Are Information Systems People Different: An Investigation of Motivational Differences

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Abstract

Comparison of motivational patterns of information systems (IS) and non-information systems people in the same occupational group reveals no significant differences. This finding contrasts with prior writings. Conceptually, this study focuses on a more complete set of motivators of productive work behavior. Methodologically, it measures motivators with a constrained-choice checklist, samples employees from the insurance industry, and statistically tests for IS and non-IS differences within clerical/operations, technical/professional, and managerial occupational groups. Until further study shows otherwise, this study suggests that IS people are as motivationally normal while doing their job as other workers in their occupational group.

Keywords: Motivation, productivity
ACM Categories: K.4.2, K.4.3, K.7.1

Are information systems (IS) people different from non-IS people? In their review of this topic, Bartol and Martin [3] note that the literature has numerous suggestions and limited but consistent research showing that IS technical/professionals and managers have lower social needs than non-IS individuals. Their review also suggests that IS technical/professionals have a higher need for achievement than those in some other occupations. However, because of potential flaws in the scales used in prior studies, particularly in the scale for measuring social need strength in the extensive study by Couger and Zawacki [6], Bartol and Martin call for replication with different motivational measures before concluding that such differences exist.

Confirming the existence of differences that affect productive work behavior would surely be of interest to managers. For example, managers of system development project teams composed of both IS and non-IS people may have the opportunity to structure tasks such that they may be completed individually or through interaction among team members. If managers know that working with friendly, supportive people motivates productive work behavior for non-IS people but does not for IS people, they may choose to structure tasks such that non-IS people have considerable interaction (assuming they are friendly and supportive of each other) while restricting the interaction with and among IS people. The differences in social needs suggested by prior research might lead one to conclude (although erroneously as our results will suggest) that such structuring is usually appropriate.

The purpose of this article is to extend prior research in two major ways. First, the concept of motivation is refined to focus on motivators of productive work behavior rather than motivation in general. This refinement is appropriate since the implication of finding motivational differences is that IS and non-IS people should be managed differently. While managers may be interested in managing behaviors other than productive work behavior (for example, turnover behavior), their day-to-day concern is to manage for productivity. Second, the measure of motivation used in this study purposely differs from that used in prior studies, as suggested by Bartol and Martin.
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[3]. The external validity, or generalizability of research findings across time, settings, and persons, is enhanced if the same results are obtained using different methodologies.

Foundations of this Research

Motivators of Productive Work Behavior

As noted in Bartol and Martin's review [3], prior research on motivational differences has led to tentative conclusions that IS people have lower social needs and higher need for achievement. In some studies these differences may be explained by differences in the occupational levels of the IS and non-IS people being compared, rather than by differences in IS and non-IS people. Couger and Zawacki [6] control for occupational differences by categorizing IS and non-IS people into one of three occupational groups before making comparisons. The three groups are those doing clerical/operations work, those doing technical/professional work, and those doing managerial work. Examples of IS employees at the clerical/operations level are data entry clerks and computer operators; at the technical/professional level are programmers and systems analysts; and at the managerial level are first-line supervisors of systems, programming, and operations, as well as managers of these areas and upper level management of the IS function. Our study controls for occupational differences using the same categories as Couger and Zawacki.

The motivators of productive work behavior for IS and non-IS people in these various occupations may extend beyond social and achievement needs. To determine which additional needs to include, we examined works that have persisted over the years or shown strength in explaining productive work behavior. In particular, this study builds on the motivational studies of McClelland [16], Maslow [15], Herzberg, Mausner, and Snyderman [8], and Alderfer [1]; as well as works on leadership by Barrow [2], Locke and Schweiger [12], and Likert [11]; works on reinforcement by Skinner [20], Ilgen, Fisher, and Taylor [9], and Luthans and Kreitner [14]; and reviews of goal setting studies by Latham and Yukl [10] and Locke, Shaw, Saarl, and Latham [13].

