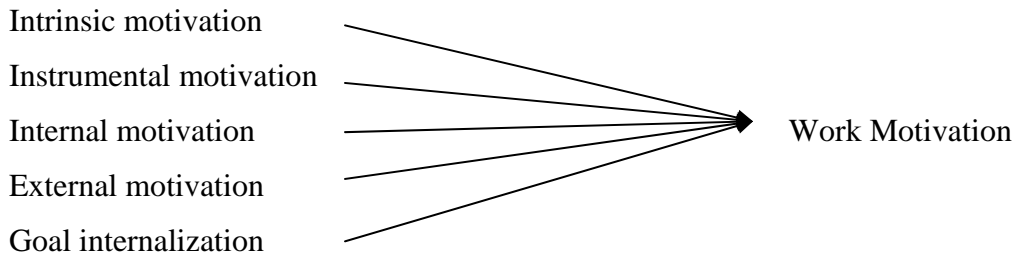
As the decision-making and action-driving agent, self concept determines people's workplace behaviors. Simply put, self-concept is the dominating agent that executes the self-influence of people's behaviors. Indeed, an individual "uses the structure of the self-concept to filter incoming information and translate this information into action" (Leonard, Beauvais, & Scholl, 1995b). In the workplace, this kind of cognitive behavior translates into the work motivations. However, unlike previous researchers who rely heavily on the calculative models of work motivation, they also identify the non-calculative processes, such as internal sources of motivation, as another aspect of self concept (Leonard, et al., 1999).

Leonard et al. state that the development of the self-concept attributes (traits, competences, values) can transform self-concept into sources of motivation (Leonard, et al., 1999, pp. 980-984). As individuals receive information and feedback from the surrounding environment, they process and evaluate that information. The outcome of this kind of social-psychological process will lead to corresponding behavior responses, presented back to the social environment in one of two ways: deliberate and reactive processes. By “deliberate processes”, Leonard et al. state that individuals will consciously behave in ways that would confirm or enhance their social identity, which is one dimension of self perception. The deliberate processes conform to the framework of the expectancy theory (Leonard, et al., 1999, p. 982). By “reactive processes”, which is based on the theory of cognitive dissonance, Leonard et al. refer to the situations in which task or social feedback differs from self-perceptions and individuals will employ “adaptive strategies” to deal with “conflicts between their self-perceptions and social or task feedback” (Leonard, et al., 1999, p. 983).

Leonard et al. (1999) propose a meta-theory including five sources of self-concept-based motivation: 1) intrinsic process, 2) instrumental, 3) internal, 4) external, 5) goal internalization (see Figure 3). According to Leonard et al.’s theory, intrinsically motivated people think work is essentially fun; people who are instrumental or extrinsic oriented are motivated through organizational rewards such as pay raise or oral praise; internally motivated people set higher standards for their ideal selves; people externally motivated are driven by the expectations from their reference groups to maintain a certain level of social identities; people

motivated by goal-internalization tend to adopt other people's attitudes and behaviors.

Figure 3: Leonard et al.'s Model of Self-Concept Motivation



2.4. Relationship between Traditional Theories and the Self-concept

The self-concept model of work motivation by Shamir (1991) and Leonard, Beauvais, and Scholl (1995a, 1999) is an attempt to combine the models of self-concept theories together with traditional work motivation theories. Leonard et al. state the reasons to explore the self-concept approach for work motivation include: 1) explain non-calculative behaviors, 2) better explanation of internal sources of motivation, 3) accommodate for dispositional and situational factors, and 4) combine existing self-based work motivation theories. They summarize the self-concept as “the underlying force that energizes, directs and sustains behavior across a variety of situations” (Leonard, et al., 1995a). Leonard et al. submit that previous work motivation theories can be unified with the self-concept theory.

Similar to traditional models, the self-concept-based work motivation theory also supports calculative models of work motivation. However, differing from traditional work motivation theories, the self-concept work motivation theory posits that the structure of work motivation process can be perceived or evaluated through

the dynamics of personal attributes involving the perceived self, the ideal self, and social identities. Instead of trying to disqualify any of the traditional theories, Leonard et al. use self-concept based personal attributes such as self-perception to integrate traditional theories together in order to explain more complex work motivations or work motivations that require multi-faceted analysis from different perspectives.

2.5. Integration of Self-concept and Work Motivation

The self-concept theory is not new, and the self-concept theory of work motivation proposed by Leonard et al. is a re-structuring of previous self-concept theories by integrating traditional work motivation theories. The difference between the self-concept theory and any of the traditional work motivation theories lies in the basis or platform upon which the theory is constructed. For instance, Maslow's hierarchical theory of needs is built on the premises of human being's physiological and psychological needs, whereas the self-concept theory uses organizational behavior theories from psychological perspectives to study sources of work motivation. In other words, the self-concept theory originates from people's self perception of "the phenomenal self" and their tendency to maintain or enhance it (Leonard, et al., 1999, p. 973). In other words, people are motivated to behave in ways that conform to their self-perceptions.

The impact of self-concept on work motivations is exerted and realized through self perceptions' influence on human behaviors. Leonard et al. link the impact of self-concept on behaviors through the analysis of work motivational

processes of expectancy, attribution, cognitive dissonance, and reinforcement theories. In terms of expectancy theory of work motivation, individuals select different choices of behaviors based on the expected results or outcome. People who engage in expectancy-type of activities seek to obtain desired work outcomes, social recognition, or progress towards ideal self. The attribution process of self concept on work behaviors refers to the type of activities that are congruent with personal values and social identities. The cognitive dissonance theory of motivation process posits that individuals will choose behaviors that can balance or reduce undesirable self-perceptions on personal attributes such as attitudes, and social recognition. The reinforcement process refers to the fact that individuals will seek to repeat behaviors that will lead to personal success and positive social feedback from reference groups. On the basis of the above-mentioned theories, Leonard et al. generalize “task and social feedback” are the “basic reinforcers” of self-perceptions.

Positive cognitions with a supportive social environment can reinforce work behaviors that are in alignment with social values. On the other hand, negative social feedback and low self esteem can be related to unsatisfactory work performance. The structure of self-concept can be institutionalized while social identities or external sources of work motivation dominate the self perceptions of individuals.

2.6 Research Topic

As reviewed in previous sections, some traditional models tend to emphasize or over-rely on the assumption that human beings are motivated by different types of needs. Herzberg’s two-factor theory and Maslow’s hierarchical

theory of need are two classic motivation theories of needs. The expectancy theory, equity theory, job characteristics, and job reinforcement theories focus on the relationship between individuals and their work environment. According to Shamir (1991) and Leonard et al. (1999), classic theories of work motivation work well to apply to “strong” situations where rewards or external motivators are dominating and to the situation where individuals are hedonistic and utilitarian. However, there are limitations of those models as they may fail to address work behaviors at a molar level in “weak” situations such as organizations in the public sector. The self-concept model they propose does not belong to the mainstream work motivation theory. However, the self-concept model can be used to supplement traditional models with explanations of non-calculative behaviors or the general sources of work motivation across cultures or situations in different organizations.

It is the thesis of this study to explore the validity of using the “self-concept” model as a supplemental motivational source for high-performance work. Specifically, I used a simplified qualitative research method to analyze the components of self perceptions (traits, competencies, and values) as related to the social context (e.g., organizational reward system, managerial environment, task system, and social system).

3. RESEARCH METHODOLOGY

3.1 Research Background

This study is based on a pilot study cosponsored by the Department of Labor Studies and Industrial Relations, the College of the Liberal Arts, and the

Center of Children, Youth, and Families at the Pennsylvania State University. The study gathered information on the impact of the institutional and organizational factors on the workforce in high-tech work settings, specifically, topics such as career choices, work process, fairness of organizational rewards, and retention of women and minorities in the IT workforce.

