A STUDY ON RETENTION AND RECRUITING OF PROGRAM MANAGERS IN DEFENSE INDUSTRY ORGANIZATIONS

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ABSTRACT

This paper focuses on the retention and recruiting of program managers (PM) in U.S. defense industry organizations. It addresses why U.S. former military trained program managers (FTPM) are leaving the military before reaching retirement. Second, what motivates private defense industry to hire these FTPM? As the military weapon system becomes more complex to develop, both recruiting and retaining skilled personnel are two important systematic elements to consider in the business of weapon systems acquisition.

INTRODUCTION

To ensure national security, the United States Department of Defense (DoD), and the industrial elements that support it, must have access to a pool of technical and managerial individuals to support the research, development, and production of defense systems and programs. As described by the President's Blue Ribbon Commission's Report on Defense Management [E], it is absolutely imperative that individuals be experienced and skilled in the particular disciplines required to produce the desired defense force structure [7].

According to Quester and Thomason [9], the DoD has projected a reduction in reenlistments as military service becomes less attractive to a shrinking manpower pool; especially to those with marketable skills that can be used in the private sector defense industry. As illustrated by the United States Air Force (USAF) Manpower Personnel Center (HQ MPC), retentions have become difficult, at best [6].

As mentioned by Caton [2], the industrial elements that support the DoD face similar problems. In the highly scientific areas, there is heavy competition among the industrialists for competent personnel. Growth in many disciplines has strained the ability of defense contractors to find and keep achievers in this highly competitive marketplace. The private defense industry organizations compete not only with each other, but also with consumer electronics and applications systems companies for the same manpower [7].

Both the DoD and the defense support industries must find a way to attract and retain a reservoir of skilled scientists and managers to fill defense requirements. To accomplish this, a common concept of remuneration must be found. Identifying those services and benefits which promote employee retention would lead to a means of maintaining and expanding the available human resources as part of the defense industry.

This study was designed to benefit both the military services and civilian private defense industry by providing a better understanding of the motivating elements which enhance civilian competition for trained military program managers, as well as assisting both the DoD and private defense industry in planning incentive packages to attract and retain needed personnel for defense requirements.

This study was conducted to determine if a common set of elements exists that would account for the movement of FTPM to the private defense industry and also, for the reasons of hiring FTPM by the private defense industry. The study attempted to compare perceptions of (1) former non-retired members of the U.S. military who are functioning as program managers in private defense industry and (2) industrial supervisors (IS) in program management organizations to determine what managerial leadership attributes

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were motivating factors in hiring FTPM versus civilian-trained program managers (CTPM) into private defense industry organizations. All respondents were employed at elements of the DoD or private defense industry at the time of the survey.

RESEARCH APPROACH

The research method used for this study was to conduct opinion surveys using a semi-structured interview instrument which contained the two different categories of the data base. The first portion of the instrument was to identify the perceptions, and to gather the opinions, of former FTPM who had voluntarily left the military but were currently working in private defense industry organizations. The second portion of the instrument was to identify the perceptions, and to gather the opinions, of industrial supervisors of FTPM who also were currently working in private defense industry.

The instrument was designed based upon using previous studies such as Blank [1], Chow and Polich [3], Faris [4], Stodgil [10], and Ghiselli [5] and the Headquarters USAF Manpower Personnel Center's proven instrument called "New Direction" as well as Officer's Exit Survey. Also the instrument was pilot tested using 15 individuals in each category from the selected private defense industry and military program management organization.

With the aid of the personnel administration departments in the selected organization, a sample size of 46 FTPM and 81 IS in private defense industry were selected from each organizations. All 127 potential participants who met the criteria for the data source specified for the study were contacted individually and the purpose of the study and their possible contribution to its success were explained. They were requested to set up the interview appointment once they had decided to participate in the study. Each prospective participant was encouraged to ask questions regarding the interview instrument prior to their agreement to cooperate in the research effort.