Upon examining and interpreting this literature, we developed three assumptions to guide this study. First, five need areas — guidance, social, esteem, achievement, and power — define the domain for generating a sample of items that motivate productive work behavior. Second, these needs are considered relevant to a manager only if they are evoked as motivators of productive work behavior in the work environment. Finally, only a limited number of motivators are evoked in the work environment, and these dominant motivators form a unique motivational pattern. Thus, this study extends prior studies by measuring dominant motivators of productive work behavior rather than motivators of behavior in general, and by sampling from five need areas rather than only one or two.

Measuring Motivators

Before deciding upon an instrument for measuring a set of dominant motivators, we examined Couger and Zawacki’s method of measuring motivation. Their study is the most extensive in the literature and provides a standard for comparison. The items they use are on seven-point scales and are summed to obtain the motivational measure. The respondent indicates that she/he would like having less at the low end of the scale or more at the high end.

Their study measures two needs. Social need strength is reported to be measured by three items. The split-half reliability coefficient using the Spearman-Brown formula is reported as .60 for a sample of 709 analysts and programmers, and .59 for a sample of 504 IS managers; no reliability is reported for the 1227 clerical/operations employees. Growth need strength, which includes such items as “stimulating and challenging work” and “chances to exercise independent thought and action in my job,” is measured by six items. Its reported reliability ranges from .76 to .86 across the three occupational groups. No study of validity is reported for either scale.

The alternative motivational measure used in this study extends prior measures not just by...
using different items from a wider set of need areas, but also by focusing on motivators of productive work behavior and by using a different format than the summated rating scale. The specific characteristics of the motivational measure developed for this study and the reasons for these characteristics are discussed more fully below.

The Motivational Checklist

The measure used in this study includes items for the five need areas identified earlier — guidance, social, esteem, achievement, and power needs. Two items are included for each of the five need domains to allow for equal sampling from each.

The ten items in the motivational checklist (see Appendix 1) are based on the literature on motivation and behavior cited earlier. An employee's need for guidance is reflected in a desire for (1) a clear understanding of what to do and (2) regular feedback on job performance. An employee's social needs are indicated by an interest in (3) supportive working relationships and (4) sympathetic understanding from the supervisor. Esteem needs include (5) being respected as a person and employee and (6) receiving recognition or rewards for work efforts. Achievement needs are suggested by (7) knowing superiors expect the best and (8) performing important work that uses several of one's skills. Finally, the items based on power needs are (9) having authority to make important decisions and (10) being able to influence what goes on in the department and company.

The format of this instrument is designed to determine which, if any, motivators of productive work behavior are most highly evoked. The checked items indicate the respondent's pattern of dominant, evoked motivators of productive work behavior.

In addition to the theoretical rationale presented above, a practical goal helped shape the instrument's item content, length, and format. We wanted this measure, and the results obtained with it, to help managers understand the day-to-day levers they might move to influence their employee's work behavior. Thus, we assumed that the items should be relatively limited in number to limit the time needed for administration and to facilitate the interpretation and understanding of results; the items should be within the control of the work group manager and they should be presented in a manner that indicates which motivators are most important in determining productive work behavior since managers can focus their attention on only a few motivational levers at one time. A search for other instruments failed to reveal any that satisfied the theoretical and applied values just reviewed; thus, the measure of motivation presented above was developed specifically for this study.

Hypothesis

This study tests the following null hypothesis: IS and non-IS people within the same occupational group do not have different motivational patterns.

This hypothesis is tested for three occupational groups: clerical/operations, technical/professional, and managerial. The motivational pattern of the IS people within a given occupational group is represented by the group's frequency of selection of each of the ten motivators. The hypothesis is tested using a chi-square analysis of differences in the frequency distributions of IS and non-IS people.