The pilot study was conducted in a small knowledge-intensified town in the north east part of the United States. Data were gathered from both one public and one private employer. The private employer is a small software company—a vendor of statistical software (hereafter referred to as the Soft-Tech Company), with approximately 130 employees in its local headquarters at the time of the interviews. Its mission is to create, market, and support statistical software and related products for data analysis that can be used for educational, research, and business purposes. It was selected because of its unconventional work environment. The other employer is a public educational institution and a large consumer of IT products. The operational core of the IT support services at this employer involved nearly 400 hundred employees in its different functional systems (hereinafter referred to as the Public System) at the time of the interviews. Their mission is to establish appropriate IT information structures within an educational setting and to provide faculty, students, and staff information technology resources required to support continuous improvement in the ability to fulfill diverse missions, such as learning, teaching, research, outreach, administration, and support activities.

Random sampling was used in the selecting process of the interviewees from the two institutions for the study. Interviews with 20 employees from the

Soft-tech Company and 30 from the Public System were completed. All of these interviews were taped and transcribed. Structured and open-ended questions were asked during the interviews. Information about the individual interviewees' work history, career choices and objectives, organizational reward systems and their fairness, organizational structures and cultures, work-family issues, diversity and demographic information was sought.

3.2 Research Design

There are two settings of IT work environments in this study. Public System represents a traditional bureaucratic management model based on hierarchies, whereas Soft Tech is more of a team-centered work setting with a comparatively flat organizational structure.

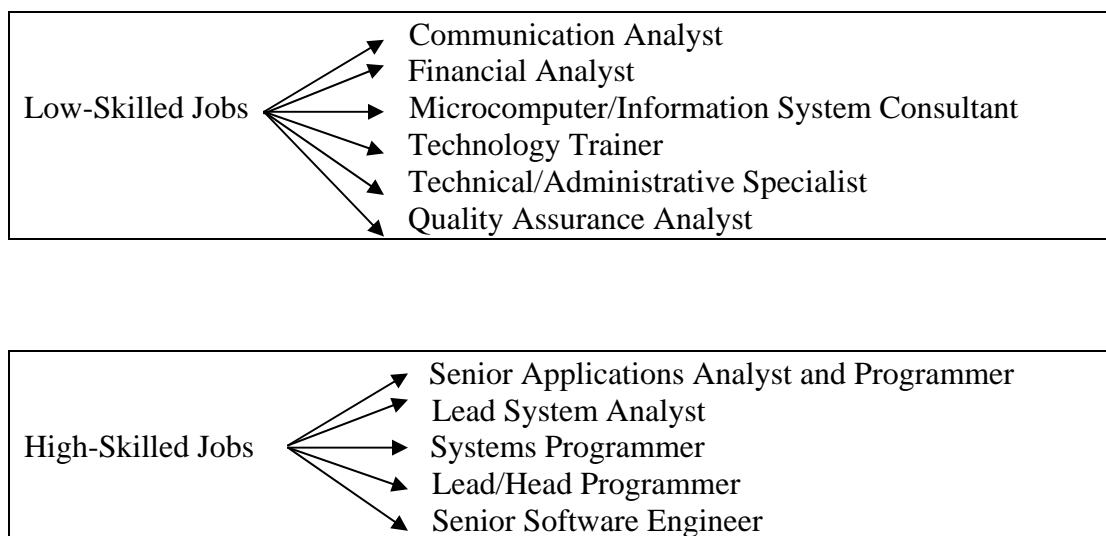
The results from the analysis of the employees' interviews in the two general work settings were analyzed. Indicators of work motivations were identified and summarized through the contents of interview transcripts and categorized as evidence of work motivators to assess the validity of the self-concept based model of work motivation.

In order to establish a framework on the work environment variables (e.g., reward system, managerial environment, task system, and social system) and to explore if those environmental variables attribute to or relate to the self perceptions of employees, the interviewees are divided into two groups: low-skilled and high-skilled. They are classified according to the IT skills required for their job and sorted according to the four general criteria summarized by Sawyer, et al. (1998). Positions that demand very technical, task-specific skills such as the programming

knowledge of C++ and Java are sorted into the high-skill category; positions that demand few technical skills, and involve other peripheral business functions such as technology consulting, are sorted into the low-skill category. Although managers, directors, and other high-profile management staff are also among the interviewees, they are not specifically targeted in this analysis.

My study, then, focuses on the motivational sources of the high- and low-skilled IT employees (see Figure 4).

Figure 4: Job Classification



One general and simple explanatory matrix will be set out for the two work environments. The discussion of the determinants of work motivations revolve around the three constructs of self-concept (traits, competencies, values). Four out of five basic sources of work motivation will be examined based on Leonard et al.'s model: intrinsic, instrumental, internal, and external sources of work motivation (Leonard, et al., 1999, p. 989). Intrinsic motivation refers to the fact individuals will

choose tasks which they consider fun or enjoyable. Task or social feedback does not transform into performance. Instrumental motivation refers to the notion that individuals are committed to take a course of action which will benefit them with the highest level of extrinsic rewards. Task or social feedback directs or determines work behaviors. External self-concept-based motivation is based on individuals' social identities and it applies to individuals who are mainly other-directed. Organizational goal and success motivate individuals as they strive to validate their self perceptions with the public images of the organizations. In other words, individuals will attempt to meet the expectations of reference groups. Internal self-concept-based motivation refers to the case that individuals will behave in ways to meet the internal standards or expectations that they set for themselves which are basis for the ideal self. Compared with the external self-concept-based category, the internal self-concept-based individuals are inner-directed and driven by their self perceptions via the task feedback.

As depicted in Table 1, four sources of work motivation were examined for the employees at Soft Tech and Public System relative to their skill levels. The A, B, C, D in the table stand for the four motivational inducement systems, namely reward system, managerial environment, task system, and social system. I sought to map these four independent variables to the four motivation sources as identified in Table 1. I assessed whether the perceptions of self-concept for the IT workers in these two organizations fit into motivation inducement systems of the self-concept theory, and how they might be related.

Table 1: Matrix of Sources of Self-concept Model

	Soft-Tech		Public System	
	Low-skilled	High-skilled	Low-skilled	High-skilled
Intrinsic	C, D	C,D	C, D	C,D
Extrinsic	A,B,C,D	A,B,C,D	A,B,C,D	A,B,C,D
Internal	B,C	B,C	B,C	B,C
External	B,C,D	B,C,D	B,C,D	B,C,D

A: reward system
 B: managerial environment
 C: task system
 D: social system

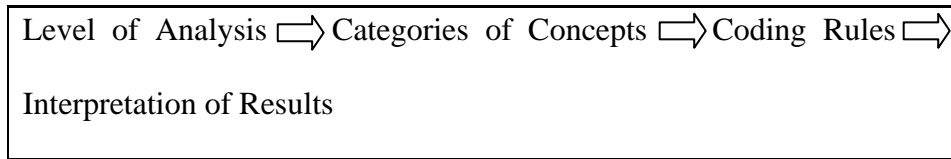
3.3 Data Analysis

A qualitative analysis was applied in this study. Specifically, content analysis, sometimes referred as textual analysis, was involved to strategically extract concepts and meanings, and identify relationships or make inferences from textual materials in a given context or environment (Fielding & Lee, 1998). Content analysis enables identifying relevant information about the existing relationship between human behaviors and organizational structures that reflect the organization of work and work processes. Qualitative analysis was employed in this study to understand certain factors that influence work motivations.

3.3.1 Selective Coding:

The analytic process followed the classic procedures of content analysis. The coding and analysis procedures were done in two stages (Busch et al., 2005). The first stage was a conceptual analysis. In conceptual analysis, a concept or theme is selected for interpretation at different levels of analysis. It is sometimes referred to as selective coding by researchers (Busch, et al., 2005). The general procedure of conceptual analysis was followed as indicated in Figure 5:

Figure 5: General Procedures of Conceptual Analysis



In deciding the level of analysis, words or phrases are the usual units of analysis. Sometimes, it is possible to select a whole sentence or paragraph as the level of analysis depending on the context and the need for the convenience of coding. As to the categories of concepts to be coded, the selections of concepts depend on the research questions, which usually involve pre-defined sets of concepts. The coding rules can be different for different researchers. The establishment of a certain coding rules enables researchers to code consistently throughout the context analysis. The last part of the procedure, the interpretation of results, is crucial in translating the coded units to reveal their theoretical or practical implications. This procedure should result in common trends from the data.