Of the 127 potential participants who were contacted, 46 out of 46 FTPM and 66 out of 81 IS in private defense industry organizations agreed to complete the interviews. At the conclusion of the period specified for the collection of the survey data, a total of 112 out of 127 scheduled interviews were completed. The researcher promised to share the findings of the study with those respondents who expressed a desire to know the final study results.

Because most of the research questions and the corresponding research hypothesis were focused on FTPM and civilian industrial supervisors, all of the research hypotheses were tested based on opinion findings. For each research hypothesis, a corresponding statistical null hypothesis was formed and tested to determine whether there was any significant relationship between variables. Some of the research questions were descriptive elements.

[The names of FTPM and industrial supervisors were obtained from the personnel departments in the selected private defense industry organizations.]

ANALYSIS

To search for the answers to the research question 1, the research hypothesis 1 has been formulated. Research hypothesis 1 stated: There are various elements of employment in military organizations versus those in private defense industry organizations which former military-trained program managers see as differing in importance for motivating these managers to leave military or private employment.

The research data which addressed this research hypothesis were derived from interview questions 8, 9, 10, and 11 of the interview instrument. Question 8 asked: "In your view, what were all the possible reasons or elements of employment that convinced you to leave military service?" The responses to this question were tabulated and are shown in Table 1.

![Table 1](image-url)
For the military, income, as a key element of employment was mentioned by 93 percent of the interviewees, job choice by 91 percent, promotion by 91 percent, chance to use educational skills by 85 percent, job rotation by 76 percent, rules and regulations by 74 percent, recognition by 70 percent, family separation by 70 percent, quality of supervision by 67 percent, fringe benefits by 67 percent, work hours by 28 percent, additional duties by 26 percent, and five other miscellaneous elements by 11 percent. The miscellaneous elements of employment mentioned by 11 percent or less were administrative support, secretarial support, travel, excessive work hours, and family services.

Questions 9 and 11 asked: "How would you rate yourself on each of these reasons or elements of employment on a 5-point scale with 5 being the strongest in terms of motivation for leaving?" The analysis summaries to this question were tabulated and are shown in Table 3.

In order to test hypothesis 1, statistical null hypothesis 1 was constructed and tested. Statistical null hypothesis 1 stated: There were no significant differences in the importance of each individual motivating factor as perceived in the military versus the private defense industry environments by former military-trained program managers.

The perception scores and their analyses were used to test the statistical hypothesis. The hypothesis testings were done on each of the following 12 elements of employment: income, job choice, promotion, chance to use skills, job rotation, rules and regulations, recognition, family separation, quality of supervision, fringe benefits, work hours, and additional duties. Out of these 12 elements, income, job choice, chance to use educational skills, job rotation, rules and regulations, family separation, quality of supervision, and additional duties were rejected due to significant differences in the importance of these elements as perceived in the military versus private defense industry organizations.

Question 10 asked: "In your view, what were all the possible reasons or elements of employment that convinced civilian trained program managers to leave their employment for the better jobs? The responses to this question were tabulated and are shown in Table 2.

For the private defense industry, promotion as a key element of employment was mentioned by 98 percent of the interviewees, income by 91 percent, job choice by 72 percent, chance to use educational skills by 42 percent, work hours by 43 percent, job rotation by 35 percent, family separation by 33 percent, rules and regulations by 30 percent, additional duties by 9 percent, and five other miscellaneous elements by 11 percent. The miscellaneous elements of employment mentioned by 11 percent or less were administrative support, travel, excessive work load, secretarial support and family services.

Research question 2 asked FTPM to identify how they feel about their current employment situations in terms of better, worse, or about the same as their situation when they were in the military environment.
In response to research question 2, the mean response of 46 FTPM now working in private defense industry organizations is biased strongly toward the position that they are better off in their present position by a factor of above 95 percent. The mean scale position of 1.35 falls between the statements "Somewhat better off in private defense industry" and "Much better off in private defense industry." The frequency of responses and analyzed data are shown in Tables 4 and 5.

