

Issues and Opinions

Rethinking the Issue of Whether IS People Are Different From Non-IS People

Our review of the study by Ferratt and Short ("Are Information Systems People Different: An Investigation of Motivational Differences," *MIS Quarterly* (10:4), December 1986, pp. 377-387) leads us to three comments. First, we are concerned that their conclusion was made after testing three hypotheses but without thorough examination of their data. To supplement their analysis, we re-examined their data, using 21 additional hypotheses. Second, we observed that they did not explicitly validate their argument that the popular perception of differences between IS and non-IS people in fact comes from differences among the occupational levels rather than from differences between IS and non-IS people. We developed 36 new hypotheses to test this argument. Third, we noted that they did not explicitly examine their major assumption that there are differences among different occupational levels in the IS and non-IS people. If there are no differences, it would not be necessary to divide IS and non-IS people into three occupational levels. To examine this question, we developed 36 additional hypotheses. As a whole, we believe that it is necessary to add 93 hypotheses to Ferratt and Short's original three hypotheses to adequately test their propositions.

Ferratt and Short suspected that simple comparison between IS people and non-IS people might generate a misleading conclusion because the conclusion may be attributable not to the differences between IS and non-IS people but to the differences among occupational levels. To avoid that kind of risk, they compared IS people with non-IS people by occupational level, such as clerical/operation, technical/professional, and managerial. All of their three hypotheses such as $U(\text{IS-C}) = U(\text{Non-C})$, $U(\text{IS-T}) = U(\text{Non-T})$, and $U(\text{IS-M}) = U(\text{Non-M})$ could not be rejected because of low chi-square values. (U represents a motivational pattern. For instance, $U(\text{IS-C})$ in-

dicates a motivational pattern for clerical level in IS people.)

Before testing their three hypotheses based on three occupational levels, it is our contention that they should have first tested the main hypothesis of $U(\text{IS}) = U(\text{Non})$ because they suspected the validity of this hypothesis in prior studies. Because the chi-square value that we computed to test this hypothesis is not statistically significant, we can say that there is no motivational difference between IS and non-IS people. This conclusion confirms Ferratt and Short's and eliminates the possibility of a discrepancy between this main hypothesis and Ferratt and Short's specific hypotheses by occupational level.

Ferratt and Short developed a 10-question survey instrument to examine five need areas: (1) need for guidance; (2) social needs; (3) esteem needs; (4) achievement needs; and (5) power needs. However, they did not explicitly examine each need area to check whether IS people differ from non-IS people in any individual need category. Instead they compared each occupational level in a set of those five need areas and rejected the perception that IS people have a lower social need and a higher achievement need than non-IS people.

No difference when compared in a set does not eliminate the possibility of difference in a certain need area. Thus, an additional question that should be asked is whether IS and non-IS people differ in each of those five need areas separately. All of our comparisons between IS and non-IS people in each need area show insignificant chi-square values. To check each need area based on each occupational level, we add 15 more hypotheses.

Again, our computer chi-square values are insignificant in all cases. Thus, the results of testing 21 additional hypotheses confirm Ferratt and Short's conclusion derived from the results of testing their three hypotheses. However, this confirmation should not be construed that it would be unnecessary to check the additional hypotheses. Without checking them, it would be hard for Ferratt and Short to justify the validity of their conclusion.

To validate their conclusion, Ferratt and Short had to provide some plausible reasons why previous reports indicate that IS and non-IS people are motivationally different. They made an explanation by arguing that, "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" (p. 385). They provide an example to support this claim, but we do not find it to be persuasive. Further, we believe that it is irrelevant to reject other studies' findings based on a possibly inappropriate example rather than on conclusive evidence.

As a way to check the validity of their argument, we decided to compare each occupational level within IS people with a different occupational level of non-IS people. For this purpose, we developed six hypotheses: $U(\text{IS-C}) = U(\text{Non-T})$, $U(\text{IS-C}) = U(\text{Non-M})$, $U(\text{IS-T}) = U(\text{Non-C})$, $U(\text{IS-T}) = U(\text{Non-M})$, $U(\text{IS-M}) = U(\text{Non-C})$, $U(\text{IS-M}) = U(\text{Non-T})$.

We found that all of the hypotheses except for the last one are rejected because their chi-square values are statistically significant. Again, these results support Ferratt and Short's argument. However, to make this matter more clear, we next decided to develop five detailed hypotheses for each hypothesis above, leading to a total of 30 additional hypotheses: $U(\text{IS-C}_i) = U(\text{Non-T}_i)$, $U(\text{IS-C}_i) = U(\text{Non-M}_i)$, $U(\text{IS-T}_i) = U(\text{Non-C}_i)$, $U(\text{IS-T}_i) = U(\text{Non-M}_i)$, $U(\text{IS-M}_i) = U(\text{Non-C}_i)$, $U(\text{IS-M}_i) = U(\text{Non-T}_i)$, where $i = 1,2,3,4,5$.

Of the 30 tested, we found only five hypotheses to be statistically significant. Specifically, we found that clerical people in IS have lower social needs than technical and managerial people in non-IS, and technical and managerial people in IS have higher achievement needs than clerical and technical people in non-IS, respectively. The pattern of these findings is surprisingly similar to reports from previous studies and supports the contention that earlier reports of difference arose from mixing occupational levels in IS and non-IS. Now we may safely conjecture that previous studies have derived a misleading conclusion based on an inappropriate comparison.

A final question involves whether there are differences among clerical, technical, and managerial people either in IS or in non-IS. If there are no differences, it is unnecessary to compare IS people with non-IS people by occupational level. For this purpose, we next developed 18 hypotheses for IS and non-IS, respectively, for a total of 36 hypotheses: $U(\text{IS-C}) = U(\text{IS-T})$, $U(\text{IS-C}) = U(\text{IS-M})$, $U(\text{IS-T}) = U(\text{IS-M})$, $U(\text{IS-C}_i) = U(\text{IS-T}_i)$, $U(\text{IS-C}_i) = U(\text{IS-M}_i)$, $U(\text{IS-T}_i) = U(\text{IS-M}_i)$, $U(\text{Non-C}) = U(\text{Non-T})$, $U(\text{Non-C}) = U(\text{Non-M})$, $U(\text{Non-T}) = U(\text{Non-M})$, $U(\text{Non-C}_i) = U(\text{Non-T}_i)$, $U(\text{Non-C}_i) = U(\text{Non-M}_i)$, $U(\text{Non-T}_i) = U(\text{Non-M}_i)$, where $i = 1,2,3,4,5$.

In this examination, we found clear differences among the three occupational levels in both IS and non-IS. We consistently found statistically significant chi-square values for those hypotheses testing level differences. This finding justifies the comparison by occupational level. However, there are noticeable differences between IS and non-IS people. For instance, only one out of 15 hypotheses for individual needs in IS people is rejected, while five out of 15 hypotheses in non-IS people are rejected. From this we conclude that managerial people in Non-IS have higher achievement needs and power needs but lower social needs than clerical people in non-IS, while there are no such differences between managerial people and clerical people in IS. This finding indicates that the non-IS area has more diversified people in terms of their needs than are present in the IS area.

Ferratt and Short contradict the prevailing perception that IS people are motivationally different from non-IS people. However, we found their conclusion not fully convincing because they did not explicitly examine some key issues. We support and amplify their conclusions by analyzing their survey data more thoroughly using 93 additional hypotheses to deal with those issues.

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