The second stage of coding for this study was relational analysis (Busch, et al., 2005). Relational analysis is the process of identifying the relationships among the concepts identified in the conceptual analysis stage. Level of analysis and coding rules are also needed and they are mainly used to establish the relationships between different sets of concepts. The two stages of coding enable identification of the general relations among the concepts and forming of tentative conclusions about the patterns in the data.

For this study, I identified four broad categories of motivation concepts or themes. These concepts are the four independent variables in Table 1, representing

reward system, managerial environment, task system, and social system. The dependent variables in this study are the elements (traits, competencies, and values) of self- concept as the influences of self-concept determine the behaviors of the employees. I developed a simple code book (see appendix 2) following the traditional method of selective reduction summarized by Busch et al. (2005). The level of analysis was words, or phrases. As the sample size is relatively small, I mainly coded for the existence of a concept, though the frequency of a concept is also taken into consideration when conducting the analysis. Each of the four variables is a main category or a parent code; child codes or sub-categories are developed under each parent code.

3.3.1 Coding Sample:

In the process of distinguishing concepts and levels of generalization, I examined the work motivations from the three sets of attributes of the perceived self as supplementary explanations of knowledge employees' work motivations. Statements about traits, competencies, or values were analyzed in each category. In the first stage of conceptual coding analysis, I identified the general intrinsic and extrinsic sources on employee's motivations under the theme of reward system. For example, concepts about reward system, fairness of pay, and job security, were coded from the following young male system engineer from Public System:

No, I am, I guess what I am trying to say there is I think the wages that Public System pays is a fair wage. Um.... I am happy with the amount of money I am making. In fact, I know I could make more on the outside but there is a big trade-off there, and I recognize that.

I don't, I don't resent the fact that we don't make as much as the corporate world does. And quite frankly, we shouldn't because this environment is much safer than the corporate world and the benefits are immense. So I don't expect to make, you know, as much as much as money as in the corporate world. Well, where I am, I guess, I get upset, is that everyone is treated the same.

This material was coded as indicated in Table 2. Clearly, the individual expressed a great deal of satisfaction with the reward system and appreciated the job security that came with the employment at Public System.

Table 2: Sample Coding

Categories	Coding Units	Interpretation of Results
Reward System	“happy” “a big trade-off” “don't resent” “recognize”	This individual employee is generally satisfied with his current reward systems in his organization
Job Security	“much safer than”	Very positive attitude on his job stability
Fairness of Reward	“upset”	Some complaints about the organizational fairness

I defined other coding units to match the components of self-concept to the expressions or concepts in the interview transcripts. For instance, in the process of evaluating self-perceptions of the reward system, I classified interview questions related to the three attributes (competencies, values, and traits) of perceived self as follows (see Appendix 1 for the interview guide):

Competency:

Q: Other than the technical aspects of the job, what are two or three things that

someone in your job should be really good at doing? What are important attributes for someone in your position?

Q: What are your favorite work tasks? Least favorite? What are the best parts of your job? The worst parts?

Value:

Q: Can you assess the effectiveness of the current reward system? Is there anything you would change about it?

Q: Is this organization better/worse at rewarding its employees than other organizations you have worked in? Explain.

Q: Would you characterize your workplace as an egalitarian one?

Q: If you could wave a wand and change anything about the way your work is done here, what would it be?

Q: How would you describe the overall work/life culture of this organization? To what do you attribute this culture?

Trait:

Q: Who/why did you choose this kind of work? Are you pretty typical of this kind of person in your field?

Q: What are your favorite work tasks? Least favorite? What are the best parts of your job? The worst parts?

Q: How are individuals/groups singled out for praise/rewards?

While evaluating the three dimensions of self-perceptions as proposed by Leonard et al., I identified interview questions that would assess the perceived self, the ideal self, and social identities. The following is a sample list of questions for these kinds of concept mapping.

The perceived self:

Q: Where do you see your career going from here? Do you anticipate staying in the

same kind of work in the future? The same company?

Q: Would you say your work is appreciated?

The ideal self:

Q: What would you like to do in the future?

Q: Is there anything you would change about it?

Social identities:

Q: Is there a general feeling of support for individual's non-work lives in your work group? In the organization as a whole? How do you know this? Is your sense that this organization is better or worse than other organizations in this area? Why? How do you know?

Q: Do you know others in your department with similar view about these work/life issues?

The next level after conceptual analysis is relational analysis, in other words, concept mapping (Busch, et al., 2005). At this stage of analysis, I sought to map the concepts or themes under the four major categories, such as reward system, with the four sources of self-concept-based work motivations, such as intrinsic sources of work motivation. For example, analyses of some employees' interview transcripts indicate that employees perceive interpersonal communication skills as very important in addition to their technical skills. As this self perception of competency can be related to both the task and social systems categories under the umbrella of motivational inducement system, it falls into the self-concept-based external source of work motivation (see Table 1 on p 28). Relationships among other attributes of self-concept were revealed in a similar fashion in the process of

second-stage relational analysis. An extra layer of analysis was added to differentiate the motivation sources for low-skilled and high-skilled knowledge workers. I compared and contrasted the four sources of work motivation between these two groups of technology employees. The final step was the process of interpretation and validation.

4. RESEARCH FINDINGS

4.1 Case One: The Soft-Tech Company

4.1.1 Organizational background and setting

Two university professors founded the Soft-Tech company. The main product of this company is a certain kind of statistical software aimed at both the academic and industrial markets. For the academic market, the software can help college students conduct statistical analysis, and in industrial market, the software is used mainly as a tool for quality analysis and assurance. The company enjoys five percent of market share for statistical software on both markets at the time of interview. Their product is now used in more than 4,000 academic institutions and a variety of businesses in over 80 countries.

The founders and the current CEO have successfully adjusted and incorporated their academic backgrounds and personal beliefs into managing this small business. They instituted and embraced a team-oriented structure and family-friendly policies to attract the best talents from the surrounding area. Structurally, the Soft-Tech company is mainly composed of product development, quality assurance, customer service, and technical support departments. Any hint of a

traditional organizational hierarchy is not obvious in this small organization of around 150 people (in 2001 when the interviews were conducted). However, an internal labor market does exist for promoting its employees.

From the interviews with the management staff and from its publicized corporate statements, the company takes pride in providing employees with demanding and interesting jobs, as well as helping them reach their career and personal goals by using their talents and expertise to the best of their abilities. In addition, Soft-Tech touts an open-door management policy to encourage communication freely within the organization. As a result, the company has a 6% turnover rate compared to the high turnover rate (as high as 45%) in the general information technology industry (Kaminski & Reilly, 2004).

4.1.2 Reward System

The reward system normally refers to extrinsic or instrumental sources of motivation, such as pay, bonus, and promotion schemes.

During the interviews, most Soft-Tech employees (both low-skilled and high-skilled) referenced their primary work motivation as something other than monetary rewards. Most people attribute their motivations to other factors like company culture, flexibility, location, and their essential enthusiasm in their work.

However, a few of the employees who perform low-end job functions indicated financial needs as the main reason for working in their current position. In addition, Soft-Tech provides college tuition benefit for its employees. One database programmer revealed that she perceived her current job could give her the most return for her investment in a college education given that her family background

was quite poor financially. While most high-skilled employees do not regard the monetary reward system as their primary motivator, one high-skilled employee, the Quality Assurance programmer, also regarded the financial reward as his primary source of work motivation: “Yeah. The pay here is pretty good. But if somebody gives me a lot more money, I would...I mean, that’s being honest.” On the other hand, other high-skilled employees, gave examples of non-monetary rewards from their bosses, such as “birthday cakes” during meeting time.