Methodology

As noted earlier, the external validity, or generalizability of research findings across time,
settings, and persons, is enhanced if the same results are obtained using different methodologies. Thus, our methodology, while not replicating the methodology of any previous study, does allow the cumulation of research findings regarding differences in IS and non-IS people. If differences in these people are found with our conceptualization and operationalization of motivation, the generalizability of the conclusion that motivational differences exist between IS and non-IS people will be considerably enhanced; if no differences are found, the generalizability will be brought into question and require further research to understand what differences do indeed exist.

Samples
Seven independent samples provided a broad base of 1005 employees for this study. The participants represented over 100 insurance companies in the midwest. Based upon hierarchical level, area of work, job title, and pay, respondents were classified as IS or non-IS employees in one of three major groups: clerical/operations (39%), technical/professional (23%), and managerial (38%). See Table 1 for demographics.

The authors administered a survey instrument on company time to 542 employees in six insurance companies, explaining that individual responses would remain confidential and that the survey was part of a research study to identify the most effective methods of managing in the insurance industry. These six companies were recommended by the director of the Drake Insurance Center as companies likely to participate in such a study. They were asked to include their non-selling, non-supervisory production employees. Companies did not provide us with records to indicate how complete a census was obtained.

The same survey instrument, with slight modification for some demographic data and a cover letter from the Director of the Drake University Insurance Center, was sent to a one-third systematic random sample of insurance industry employees in eleven midwestern states who had earned the FLMI (Fellow of the Life Management Institute) designation. Over 52%, specifically 463 of 888 potential respondents, voluntarily completed and returned the survey.

Survey Instrument
The complete survey instrument asks questions about the immediate work environment, the organizational environment, and the individual. Included in the questions about the individual is the instrument for measuring motivators of productive work behavior (see Appendix 1). Nunnally notes that content validity is based "mainly on appeals to reason regarding the adequacy with which important content has been sampled and on the adequacy with which the content has been cast in the form of test items" [19, p. 93]. Our earlier descrlp-
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tion of the development of this Instrument provides a basis for judging that this instrument has content validity.

Analytical Procedures

The analytical procedures used in this study have two major focuses. The first focus is on exploring the scale properties of the motivational measure developed for this study. The second focus is on testing the hypothesis. Given that this study involves both focuses, the sample is divided into two random groups. The first sample is used to explore the properties of the motivational measure. The second sample is used to cross-validate the motivational measure and to test the hypothesis with a sample independent from that used to explore the scale properties.

Results

Scale Properties

Two types of analysis are used to explore scale properties. The first analysis focuses on the dimensionality of the motivational measure. Factor analysis and scale reliability analysis are used to assess whether the ten items reduce to fewer than ten dimensions. (Inspection of the data shows that most respondents did check five items but that several checked fewer than five. As a result, the scores for all respondents across the ten items do not sum to the same value; thus, the mathematical properties of ipsative scales that place restrictions on the use and analysis of ipsative data, particularly with regard to factor analysis [5], do not apply.) The second analysis focuses on the validity of the scale.

Dimensionality. To determine whether any of the ten items should be added together because they form underlying dimensions, the set of responses was examined using factor analysis and scale reliability analysis. Given that only two items were included in the instrument for each of the five multidimensional need domains, it was expected that ten separate dimensions would result. However, a reduced set of dimensions should be considered if (1) factor analysis indicates a large percentage of the variance in the original ten items can be explained by a smaller number of factors and (2) scale reliability analysis of the items having high loadings on a given factor indicates that those items have high internal consistency.

Several factor and scale reliability analyses were conducted to determine which, if any, items form underlying dimensions. For example, extractions of five, four, three, and two factors with varimax and oblique rotations were examined. These were followed by various scale reliability analyses. None of the measures of internal consistency was in or above the range (.70-.80) normally accepted as the minimal value indicating that the items are all measuring the same dimension. As expected, these analyses indicate these items should not be added together to form a scale.