Research question 3 asked perceptions of FTPM about ranking the importance of elements of employment as motivating factors on leaving their former employment.

In order to answer the research question, ranks of means of importance scores attached to elements of employment in the military and in private defense industry were used and the results depicted as Table 3. Poor job choice was ranked number 1 as a reason for leaving the military while it ranked only number 6 in private defense industry organizations as perceived by FTPM. However, promotion was ranked a firm number 2 in both environments by FTPM as an important motivating factor for skilled workers to leave their employment. Additional duties, however, were judged unimportant to both employment environments.

To find answers to research question 4, research hypothesis 2 has been formulated. Research hypothesis 2 stated: There are managerial leadership attributes of FTPM versus civilian-trained program managers (CTPM) as perceived by industrial supervisors which may motivate them differently to hire these skilled managers.

The research data to address research question 4 were derived from interview questions 23, 24, 25, and 26 of the interview instrument. Question 23 asked: "In your opinion, what are all the possible managerial leadership attributes of FTPM that caused these individuals to be hired by private defense industry organizations?" The responses to this question were tabulated and are shown in Table 6.

To the FTPM applicants, almost all of the attributes were key managerial leadership attributes, as mentioned by 100 percent of the interviewees, with the exception of two attributes. Those were discipline by 98 percent and self-direction, again by 98 percent. The miscellaneous managerial leadership attribute mentioned by as few as two percent was decisiveness.
Questions 24 and 26 asked: "How would you rate yourself on each of these attributes on a 5-point scale with 5 being the strongest in terms of motivation for hiring?" The responses and analysis summaries of these data are shown in Table 8.

Question 25 asked: "In your opinion, what are all the possible managerial leadership attributes of CTPM that might have caused them to be hired by private defense industry organizations?" The responses to this question were tabulated and are shown in Table 7.

The perception scores and their analyses were used to test the statistical null hypothesis. The hypothesis testings were done on each of the following 11 managerial leadership attributes: job knowledge, scholarship, experience, cooperativeness, self-confidence, discipline, self-direction, responsibility, communication ability, supervisory ability, and initiative. Out of these 11 elements, cooperativeness, self-confidence, discipline, communication ability, and supervisory ability were rejected due to significant perception differences in the importance of these elements of the FTPM versus CTPM perceived by the industrial supervisors.

Research question 5 asked perceptions of industrial supervisors about ranking the importance of managerial leadership attributes of FTPM and CTPM which may motivate them differently to hire these skilled workers. By finding these perceptions, this researcher can analyze data to see if there are any relationships that tie in to the movement of skilled workers from military to private defense industry.

To answer the research question, ranks of means of importance scores attached to managerial leadership attributes of FTPM and CTPM were used and the results are depicted as Table 8. Discipline was ranked number 1 as a reason for hiring FTPM while it ranked only 11 as a reason for hiring CTPM, as perceived by industrial supervisors. Job knowledge was considered the most important attribute for CTPM applicants and nearly the least important for FTPM. However, all managerial leadership attributes were considered important.
(3.3 or higher on the scale out of a maximum score of 5) for both groups. These industrial supervisors surveyed rarely varied from "3" and "4" on the scale of responses to the attributes.

Research hypothesis 3 (research question 5) stated: There is a significant bias in terms of a preference for hiring FTPM over CTPM by the industrial supervisors in private defense industry organizations.

The research data to address research hypothesis 3 were derived from interview question 27 of the interview instrument. Question 27 asked: "In general, does your experience lead you to hiring FTPM over CTPM?" The responses to this question were tabulated and are shown in Table 9. The response data were rated from the score of two being neutral, three being a preference for hiring FTPM, and one being a preference for hiring CTPM. The analyzed data are shown in Table 10.