Soft-Tech, as a small business in the region, enjoys a reputation of treating people fairly. One human resources manager commented that their goal is to treat their employees fairly, not equally, as people possess different skills and function differently at hierarchical positions. As to the general salary rewards, the HR manager stated that Soft-Tech conforms to the full-job value corresponding to respective job functions and the software industry standards. There is no recognizable differential treatment of the employees except their payment and quarterly bonus (base on sales), which is based on full-job value, regional living standards, and industry standards. One high-skilled statistics programmer said: “we get raises based on performance” and viewed the salary and benefits he received as “pretty good.” On the other hand, he also aired concerns about the effectiveness of Soft Tech’s reward system:

I think it’s pretty good. But might not be doing enough to encourage or develop us to do more work or to work harder.....If I were a boss, I don’t really want to give too much awards and raises very strictly based on the performance. I think that’s gonna bring too

much competition between us employees and conflicts. But on the other hand, we don't work like overtime. Everybody goes back home like after six, after five. Well, that's nice because I have a lot of time after work. But in terms of motivating employees to do more, there might be some way to doing that.

Special recognition such as five-star rating systems on their intranet provides the employees an additional job motivator to work harder and do better. Things like birthday parties give the employees a feeling of belonging to a corporate community. Unlike many other IT companies which provide their employees with stock options, Soft-Tech provides more holidays, paid leaves, as well as excellent medical insurance coverage (at no cost to its employees). These kinds of rewards, as another instrumental motivator, together with extrinsic rewards like bonuses and high salary strengthen the links of individual employees to their team, and to the whole company as a whole.

Excellent pay, promotion, bonuses, and other fringe benefits that the Soft-Tech company employees received, reinforce the individual employee's self-perceptions of value, competencies, and social status via the powerful form of social feedback of effective organizational reward systems. Fair treatment, as well as fringe benefits, have kept the employees devoted to their work.

4.1.3 Managerial Environment

Leonard et al. point out that individuals will use internal and external sources of motivation to maintain an internal or external view of their ideal selves. Externally to each individual employee, Soft-Tech endorses a general human

resource policy that helps their employees to obtain their highest work potential while working. Job design or redesign in terms of autonomy, task details, feedback, and skill requirement are well planned and executed in Soft-Tech. With a five-member human resource management staff, the company works to remove obstacles that could impact the performance of their employees.

Both the low-skilled and high-skilled employees typically enjoy the general feeling of being empowered when performing their specific job tasks. As we can clearly see from a senior software engineer:

The other company I worked for, you did not have any control, I mean, we had something, projects to get out, you know, it was very inflexible inside of the work. But everything around here, the schedule and stuff, people taking vacations and you know, people leaving, and if you did well, it is much more flexible.

This kind of self-concept of being respected in job design and schedule arrangements, instead of being the bosses' slaves, reflects the underlying approach to human resource management at Soft-Tech. Both the low-skilled and high-skilled IT employees in the company expressed the idea that job flexibility is one of the benefits they receive which makes Soft-Tech "superior" to other private software engineering companies. People with little or no prior technology training among the low-skilled employees, such as the microcomputer specialists, were attracted to join this company because of its corporate culture and the family-friendly reputation it held in the region. One operation database programmer remarked this way: "the company in general, the atmosphere at this company, um... is a lot better." Another

web specialist stated similar views when asked about his workplace selection: “My current job, as far as the working environment, it is a lot better.”

The success of Soft Tech’s managerial system also helps maintain positive role expectations of the employees’ and align their personal goals with the company’s mission as a whole. Managers and team leaders try to smooth the communication between people in different positions in order to create better work relationships. Soft-Tech’s open-door management style promoting uni-lateral communication is possible by a relatively flat organizational structure. The company’s only basic structural units are departments led by managers. No apparent employee dissatisfaction with the communication structure was identified. One low-skilled worker, a Quality Assurance analyst, said:

They have really tried to take away any finger pointing. My job could be a little tough, because I have to keep telling people everyday that this doesn’t work, this doesn’t work, this doesn’t work. ... but I don’t sit back and point that finger at somebody and say, your program doesn’t work ... I just reported that something doesn’t work and somebody else assigns it to somebody to work on ... it’s nice, because it keeps up better communication between the different departments, though. In a lot of companies, you will find out that QA, people who test the programmer versus the programmers, there is a lot of friction there. And in our company, it is very minimal if there is any. So they have taken a lot of steps to try to make it a very pleasant atmosphere to do your job in.

As their mission statements make clear on the company webpage, there is also no dress code in the company. And the human resources manager and specialists are devoted to the company's policy to help their employees identify their best talents and to balance their personal life with their work life. In a few instances, they allow some employees to telecommute from home if it is inconvenient for them to work at the office. Most employees feel they are empowered in their job functions and consent to their work arrangement, especially the high-skilled workers. Another senior software engineer said:

Um...the corporate value here, it's a relaxed environment. Somehow it's very casual. Very family oriented. You know if you have a son or daughter you need to take them to the dentist in the middle of the day, you know you are free to leave work, take them to the dentist, come back, make up whatever time. It's very flexible. flexibility in your working hours. It's really just a very laid back that kind of company. It's very comfortable.

Other employees at Soft-Tech also expressed similar views. One web specialist views the flexibility as the greatest benefit he enjoys in Soft-Tech which he could not get in most other organizations. A statistical quality assurance analyst also said: "That's the biggest way that they support non-work life, just by giving the flexibility." Flexible schedules and more workflow control are two key characteristics of the managerial style. Flexibility is especially appreciated by employees who have family responsibilities.

The team-based operation mode has been deeply rooted in this organization,

especially featuring the work flow or processes of this software company. A senior software engineer supported the team-work concept and thought that it was working very well. Disagreements tend to be minor, employees still have some say in the problem solving process, as stated by the software engineer:

... we can have little arguments. You know I propose this way and he thinks about it and he comes up with some other solution. There are like pros and cons with both. But I usually take my boss's, which is usually better. He gets the big picture.

Company loyalty has been cultivated among the Soft-Tech employees through peer recognition and team building. When asked about their career futures, most of the low-skilled and high-skilled employees said "yes" as their answer to their intention to stay with the same company for the next five years. Many are looking to extend their careers in Soft-Tech. According to one HR manager, for the very small percentage of people who left Soft-Tech, it was not because of the extrinsic rewards or the atmosphere the company promotes. Rather, it was because their personal career aspirations could not be accommodated by the company.

As a company with a basic flat organizational structure and small operational size, some employees do think the corporate culture is somewhat laid-back and aims high and want to develop progressively. For instance, a couple of employees left for Microsoft. However, in some cases, some people who left for Microsoft wanted to come back because they later recognized the value of the culture and work life style in Soft Tech. On the other hand, according to one HR manager, because of the founder's philosophy of not seeking to compete with big

major statistical software companies and the endorsement of academic value, Soft-Tech is not running in the aggressive mode as most of the other software companies in terms of company operations and profit seeking.

4.1.4 Task System

A task system usually includes job design, job enrichment, quality of work life programs, knowledge of result, and competency. For the majority of employees, the most basic reason for people doing their jobs at Soft-Tech is captured by expressions like “I enjoy...”, “I love...”, “I like...” etc. In other words, enjoyment of the work itself moves the chain of the work process. From the perspective of the social system, most people enjoy the company culture at Soft Tech. Employees felt they were trusted. One senior programmer said:

I mean it is a very trusting ... environment.. a lot of stuff not your owner’s types of system. We do not have a formal time card; we do not have to account for every minute we are in here. It is, you know, they are trusting you to work, approximately 40 hours a week.

Sometimes work less, sometimes work more.

Even for the low-skilled employees, such as a web specialist with a college major in Classic Literature, their personal interests drive them to the same work arena. As the web specialist in Soft-Tech company expressed:

But it is a very nice feeling for you to write something, and see if it works. It is real, and it is not just something, you know, something from 5 thousand years that people in the world are interested in reading, um... reopen a new world for you, just being able to work

with, I don't know, just it was very logical, very cool and very challenging, I just love that.

For this person, it is amazing to accept a challenging new job as a technical writer for the company since most of his academic background and prior training is in Classic Literature.

For the high-skilled employees such as senior software engineers, they were usually engaged in the computer field while in high school or college. One of the senior software engineers said about his choice of professional career: "I started to like it and that was it, something that I want to do. Just kind of delve into it." When talking about the comparisons of his current job with his previous job with another employer, he attributed his job change to Soft-Tech to the general company policy and family-friendly atmosphere. The software engineer also commented: "Working for this company, it is not, this is nice, like it here. You know, you know, there are not too many hassles. That is gorgeous." In this case, it is the intrinsic factors that are conducive to the employees' job satisfaction and in turn it leads to the company-wide job commitment.