These analyses lead to the conclusion that the ten items are assessing ten different dimensions. The simple 0-1 scores for the ten items are the ten separate variables that should be used when this particular instrument is used to describe an individual's motivational pattern. Internal consistency reliability coefficients for these individual-item dimensions are not defined. Other measures with undefined internal reliability exist in the literature. For example, the TAT for measuring need for achievement [17] measures a multi-dimensional construct, but it does not have an assessment of internal consistency reliability for each of the dimensions of the need for achievement as each dimension is not measured by multiple items.

Validity. Two validity analyses are conducted on this instrument — construct validity and cross-validation. Nunnally comments that "construct validity really boils down to something rather homespun — namely circumstantial evidence for the usefulness of a new measurement method" [19, p. 109]. Campbell [4] notes further that the researcher must make hypotheses about how the instrument will act in empirical studies. Cross validation involves checking the results from the first half sample against results from the second half sample.

The circumstantial evidence for this instrument is developed by determining if it empiri-
cally supports an hypothesis that clerical/operations, technical/professional, and managerial employees have different patterns of motivation. The hypothesis that patterns of motivation differ for people in these three job groups is inherent in theories of job design and job satisfaction [7]. Thus, an instrument that supports this hypothesis, i.e., shows discriminable motivational patterns across these three diverse occupational groups, provides circumstantial evidence for construct validity. The distinct patterns of motivators in this study for the three occupational groups are evident when the frequencies and percentages of respondents checking the motivators are visually inspected. Table 2 shows these percentages and the rank of each motivator by occupational group.

The greatest differences in motivational patterns are evident when comparing clerical/operations employees with managers; less dramatic, yet distinctive differences are evident when comparing clerical/operations employees to technical/professionals and when comparing technical/professionals to managers. Clerical/operations employees have supportive relationships and a clear job in their top five motivators of productive work behavior in contrast with managers, who have authority and influence in their top five motivators instead. Clerical/operations employees and technical/professional employees differ in that the clerical/operations employees have a clear job in their top five motivators while technical/professionals have authority instead. Managers and technical/professionals differ in that managers have influence in their top five motivators while technical/professionals have supportive relationships instead.

The motivational pattern for each occupational group — as indicated by the frequencies for the ten motivators — is compared with the motivational pattern of each other group to yield a chi-square statistic summarizing how different the motivational patterns are across the occupations. A chi-square statistic close to 0 indicates the patterns of motivation are the same. A high chi-square (i.e., a value greater than 28.9 when there are 18 degrees of freedom, as in this analysis) indicates the patterns of motivation are significantly different beyond the .05 level. The calculated

Table 2. Motivational Determinants of Productive Work Behavior — General*

<table>
<thead>
<tr>
<th>Motivational Determinants</th>
<th>Freq.</th>
<th>%</th>
<th>Rank</th>
<th>Freq.</th>
<th>%</th>
<th>Rank</th>
<th>Freq.</th>
<th>%</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive Relationships</td>
<td>145</td>
<td>73.6</td>
<td>2</td>
<td>61</td>
<td>59.2</td>
<td>3</td>
<td>87</td>
<td>44.6</td>
<td>7</td>
</tr>
<tr>
<td>Clear Job</td>
<td>119</td>
<td>60.4</td>
<td>3</td>
<td>44</td>
<td>42.7</td>
<td>7</td>
<td>94</td>
<td>48.2</td>
<td>6</td>
</tr>
<tr>
<td>Sympathetic Understanding</td>
<td>55</td>
<td>27.9</td>
<td>8</td>
<td>12</td>
<td>11.7</td>
<td>10</td>
<td>21</td>
<td>10.8</td>
<td>10</td>
</tr>
<tr>
<td>Influence</td>
<td>25</td>
<td>12.7</td>
<td>10</td>
<td>36</td>
<td>35.0</td>
<td>8</td>
<td>111</td>
<td>56.9</td>
<td>4</td>
</tr>
<tr>
<td>High Expectations</td>
<td>59</td>
<td>29.9</td>
<td>7</td>
<td>28</td>
<td>27.2</td>
<td>9</td>
<td>56</td>
<td>28.7</td>
<td>9</td>
</tr>
<tr>
<td>Meaningful Work</td>
<td>113</td>
<td>57.4</td>
<td>4</td>
<td>80</td>
<td>77.7</td>
<td>1</td>
<td>135</td>
<td>69.2</td>
<td>1</td>
</tr>
<tr>
<td>Feedback</td>
<td>99</td>
<td>50.3</td>
<td>6</td>
<td>45</td>
<td>43.7</td>
<td>6</td>
<td>63</td>
<td>32.3</td>
<td>8</td>
</tr>
<tr>
<td>Appreciation</td>
<td>102</td>
<td>51.8</td>
<td>5</td>
<td>59</td>
<td>57.3</td>
<td>4</td>
<td>99</td>
<td>50.8</td>
<td>5</td>
</tr>
<tr>
<td>Authority</td>
<td>53</td>
<td>26.9</td>
<td>9</td>
<td>46</td>
<td>44.7</td>
<td>5</td>
<td>127</td>
<td>65.1</td>
<td>2</td>
</tr>
<tr>
<td>Respect</td>
<td>155</td>
<td>78.7</td>
<td>1</td>
<td>71</td>
<td>68.9</td>
<td>2</td>
<td>115</td>
<td>59.0</td>
<td>3</td>
</tr>
</tbody>
</table>