In response to research hypothesis 3, the mean response of the 61 civilian industry supervisors now working in private defense industry organizations is biased strongly toward hiring FTPM over CTPM; i.e., they would strongly prefer hiring FTPM. The mean scale position of 2.51 is significantly toward the statement "Prefer Hiring FTPM" (score of 3) rather than "Prefer Hiring CTPM" (score of 1). Therefore, statistical null hypothesis 3, of no significant bias toward FTPM, was rejected at the significance level of 0.001.

Table 9

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>FREQUENCY OF RESPONSES TO PREFER FTPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTPM</td>
<td>38</td>
</tr>
<tr>
<td>NO PREFERENCE</td>
<td>16</td>
</tr>
<tr>
<td>CTPM</td>
<td>7</td>
</tr>
</tbody>
</table>

SCORE CODE: 3 = FTPM
2 = NO PREFERENCE
1 = CTPM

Table 10

<table>
<thead>
<tr>
<th>NEUTRAL</th>
<th>COMPUTED</th>
<th>MEAN</th>
<th>S.D.</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTPM</td>
<td>61</td>
<td>2.00</td>
<td>0.89</td>
<td>16.12</td>
</tr>
<tr>
<td>CTPM</td>
<td>10</td>
<td>2.51</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The findings indicated that skilled workers are leaving the military for private defense industry organizations because of the strong influence of noneconomic factors such as poor job choices, inadequate promotion system, and poor chance to use educational skills in the military as perceived by FTPM. However, FTPM perceived economic reasons such as lack of income and slow promotion as the stronger motivating factors for CTPMs' career separations. The reasons for the movement of civilian trained program managers from one company to another company were merely economic reasons such as more pay and better promotion. This means that the elements of employment as motivating factors for skilled workers to leave their employment in the military and in private defense industry organizations were weighted differently in both settings as perceived by FTPM. As mentioned by Blank [1], there are clear correlations between elements of employment and sectorial choices. Therefore, this finding not only supports the previous study's result but also implies that both military and private defense industry ought to provide different and innovative elements of employment programs to retain these critical and skilled human resources. In order to implement today's popular management concepts such as "quality output through the people" that we hear all the time, we need to be more sensitive toward retention policies for these skilled people.

Regarding the job satisfaction issue of former military-trained program managers in private defense industry organizations, almost 100 percent of FTPM were biased strongly toward the position that they are better off in their current job environments. This simply implies that these FTPM have
made satisfying career decisions by separating from the military.

Therefore, this researcher suggests that military human resource planners pay more attention to the elements of employment such as poor job choices, reduced opportunity of using educational skills, and a too slow promotion system to provide innovative programs as good as in the private sector and, thereby, to keep the quality work force they need to increase productivity in the weapon systems acquisition arena. However, the private defense industry seems to provide better working environments than these skilled managers desire. Therefore, this researcher suggest that they maintain, as well as enhance, an excellent working environment in order to stay competitive.

In terms of hiring, industrial supervisors in private defense industry organizations thought that the managerial leadership attributes of FTPM were strongly attractive; they prefer hiring FTPM over civilian-trained program managers at a factor of above 62 percent versus only 10 percent who prefer hiring CTPM. The remaining 28 percent showed no preference over these managers. Industrial Supervisors particularly liked FTPM's attributes such as discipline, communication ability, cooperativeness, and self-confidence versus CTPM's attributes such as job knowledge, self-direction, initiative, and experience, as mentioned in Table 8. This clearly implies that industrial supervisors in private defense industry organizations like different attributes in terms of hiring FTPM versus CTPM. However, all of the analyzed attributes' means were above the neutral point in importance and thus were considered significantly important motivational factors for hiring FTPM and CTPM. Therefore, it can be concluded that, in terms of industrial supervisors' perceptions for hiring of managers, all of the 11 managerial leadership attributes were important motivating factors.

This tended to indicate that there will be smooth career transitions for FTPM into private defense industry organizations if FTPM decide to change their careers due to perceived poor elements of employment offered in the military. This means simply that FTPM are very marketable in private defense industry organizations such as the aerospace defense industry, based on my research.

REFERENCES