Other low-skilled and high-skilled employees articulated similar views. When asked about how they deal with conflicts in teamwork, one senior software engineer answered:

At least our IT team, everybody is fairly laid back, easy-going. It's just a really open atmosphere where if there is a problem, you can say something about it. Usually not much conflict comes up.

Thus, both low-skilled and high-skilled employees expressed feelings of

being empowered and accomplished, although high-skilled workers like programmers really enjoy the “hard work” of building codes that make software work.

In terms of training, Soft-Tech tries to enrich their employees’ knowledge base with abundant training opportunities. Training opportunities open to all employees regardless of their job functions (low-skilled and high-skilled). However, the training opportunities vary depending on the job functions. According to some low-skilled employees, internal training is the only form of training they can obtain. Some people consider informal mentoring opportunities as a form of training; while some other people could have opportunities to attend in-house presentations or professional conferences. Additionally, team members help each other working on projects. Overall, the company appears to provide ample professional development opportunities for their employees. According to one of their HR managers, the company is very supportive of training their employees. The manager stated:

Training opportunities are great here. We just have a big lump sum in the budget. It’s basically four percent of the total salary. Um...so, we get about six hundred thousand dollars a year [for the entire workforce] in training and so far we haven’t been able to use it all. We tell people to use it. We encourage them to use it. We pay for college classes 100% plus books 100% as long as they are somewhat related to Soft-Tech. And so far, we have not spent everything in our education budget for the last three years I have been here.

One high-skilled employee, a senior software engineer, echoed: “if there is any other type of training you want, you just basically have them do this Unless you are asking to go to Hawaii for a week, there is always a way you can do it.”

4.1.5 Social System

The social system within Soft-Tech is employee oriented and family friendly. According to their employees and managers, the company respects employees’ personal lives outside work. One low-skilled employee said: “basically they think you should have a work life, and you should have a life outside the work and um... that is what I said, they do not encourage you to take work home.” One high-skilled employee said:

um...well I think like we discussed earlier, they want balance in your life. They don’t want a bunch of people in here, you know work all night, that sort of thing. And obviously we want to be successful. But we don’t...some people have been critical and even left in frustration because they think we should more aggressively try to dominate the market and work sixty hours a week and really go for it. And those people became frustrated because there was no...no rewards for them...for that kind of behavior. They were kind of discouraged from overdoing it. So I think they [management] truly do value the balance in your life. But you know they expect you to get your work done. People have been fired for not doing the job.

Employees are also empowered to have more “say” on their job. One database programmer said: “they believe empowering their employees and they

make everybody feel equal ...” Another senior programmer confirmed the situation of employee empowerment within the company. He stated: “So Soft-Tech has a philosophy of you know, you hire the people who would want to do a good job, and they need a minimal amount of supervision. You give them the tools to do the work and the work’s gonna get done.”

Special recognition such as five-star rating systems on their intranet provides the employees an additional job motivator to work harder and do better. Things like birthday parties give the employees a feeling of belonging to a community. These kinds of extrinsic rewards, as an external self-concept motivator, together with other extrinsic rewards like bonuses and reasonably competitive salaries strengthen the links of individual employees to their team, and to the whole company as a whole.

4.2 Case Two: The Public System

4.2.1 Organizational Background & Setting

The Public System operates within a major university setting, and it provides computing and communication services, including computer support and consultation, as well as a broad range of telecommunication infrastructures and services. With nearly 400 technical and managerial staff, the Public System is based on a traditional hierarchical structure comprised of multiple layers, overseen and managed by the university. IT employees working for the Public System have various backgrounds and came to work for the Public System for different reasons. One of the reasons is that the university is the largest employer in a medium-sized knowledge-intensive town in which the major businesses are education and

education-related services.

4.2.2 Reward System

From a self-concept perspective, the extrinsic or instrumental rewards do not necessarily provide any potent form of social inducement as the employees direct salaries tend to be lower compared to IT professionals in the corporate world. However, other monetary rewards such as fringe benefits and job security are strong motivators or reinforcing sources of motivation for many employees. One systems engineer said:

You know, I can probably go and make 20 or 30 thousand dollars more right now working for a corporation. Um... But you know, I know that I'm going to have this job five years from now probably unless something seriously awful happens. But I cannot say that in a corporate world. You know, people get laid off in the Telecom sector a lot right now. So I feel to have the position that I have. And I am willing to take less pay with a lot more benefits. And the security of knowing that I'm going to be here tomorrow.

However, some employees, both low-skilled and high-skilled, think the organizational reward system within the Public System is unfair. One lead systems analyst, although acknowledged the current reward system as “pretty effective” and “a good motivator”, she considered the overall reward system at Public System was worse than her previous employer and some other organizations she heard of. Due to the bureaucratic structure, some people thought there were some free riders within the organization. One disgruntled employee said:

I've been really frustrated for about a year now. I keep picking up more and more responsibilities duties and the rewards are not necessarily there. And I think that is going to change. Overall, I still believe and I know that our director believes in hard work being rewarded with some sort of compensation regardless or what that is. I still believe that is possible, I am going to stick to my naïve guns and "Yes, you will be rewarded." Have they seen it yet? No, not exactly.

According to another high-skilled employee, people within the Public System have different opinions on the fairness of the reward system. Some people think they are well rewarded in terms of salary, while some others hold contrary opinion. A lot of people think the Public System is an egalitarian or "socialist" organization where everybody is treated equally. Many employees also indicated that oral praises, or oral recognitions from supervisors, or even from customers, are considered "rewards." One unit within the Public System has peer review reward systems; namely, people vote for their peers for doing great jobs. More formal special individual rewards mechanisms are basically non-existent, though annual merit raises are common (2% to 3% for most employees). Promotion is perceived normally as taking a very long time, especially for people who think they should get promoted.

4.2.3 Managerial Environment

The general belief holds that people should be treated fairly, not equally as

people's functions vary within any organization. As a bureaucratic structure within a university environment, the Public System assesses performance according to standardized expectations by job classification, but results in some employees perceiving themselves as not being treated fairly. One disgruntled system engineer said: "Well, where I am, I guess, I get upset, is that everyone is treated the same."

And his perceived ideal work setting was described in this way:

I think there are, more people needing to be fired. That would be the big thing that I would change. I would want some of our upper administration within this department to have more of a backbone to be stronger, to be more firm about this is the way we're doing things. You either draw the line or figure out where you are going to work somewhere else. You know, you don't fit here, or, I mean, it's sounds a bit harsh, I guess, maybe, you know, make it very clear to people who are not, who are bucking the system that, that is not the way to get things done and they need to come on board and embrace the future direction we are headed. And if they can't, then strongly encourage them to, you know, move on, I mean, there is a, you can help people, you can manage them and you can encourage them in the direction you want to go, and not have to be hard-nosed about it. But the problem is, in my viewpoint, a lot of our directors don't have the attitudes of forcing the way things should be done. Um... behaviors that undercut this organization and that behavior should not be tolerated and it should be addressed and it is not. So that

would be the thing I would change.

According to the systems engineer's report and other employees' views, some people abuse the bureaucratic system. Fairness is not guaranteed in terms of monetary rewards and actual work efforts spent. It is not always the case that the employee's efforts are being recognized while the free-riders get away with the loopholes of the Public System. Similar views were also aired by some other employees. A low-skilled employee, a senior microcomputer systems consultant, stated that he never got any kind of oral praises from his boss and he did not think people were rewarded for doing good jobs.

A common perception was that the managerial system at the Public System does not offer enough employee recognition to create external self-concept motivations for the employees, such as social recognition or comparable group status, although sporadic departmental recognition by the supervisors sometimes does help balance the psychological needs of the employees. For instance, one application programmer said:

When I worked for Ron, the admissions once in a while would take me out for dinner, because I stayed late at night, helping them out. Grad school would always take me out to lunch (laugh) because I get them out of the hot water. You know that kind of thing. But that was always nice.