*All results are based on the 503 respondents in the first random sample. Because of missing data, not all respondents could be classified into a particular occupational group.
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chi-square is 142.6. (The expected frequencies were obtained using the number of respondents in each occupational group as the marginal column totals, the sum of the frequencies in each row as the marginal row totals, and the total number of respondents, i.e., the sum of the number of respondents in each occupational group, as the total N. All chi-square statistics in this study were calculated in a similar manner.)

Both the visual inspection and statistical analysis show that this instrument has construct validity since it supports the hypothesis that the motivational patterns of these three occupational groups are different. Visual inspection and statistical analysis of the data in the second sample (where the calculated chi-square is 180.1) cross-validate this conclusion.

Testing the Hypothesis

Two steps are used to test the hypothesis that IS and non-IS people within the same occupational group do not have different motivational patterns. First, the similarity of the patterns of motivators for IS and non-IS employees is qualitatively examined. The top five motivators for each group are compared. The percentage of IS and non-IS employees in the clerical/operations, technical/professional, and managerial groups checking each of the ten motivators is presented in Table 3.

Second, the similarity of patterns of motivators is quantitatively examined. The frequencies resulting from respondents checking the motivators indicate the pattern of motivators for each group. Chi-square statistics are computed for the patterns of motivators for IS and

| Table 3. Motivational Determinants of Productive Work Behavior — IS vs non-IS* |
|---------------------------------|---------------------------------|---------------------------------|
|                                 | Clerical/Operation              | Technical/Professional          | Managerial                     |
|                                 | IS (N = 39)                     | Non-IS (N = 153)               | IS (N = 55)                    | Non-IS (N = 68)               |
|                                 | IS (N = 39)                     | Non-IS (N = 153)               | IS (N = 39)                    | Non-IS (N = 144)              |
| Motivational Determinants       | % Rank                         | % Rank                         | % Rank                         | % Rank                         |
| Supportive Relationships        | 79.5 2                         | 74.5 1                         | 65.5 2                         | 53.0 4                         | 33.3 7                         | 43.8 6                         | 6                         |
| Clear Job                       | 61.5 3.5                       | 66.7 3                         | 45.5 5                         | 42.4 6                         | 35.9 6                         | 38.2 7                         | 7                         |
| Sympathetic Understanding       | 41.0 6.5                       | 22.9 9                         | 12.7 10                        | 12.1 10                        | 5.1 10                         | 6.9 10                         | 10                        |
| Influence                       | 12.8 10                        | 14.4 10                        | 29.1 8                         | 40.9 7                         | 69.2 3                         | 59.7 4                         | 4                         |
| High Expectations               | 28.2 8                         | 37.9 7                         | 25.5 9                         | 24.2 9                         | 23.1 8.5                       | 27.1 8                         | 8                         |
| Meaningful Work                 | 61.5 3.5                       | 59.5 4                         | 81.8 1                         | 69.7 2                         | 84.6 1                         | 74.3 1                         | 1                         |
| Feedback                        | 41.0 6.5                       | 45.1 6                         | 36.4 7                         | 39.4 8                         | 23.1 8.5                       | 18.1 9                         | 9                         |
| Appreciation                    | 53.8 5                         | 45.8 5                         | 50.9 4                         | 66.7 3                         | 51.3 5                         | 56.3 5                         | 5                         |
| Authority                       | 15.4 9                         | 31.4 8                         | 40.0 6                         | 51.5 5                         | 74.4 2                         | 68.1 3                         | 3                         |
| Respect                         | 82.1 1                         | 69.9 2                         | 63.6 3                         | 74.2 1                         | 64.1 4                         | 73.6 2                         | 2                         |