As most other university departments, the Public Systems offers flexible work schedules for its employees. Depending on the functions of the employees, working hours are adjustable and most of the employees enjoy their privilege of

flexible time to balance their family life and work life. A systems engineer enthusiastically showed his satisfaction of working for the Public System:

I think here at the Public System, has been always flexible. My manager has always been flexible. If I need to take a time to go do something and I have never been denied. You know, vacation time, like I said, you know, we get five weeks of vacation. So, if I need a day to go do something with my family, I just take a day of vacation sometime, you know, it is quite nice. You know, through the year and I can take three weeks' vacation. Just a day here, a day there. Maybe two days to make a long weekend type of thing, Friday and Monday. Um... and I still have two weeks to take, you know, the standard family vacation, you know, a week to go to the beach or a week to go to mountains.

Although in most cases it is to the employees' advantages, some employees encounter conflicts of work and family life because of their specific job functions. As a negative case of the job flexibility, a systems analyst was called upon several times by her managers because of database emergencies after normal work hours.

Under the general guidelines of university policy, the Public System has maintained a family-friendly work arrangement with flexibility being in the core in a laid-back university atmosphere as opposed to the corporate world which stresses the progressive working culture in order to make profits. Overall, the external rewards in forms of job security, fringe benefits, and flexibility have outweighed the so-called "tilted" or "unfair" reward system and unfair treatment in the eyes of

most employees.

4.2.4 Task System

As far as our research has identified, the training opportunities differ considerably for low-skilled employees and high-skilled employees in the Public System. Some lower-level technical staff did not have access to the necessary resources for training opportunities to maintain competitiveness. On the other hand, other low-skilled employees were satisfied with their training opportunities. For instance, a lab consultant seemed happy with the free seminars and the conference meeting he could access within his department, and gave a general evaluation of “good” when asked for his idea on the availability and quality of the university training. In an opposite case, another low-skilled employee within the public system felt disgruntled:

We are told that if there is some training you want, you have to submit it and they were, you know,...it is OK. We do not have in-house training. I have participated, I went to training about 3 years ago, 3 to 4 years ago ... to be trained in a software package set we use. And that is it.

The training opportunities vary considerably depending on each department’s budget within the Public System. Some high-skilled employees such as senior engineers in some departments enjoy much better training opportunities such as flying to nationwide technology conferences. Similarly, there are some cases of high-skilled employees who report not receiving proper training. A lead application programmer reported “no training” for implementation and using of a new software within the Public System. Still other employees regarded the training

opportunities the bulk of their rewards. Training opportunities, plus financial rewards for differential job performance, are regarded mainly as the primary extrinsic sources of work motivation for the Public System employees, but the perceptions vary as to how fairly these rewards are administered.

Teamwork structure, as an emerging new management mode, has not really worked out in the university probably because of its bureaucratic structure. One senior application programmer said:

Cause it's difficult sometimes getting other people to cooperate or to understand what you need from them, to get your job done....the departments in the Public System as a whole are very protective of what they see as their realm of expertise and they are unwilling to give up either data or access to their applications.

The rationale behind that is people hold the strong self-concepts of fairness, and they desire to be treated fairly if not equally. This external self-concept linking other fellow employees has been costing the Public System in terms of productivity. In some cases, the team work has actually been de-motivating the employees in the Public System. A senior systems engineer attributes that demoralizing atmosphere to the "socialistic" environment:

But in the socialistic environment and this really..... against my social and political leanings. OK. You know, that is not acceptable. What we have to do is to make everybody the same and I really resent that. I think people should be rewarded and compensated according to their performance they do. So I think the university has

a big problem with that.

To counteract the unfair treatment within his department, he set some personal limits by refusing to do the extra job assignments while other people were being idle. However, the teamwork structure seems to work well with low-skilled employees in smaller groups. One communication analyst remarked as the following: “Yeah, we get along pretty well. Most of the teams are pretty good, and there is really no conflict even between the teams. Pretty much everybody pulls their weight and get things.....”.

4.2.5 Social System

Although the Public System has a bureaucratic structure, high-level employees like this type of organization and they attribute their professionalism to this type of structure. One high-skilled employee, an office director and a manager, said the Public System is “much more organized” than its peer institutions and “we believe our organizational structure alone makes us more professional”.

The culture of the Public System was described as a “very cooperative” environment by one lead system analyst, a high-skilled employee. However, she thinks there are much fewer social activities within the Public System as compared with twenty years ago. Another high skilled employee, a senior applications analyst and programmer, confirmed her comments; he said: “We don’t really, we’re not very social people outside of work. We don’t have a whole lot of friends outside our work environment, so we don’t do a whole lot of extra stuff”. However, customer recognition, seems to serve as another important motivator. The lead system analyst said: “I enjoy working with my customers and the social aspect of that is just really

rewarding.”

The social system of Public System does not appear to foster a strong work motivation. According to some employees, a high level of work performance does not necessarily translate into recognition and promotion. Managerial functions of positive reinforcement are not widely evident in Public System. As the managerial and reward systems of Public System do not compare favorably to those of Soft Tech, individual employee’s sense of ideal self does not appear to translate into hard work or meeting the role expectations of peer groups. In other words, individuals’ efforts to achieve high levels of group status appear to be weaker by comparison at Public System than at Soft Tech.

4.3 Discussion

4.3.1 Similarities between self-concept and traditional models

Shamir (1991) and Leonard et al. (1999) assert that the self-concept-based motivation can be employed to account for general sources of motivation, as well as discrete behaviors aroused from individual self-perceptions of traits, values, and competencies. Fundamentally, the self-concept model is built on the assumption that "individuals are motivated to behave in ways that are consistent with existing self-perceptions" (Leonard, et al., 1999, p. 973). In other words, people are motivated by their self-perception which is an important components of self-concept in different ways under different situations.

Additionally, Leonard et al. (1999) state that self-concept model is a general framework that can be associated with some of the traditional theories. For instance,

similar to expectancy theory which asserts individuals are motivated directly or indirectly via their personal values and beliefs, the self-concept model can be brought in to address the criticisms on the exclusion of dispositional factors (which can be individuals' traits, another component of self-perceptions) as values are one category of attributes of self-perception. There are other shared concepts between the self-model and traditional models. The equity or justice theory can be supplemented with the inclusion of the notion of reference groups which provide feedbacks to individual employees. Some other traditional theories, such as the cognitive evaluation theory, can incorporate the concepts of self constructs (e.g., its components and dimensions) to better explain the internal motivations as well as intrinsic motivations. Similarly, job characteristics theory, can focus on individuals' perception of their competences and their perception of the ideal self, and on how the perceptions of their ideal self may motivate them to achieve the phenomenal self via job satisfaction (e.g., task feedback and social feedback).

As delineated earlier in the literature review, the self-concept model confirms statements or models acknowledged by traditional theories; additionally, it may provide important supplements to advance our understanding of work behaviors when combined with traditional models. The self-concept model can be easily incorporated into certain traditional models such as reinforcement theory. External sources of motivation, such as feedbacks from reference groups, can help enhance employee's self-esteem or increase their sense of self-worth or their sense of achievement or personal fulfillment. For Soft-Tech employees, social recognition, especially recognitions from peers and bosses, help them maintain their

zest for their jobs and further reinforce their intrinsic motivations. Similarly, many Public System employees interviewed gained the social recognition from their customers, though common oral praises from their bosses seem to be helpful. From a self-concept point of view, the competency element of their self-perceptions is reinforced through peer or social recognitions, or in other terms, the normative and audience reference groups. Furthermore, this kind of social feedback, would help align their individual values with the goals and missions of the organizations. For example, social recognition from customers, such as from students in the Public System, help shape their social identity; in some cases, some Public System employees feel they are working on a good cause for the education system and that sense of moral obligation constantly driveencourages them to do good work.

The self-concept approach, compared with traditional motivation theories, provides an alternative perspective to investigate work motivations and enables a different understanding of interview data because it focuses on “self”, the origin of motivation behaviors and the inclusion of environmental feedback. The self-concept approach, as explained above, may be derived from many of traditional theories with the perspectives of self-perceptions and its three interrelated dimensions (the perceived self, the ideal self, and a set of social identities). As interview transcripts, namely, the answers to questions that are mostly personal or self reflection, evaluations, and perceptions of organizations and work life, it offers additional insights on work motivators. Some classic work motivation theories, such as the cognitive evaluation theory, are actually closely and naturally intertwined with the self-concept model. Self-concepts, as important cognitive products, are roots of

personal values, attitudes, and conduct. Traditional work motivations, while well-established, sometimes have difficulty in explaining dispositional and situational behaviors, or non-calculative-based work behaviors. The self-concept model can provide direct insights on the different levels of work motivations in those two IT organizations studied, while many of the traditional work motivation models still hold using different perimeter focal points.

4.3.2 Insights from self-concept model

Compared with traditional work motivation theories, Shamir and Leonard et al.'s model of self-concept model emphasizes the importance of "self-" related concepts as a starting point to understand different sources of work motivation. In this study, I matched four inducement systems with four sources of motivation (see table 1 on page 28) and applied this matching of concepts to two IT work settings based on content analysis. Overall, Soft-Tech appears to have more uniform and more effective work motivation inducement mechanisms than Public System due to their comparatively different HR management practices.

The self-concept model stresses the importance of dispositional and situational factors as determinants of work motivations. Traditional needs-based theories, such as Herzberg's two-factor theory and Maslow's hierarchical theory of needs, would work well in situations where there are clear sets of goals and rewards, or in organizations where job performance is strictly attached to monetary bonus or raise. Shamir (1991, p. 415) labels these situations as "strong" and points out many traditional models may fail to explain how employees are motivated in "weak" situations. The self-concept model, as claimed by Shamir (1991), could

potentially fill this gap and account for work motivations in "weak" situations. In this study, Soft Tech and Public System present two different work environment and social contexts, namely, two "situations". The self-concept model was used to analyze possible sources for variances in work motivations in these two different "situations".

In the case where monetary reward is not a strong motivator, or in the case of Public System where monetary reward is restricted due to organizational policies, the self-concept model seems to be able to utilize the dispositional factors or intrinsic sources of motivation to better explain work motivations as compared with traditional models. For the two IT settings in this study, especially in Public System where there are restrictions on reward distribution due to organizational policies and structure, extrinsic or instrumental rewards are scarce except annual inflation-level salary raises, traditional needs-based models would not be useful as instrumental rewards are less salient or less powerful in "egalitarian" cultures which are present in Public System. Public System employees vary in their judgment of the fairness of the reward system in Public System. While at Soft-Tech, different HR practices and management system result in a more uniform view of the reward system of Soft Tech.

As compared with some of the traditional motivation theories, the self-concept-based model provides salient explanations via the channel of intrinsic motivations. For instance, one high-skilled employee in Public System mentioned the following while responding to the question on the effectiveness of the reward system: "I don't think people are motivated by money. I think they are motivated by

what they want to do." Many other Public System employees echoed that opinion by similar statements. In terms of intrinsic work motivation sources (expressed as various forms and levels of competencies), most Soft-Tech and Public System employees appear to engage in their work because they enjoy the work itself. Similar views of love for their jobs can be easily identified in interviews with both sets of employees. Some traditional motivation models such as Maslow's need theory, expectancy theory, and reinforcement theories don't apply well to situations as mentioned above.

As mentioned earlier, self-concept model can be used to explain dispositional factors. Shamir (1991) points out that none of the mainstream work motivation theories incorporate the role of value and moral obligations. Shamir also states although intrinsic sources of motivation were widely discussed in some mainframe work motivation theories, those intrinsic models "tend to be task-oriented and neglect the symbolic and expressive aspects of human beings"(Shamir, 1991, p. 409). In other words, individuals' intrinsic motivation can be non-task-oriented and can only be attributed to "the affirmation of his or her identity and collective affiliations" (Shamir, 1991, p. 409). One self-perception attribute, value, plays a role for some employees. Value, or a Ysimilar set of concepts such as personal beliefs and moral obligation, can motivate people. For instance, one Public System employee works willingly late at night and sometimes during vacation time to fix a particular educational computer database to ensure the system works, as she believes it is her obligation and job responsibility to make systems work regardless of her regular work schedule. In this case, the employee's personal moral belief or

social value that her job is very important to the public good (education) motivates her doing additional work during non-work hours. As compared with the self-concept model, traditional models fail to incorporate a similar concept of values to account for "individual sacrifices for collective concerns" and "the role of values and moral obligations in energizing and directing work behaviour" (Shamir, 1991, p. 410).

The self-concept model also offers better understandings of particular work behaviors in situations where there are variances in the dependent variables (traits, competencies, and values) of the self-concept as compared with the inducement systems (independent variables). From the self-concept perspective, individuals might deliberately engage in efforts that would align with their sets of traits, competencies, and values. An extreme example identified from the Public System is that there are some employees who "really want to do good work" in addition to the fact that they enjoy the work itself. One Public System employee mentioned that there are people who tend to always work longer hours and they seem to "live in work". For those employees who are hard workers, they consciously act in a way that would enhance their self-esteem and conform to behaviors that would confirm their social identities. On the other hand, from the interview results of the Public System employees, self-concept can contribute to de-motivating employees when they feel they are not treated fairly in the organization. One disgruntled employee refused to do additional work because he felt there are people who did not do much work at all who still were rewarded with raises. The underlying self-concept assumption is that people will change their work-related behaviors when there are

negative dissonance between their personal values and task feedbacks from their peers or the management (Leonard, et al., 1999, p. 183). In other words, negative self-perception can backfire on productivity.

4.3.3 Comparison of employee motivations in two IT settings

The self-concept model appears to be able to provide insights on how employees respond to different management practices in the two IT settings. As Soft-Tech and Public System have different managerial environments, extrinsic sources of work motivation differ for those two organizations. The Soft-Tech employees appear to have more support from management and enjoy a more diverse set of rewards than Public System workers. Both organizational cultures are relatively laid-back as they share the same foundation of academia. However, Soft-Tech, being less centralized, seems to enable employees a louder voice and more flexibility for their own jobs.

The self-concept-based internal and external sources of motivation are not obvious from the interview data, largely due to the lack of targeted interview questions. However, the interview data do provide some insights in understanding these two sources of motivation. For instance, the perceived unfair reward system in the bureaucratic Public System tends to disgruntle some employees. In turn, those employees adopted some strategies to seek fairness. In this case, the equity / justice theory can be applied. From the self-concept standpoint, disgruntled employees engage in reactive processes (which are viewed as the processes via which the self-perceptions influence behaviors) to deal with the conflicts between their self-perceptions (e.g., value and belief) and task or social feedbacks, either consciously

or unconsciously. On the other hand, the social system at Soft-Tech, might help motivate employees to meet deadlines by encouraging extra effort, such as taking work home, despite the fact that taking work home was openly discouraged. The self-concept-based internal sources of motivation, based on the value, traits, and competency of one's ideal self, are basically unidentifiable. Although the interviewees were asked questions about their ideal selves, questions about how they are motivated to achieve their ideal selves were not asked despite the fact that comments on what they would like to change about their jobs were asked.

Similar to the situation in Soft Tech, not enough evidence exists to support the existence of internal self-concept-based motivation at Public System. However, the evidence does suggest that external self-concept-based motivation does not seem to be as strong as that for Soft Tech employees. Quite possibly this result reflects the more bureaucratic management structure and the unbalanced task and reward systems at Public System. Some Public System employees are well motivated, while other Public System employees do not seem to be motivated as well or are dissatisfied with the organizational reward system. Indeed, the high demand for work performance at Public System does not appear to be administratively supported by recognition and promotion. Because the managerial and reward system at Public System does not appear to function similarly to that at Soft Tech, perhaps a sense of ideal self does not translate into a level of work commitment comparable to Soft Tech. As a contrast, there is a level of consistency of a higher-level work motivations among Soft-Tech employees, probably due to the more successful human resource management within the company and a better

organizational reward system.