*All results are based on the 502 respondents in the second random sample. Because of missing data, not all respondents could be classified into a particular category.

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non-IS groups within each occupational group, A chi-square close to 0 indicates the patterns of motivation are the same. A high chi-square (i.e., a value greater than 16.9 when there are 9 degrees of freedom as in this analysis) indicates the patterns of motivation are significantly different beyond the .05 level.

Clerical/Operations Employees. Within the clerical/operations group, qualitative analysis shows that the top five motivational determinants of productive work behavior for IS people are respect, supportive relationships, a clear job, meaningful work, and appreciation. These same items are the top five items for non-IS people with the first two in reverse order. The calculated chi-square statistic for comparing the patterns of motivators for these two groups is 9.0. This statistic indicates a high degree of similarity in the patterns of motivation for IS and non-IS employees. Thus, both quantitative and qualitative analyses support the hypothesis of no motivational difference in IS and non-IS clerical/operations employees.

Technical/Professional Employees. Within the technical/professional group the top five motivational determinants of productive work behavior for IS people are meaningful work, supportive relationships, respect, appreciation, and a clear job. The top five items for non-IS people are respect, meaningful work, appreciation, supportive relationships, and authority. The top four items are in a different order for each group, but they are the same items. The difference is that IS people have a clear job as the fifth item while non-IS people have authority as the fifth item; however, a clear job is the sixth item for non-IS people, and authority is the sixth item for IS people.

The calculated chi-square statistic for comparing the patterns of motivators for these two groups is 5.3. This statistic indicates a high degree of similarity in the patterns of motivation for IS and non-IS employees. Thus, both quantitative and qualitative analyses support the hypothesis of no motivational difference in IS and non-IS technical/professional employees.

Managerial Employees. Within the managerial group the top five motivational determinants of productive work behavior for IS people are meaningful work, authority, influence, respect, and appreciation. These same items are the top five items for non-IS people with the middle three items in a different order. The chi-square statistic for comparing the patterns of motivators for these two groups is 3.2. This statistic indicates a high degree of similarity in the patterns of motivation for IS and non-IS employees. Thus, both quantitative and qualitative analyses support the hypothesis of no motivational difference in IS and non-IS managerial employees.

Discussion
The motivational patterns of IS and non-IS employees within each occupational group are quite similar. These results contrast with reports that IS and non-IS people have pronounced motivational differences.

Conceptually, we have refined the concept of motivation to consider a pattern of needs affecting productive work behavior. In contrast, the Couger and Zawacki study conceptually defines social need strength as the desire to interact and socialize with other employees both on and off the job. Their conceptualization of social needs refers to a general level of need strength that may or may not have an effect on productive work behavior. Furthermore, they do not define a complete pattern of needs since they focus on only social and growth needs.