5. RESEARCH LIMITATIONS

There are several research limitations in this study. First, the sample size of the data is small due to the scale of original research design. Second, the interviews were conducted at two IT settings, which cannot represent all of the organizations in the information technology industry. Hence the generalizations based on the content analysis may not be applicable directly to other IT organization settings. IT professional workers selected for these interviews are in the software and technology service industries. IT workers also include employees working in a host of other work settings, including manufacturing, finance, weather forecasting, marketing, pharmaceuticals, and the like. Third, the data are qualitative in nature and do not represent the level and strength (of self-concept and its influence of work behaviors) which may be provided by quantitative methods as used by other researchers to study work motivation. Fourth, the content analysis methodology may be subjective and the results based on the content analysis could be doubtful due to the possible bias of human coders. For instance, concept mapping and coding interpretation are largely subjective. Further study of the work motivation sources should apply quantitative analysis using large survey results with quantifiable answers.

Future study on work motivations might overcome the above-mentioned research limitations by applying both qualitative and quantitative research methods using large sample data from different knowledge worker populations across

industries. Quantifiable data from a large sample of worker from different organizations across different industries might yield data for more accurate measurement of constructs with statistical analysis. Additionally, future research should incorporate more questions on internal and external self-concept-based motivation. Better analysis or prediction of work behaviors may emerge using both qualitative and quantitative research methods.

6. CONCLUSION

This study was designed to explore the value of studying work motivations using the theory of work motivation proposed by Shamir (1991) Leonard, Beauvais, and Scholl (1995a, 1999). From the analysis of the qualitative data, the self-concept-based motivation theory appears to enable a more nuanced understanding of the different work motivations in the two different IT work settings. Traditional work motivation theories like job characteristics theory, equity and justice theory, reinforcement theory, and needs theory can all be incorporated to analyzing employee motivations in the two selected organizational settings. The self-concept theory can be regarded as the infrastructure of work motivation, with traditional models being the superstructure. In other words, the self-concept model can be more specifically defined to help explain internal sources of work motivation, and the self-concept theory may become a mainstream of motivation theory if more empirical studies support it in the future.

In the present case study, some knowledge workers in the information technology industry were mostly intrinsically motivated, though instrumental

rewards such as pay and fringe benefits also account for a great percentage of work motivations for both Soft-Tech and the Public System. Due to different human resource practices in these two organizations, intrinsic motivators were reinforced more transparently than extrinsic motivators at Soft Tech than at Public System, and employees at Soft Tech have more uniform views on intrinsic motivators and extrinsic reward systems. Indeed, the HR management appears to be more successful at Soft Tech. On the contrary, Public System employees varied considerably on their views about the intrinsic and extrinsic motivators as compared with people at Soft Tech.

The self-concept and its related concepts, via the cognitive processes, definitely mediate workplace behaviors. By incorporating traditional work motivation theories to the self-concept platform, my study appears to support the Sharmir and Leonard et al.'s claim that the self-concept model can serve as an alternative or can supplement traditional models to better understand workplace behaviors. In these two organizations, high-skilled knowledge workers tended to be more intrinsically motivated compared to low-skilled knowledge workers, especially at Public System. The self-concept-based external sources of motivation such as workplace culture, organizational structure, and leadership style provided depth and structure to the analysis that enabled a better understanding of the primary sources of work motivation. As revealed by the interview data, the differences of social contexts in these two IT organizations appear to have important impacts on how employees evaluate themselves in terms of their social identities and self perceptions, as well as on how they associate themselves with

their work and the organization itself.

On the basis of the above-mentioned research findings in this case study, I propose the following two hypotheses: 1) High-skilled employees tend to be more intrinsically motivated than low-skilled employees due to factors such as education background and level of income; 2) Different social contexts of organizations (such as company culture and organizational structure) can lead to different outcomes of employee work motivations. Future empirical research on work motivations may apply these two hypotheses to a broader array of organizational settings to explore the self-concept model using more structured research designs and methods to assess and generalize the self theories of motivations across situations.

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APPENDIX 1: INTERVIEW GUIDE

Work History:

Tell me about your work here. What is your title? What do you do? What are you responsible for?

Is this the same thing you did when you first came here? If not, describe what other responsibilities you held along the way.

How long have you been working here? How did you come to work in this organization? What did you do before that?

Have you had other employment experience outside the IT field? Tell me about that.

Who/why did you choose this kind of work? Are you pretty typical of this kind of person in your field?

How does this job compared to other work/jobs you have had?

Where do you see your career going from here? What would you like to do in the future? Do you anticipate staying in the same kind of work in the future? The same company?

Work Process:

Describe your work cycle. Is the work flow fairly consistent or are some days busier than others? Who has control over work flow?

Can you tell me how your work is structured here? (Who you work with, how things get done, are there teams?)

Describe how and when you work with other individuals. How does that affect your work flow?

Who has the most say over the work you do? Is that arrangement to your liking?

What are your favorite work tasks? Least favorite? What are the best parts of your job? The worst parts?

Who do you go to when you need assistance or advice? When something goes wrong in your job?

With whom do you feel most connected at work?

If you could wave a wand and change anything about the way your work is done here, what would it be?

Other than the technical aspects of the job, what are 2 or 3 things that someone in your job should be really good at doing? What are important attributes of someone in your position?

What kind of training is available here for you? Have you participated in the training? How would you evaluate availability and quality of training here?

Do you have either a formal or informal mentoring relationship here? Tell me what that started and how it works for you (if you do not have one, do you think it is helpful to have one?)

Fairness/organizational rewards:

Are people rewarded for doing good work here? What kinds of rewards are given? Individual or group rewards?

How are individuals/groups singled out for praise/rewards?

Can you assess the effectiveness of the current reward system? Is there anything you would change about it?

Is this organization better/worse at rewarding its employees than other organizations you have worked in? Explain.

Would you say your work is appreciated?

Is your work well-rewarded? Explain.

Would you characterize your workplace as an egalitarian one?

Work/life/family:

What is your life like outside of work? What kind of outside responsibilities do you have?

How does your work life fit with your personal life?

Does one aspect of your life ever cause stress/pressure in the other? If so, what do you do?

Would you say that you or your family have any balancing strategies that work?

What are they? How did you figure out what to do?

Do you take work home? How often? How do you feel about that? Could you choose not to bring work home? Can you talk about work at home?

Can you talk about home at work?

Would you say your work is flexible?

Does your department do anything to help employees manage their work and home lives?

Is there anything that would make your work life or family life easier?

Was there ever a time when you experienced a serious conflict between work and home? Tell me about it.

Is there a general feeling of support for individuals non-work lives in your work group? In the organization as a whole? How do you know this? Is your sense that this organization is better or worse than other organizations in this area? Why? How do you know?

Do you know others in your department with similar view about these work/life issues?

Do you know others who balance work and life/family well? What do they do?

How would you describe the overall work/life culture of this organization? To what do you attribute this culture?

Overview:

In preparing to do this research, I have learned that there are relatively few women and minorities in the IT workforce. Do you have any ideas why that might be?

Is there anything what you'd like to mention that I haven't asked about?

Demographic questions:

What is your educational background? Where did you graduate from college if applicable?

What is your age? What is your race or ethnicity?

Who lives in your household? Is there anyone else employed in your household? What do they do?

Can you estimate your annual household income? If you are uncomfortable giving an amount, can you give me a range?

Approximately what portion of the household income do you earn?

Growing up was your family: Poor, working class, lower middle-class, upper middle-class, wealthy?

APPENDIX 2: CODE BOOK

Reward System:

1. monetary reward /money : merit pay, merit pay, commission, incentive pay, profit, bonuses
2. promotions or reassignment
3. fairness of pay
4. fringe benefit / non-monetary bonuses (e.g., vacations)
5. verbal recognition such as a simple thank-you
6. job security

Managerial Environment:

1. leadership style
2. recognition
3. empowerment
4. policy
5. employee participation

Task System:

1. job design: job rotation, laissez-faire, job enlargement, job enrichment,
2. social activities
3. quality of work life programs
4. knowledge of result
5. competency
6. training

Social System:

1. culture
2. peer recognition /customer recognition
3. team building
4. group status
5. group influence
6. social identity