Using the different conceptualizations of motivators from both our study and Couger and Zawacki's study, some of the findings may fit together with the following explanation. If IS people have lower social needs in general, as reported by Couger and Zawacki, they may not seek out social interaction if left on their own, i.e., they may let others initiate interactions. However, this tendency does not mean IS people are social misfits. Indeed, if their jobs place them in a setting that allows or involves interaction with others, our results indicate that clerical/operations and technical/professional IS people would find working with friendly, supportive people among the items most likely to encourage productive
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work behavior. Thus, our findings do not suggest that managers should restrict interactions with and among IS people; rather, they suggest that friendly, supportive working relationships should be encouraged. Cougar and Zawacki's findings suggest, however, that such relationships may not develop as readily if IS people are left on their own as they will if the manager actively intervenes.

Methodologically, we have used a different instrument that demonstrates construct validity. Bartol and Martin [3] were tentative in citing differences between IS and non-IS people because of concern with the measures that yielded these differences. The items used in our instrument are only a sample of the items that could have been used, and the assessment of the instrument used in this study is incomplete; nevertheless, in Nunnally's words, it has produced "interesting findings and tends to fit the construct name applied" to it. If such results continue "over the course of numerous investigations," researchers should be "encouraged to continue using the instrument in research and to use the name to refer to the instrument" [19, p. 109].

The self-report nature of the instrument used in this study is the same as that used in other studies. Thus, differences in results should not arise from this measurement approach. Future studies using methods other than self-report would be appropriate.

Another methodological difference is in our sampling. Our sample of employees in insurance companies in the midwestern United States is not a random sample of all such employees. How similar IS and non-IS people in this sample are to others in different geographic areas, white collar positions, or the general workforce is unknown. The more representative these employees are of others, the more generalizable are our results.

As in the Cougar and Zawacki study, we have compared IS and non-IS employees within the same occupational group. Reported differences between IS and non-IS people in other studies may result from comparisons of IS people in one occupational group and non-IS people in another. Comparisons across non-similar occupational groups should be viewed carefully, as the occupational group has significant explanatory power. For example, although this study did not investigate employees in sales occupations, we would hypothesize that IS technical/professionals have different motivational patterns than sales people; however, we would also hypothesize non-IS technical/professionals are different from sales people and that those differences are the same as the differences between IS technical/professionals and sales people.

Until further studies show otherwise, we suggest that within a given occupational group IS people are as motivationally normal with respect to doing their job as non-IS people. Perhaps workplace differences between IS and non-IS people are to be found in some behavior other than productive work behavior (e.g., turnover), or in factors influencing behavior other than motivators of that behavior. Further research could focus on other factors, such as the environment, that may affect behavior.

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References

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Thomas W. Ferratt is Professor of Decision Sciences at the University of Dayton. He has also been on the faculties of Indiana University and Drake University. After receiving his undergraduate degree from the University of Notre Dame, he served as a computer programmer and systems analyst. His M.B.A. and Ph.D., with emphasis in both the behavioral and quantitative areas, are from Ohio State University. He has served as an adviser to business and government. In addition, he has conducted workshops on motivation and productivity. He has had articles published in
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Appendix 1.
Instrument for Measuring Motivators of Productive Work Behavior

Read the items below. Place a checkmark beside 5 items, at most, that are most likely to encourage you to produce at your highest potential. (Do not check more than 5 items; you may check fewer than 5.)

_____ Supportive Relationships (Working with friendly, supportive people)
_____ A Clear Job (Having a clear understanding of what I am to do)
_____ Sympathetic Understanding (Having a supervisor that tries to understand me and my concerns)
_____ Influence (Being able to influence what goes on in my department and the company as a whole)
_____ High Expectations (Knowing my superiors expect me to do my best)
_____ Meaningful Work (Performing important work, using several of my skills)
_____ Feedback (Receiving regular feedback on how I am doing my job)
_____ Appreciation (Receiving recognition or rewards for my work efforts)
_____ Authority (Having authority to make important decisions in my work)
_____ Respect (Feeling that my employer values me as a person and employee)
_____ None of the above encourage me to produce at my highest potential