E-Military Recruitment: A Conceptual Model for Contextualizing the Problem Domain

Saleh Alamro   *salamro@bournemouth.ac.uk*
Bournemouth University
Bournemouth, UK

Huseyin Dogan   *hdogan@bournemouth.ac.uk*
Bournemouth University
Bournemouth, UK

Keith Phalp   *kphalp@bournemouth.ac.uk*
Bournemouth University
Bournemouth, UK

Abstract

The rapidly changing labor market led by the hypergrowth of Information and Communications Technologies (ICTs) has forced organizations from different sectors to adopt e-recruitment. Among these sectors is the military. The migration from compulsory recruitment to a self-choice force relying on labor market has made the military sector encountering challenges to harness e-recruitment. This paper examines the various problems embedded with a unique case study of military recruitment and develops a conceptual model based on this. The objective of model is to contextualize the problems perceived and maps them to organizational recruitment objectives thereby enabling informed decisions about how to solve them. The result of analysis has given insight into the viability of model developed.
Keywords: Military Recruitment, E-recruitment, Problem Domain, Problem Domain Analysis.

1. Introduction

The Internet-led labor market has become increasingly competitive and full of diverse skills turning many organizations towards e-recruitment [8]. One of which is the military. In fact, the migration from compulsory military recruitment to an all-volunteer force relying on labor markets, in addition to a higher educational level of the new generations, strong economic situations and a low unemployment rate [11], has pushed the armed forces to get into the continuum. From a military perspective, e-recruiting brings value which includes being agile in filling vacancies, fitting to normal and exceptional circumstances, sourcing diverse and qualified applicants, and being inexpensive. However, new strategic, organizational, functional and social challenges are still expected to emerge [7]. The military is often featured with ambiguity, uncertainty, mobility, and modular organizing [12] that possibly hamper the interest of a talented job seeker in the military. Hence, our research has been driven by the question: "will the military be able to get a competitive advantage from e-recruitment?"

   In order to approach the answer of this question, we conducted research that gives insight into the problems that might be faced by the military in the pursuit of e-recruitment. Thus, we base our research on a typical case study of enlistment in Land Forces (LFs). Given enlistment process being a type of external recruitment, we define it as attracting potential job candidates who do not currently work for the military, influencing them to apply, maintaining their interest until being offered, and finally influencing them to accept a job offer. Thus, e-recruitment is the practice of using the Internet to enable such activities. Given the rise of a

global internet culture and different ways in which an employer can bring a job opening to the attention of job seekers (e.g. web-based marketing postings), the focus of e-recruitment in this paper is after the arrival at an employer's website. Moreover, the tight interrelatedness between recruitment and selection procedures [9] is also considered. Preparation training is always incorporated as part of the enlistment process [12].

2.   Problem Description

The current maturity of ICTs enables a relatively simple development and delivery of e-recruitment. However, the focus should be shifted into the desired effects (i.e. requirements) that an employer wishes to be brought in the work practice [2]. The literature has emphasized the effects of recruitment activities which may satisfy a potential applicant at the operational level. That is, for example, advertising and offering complete information that generates the number and type of individuals, professional treatment that may affect an applicant's retention, and certain actions that may influence job choice decisions (e.g. the timeliness of a job offer) [1,3]. However, moving to higher levels of analysis is necessary in order to provide comprehensive and relevant answers to many important recruitment questions [9]. To this point, very little research has been focused upon process related domain-dependent requirements that affect recruitment process. Hence, we extend our research into strategic and structural requirements to investigate the type of effects they bring into recruitment process and how the process reacts to these effects.

According to [2], problem domain analysis is the achievement of understanding problem domain and the problems (requiring solution) that exist within that domain. Given the context of enlistment process, a problem domain analysis approach can strongly contribute to a better understanding of the domain-dependent requirements and help military organizations defining the problems to be solved. Thus, the introduction of suitable action plans towards building innovative e-recruitment systems is enabled. The structure of this paper is as follows. The case study background, enlistment process and development stages are presented in Section 3. The research method is provided in Section 4. The conceptual model is developed and described in Section 5. Discussions and contributions of the conceptual model are provided in Section 6. Conclusions and future work are provided in Section 7.

3.   Case Study Background

SecureLand is an anonymous country from which the real case study is brought. The mission of Land Forces (LFs) in SecureLand is protecting national lands from all external threats [6]. Enlistment is one of the key processes on which LFs rely to ensure its military readiness and effectiveness in combating operations. An enlistee is a non-commissioned member who is recruited after the basic education, i.e. postsecondary student. The strategy of enlistment process is centrally set by the Chief of Military Personnel (CMP) of LFs, and run by a number of corps in coordination with their own schools. The mission of enlistment formally states [6] "attracting and recruiting a set of applicants; who are relatively matching job vacancies, well-qualified, and regionally diverse in a timely and efficient way". Thus, the objectives of enlistment process are recruiting the appropriate number of applicants, increased level of Knowledge, Skills, Abilities (KSAs), increased level of regional diversity, the timeliness of activities, and cost savings.

The structure of LFs is established based on seven military regions. These regions cover the whole land of SecureLand. In each region, there are a number of military units which, in turn, consist of different types of jobs belongs to different schools. The total number of military jobs allocated for each region, irrespective of their types, is relatively equal. This is to ensure equal job opportunities among SecureLand's population. However, the population consists of ethnically diverse communities which often spread over large areas of the country and sometimes stretch across borders to the neighboring countries. To enhance national security, LFs formally impose a policy that ensures a regionally diverse set of soldiers in each military region. Hence, the responsibility lies on each school to comply with this policy over

its jobs when assigning graduated enlistees. A school (i.e. recruiter) is located in one specific region based on the appropriateness of the geographical properties of that region with the type of training given. As a result, schools are unequally distributed over military regions.

3.1. Description of Enlistment Process and Improvement Stages

Enlistment process has undergone two key improvement stages: prior-2008 process and post-2008 process [6]. Each of which was pursued to achieve the objectives aforementioned. In general, the activities of enlistment process were almost rigid over the two stages and timed simultaneously with the end of basic education cycle. On the other hand, the entry requirements and location of job openings were possible to change. These activities are: announcement, reception and assessment, selection, training, and job offering. The basic military training and specialization are considered as part of enlistment activities being prerequisites of offering jobs.

Once announcement takes place often by newspaper, a potential applicant has to move to the site where the job opening is. When arriving, an application form is filled in, and then documents and educational qualifications are checked. After that, an applicant who passes this check will be booked regular appointments for assessment activities such as paper exams, interview and physical fitness, and asked to wait for results. At the end of assessment, the number of applicants obtained is checked against a target number taking into account possible withdrawals. If it is inadequate, then a call for recovery is carried out and the already checked applicants are kept on hold. When an applicant is selected, a set of official enquires (e.g. crime record and employment) are conducted, and medical fitness is finally checked. If the results are positive, then a candidate will be registered as cadet and notified with the start date of basic military training.

When passing basic training, specialization training takes place. At the end, graduated cadets are assigned to jobs spread over military regions. A cadet's preferences of jobs are matched based on accumulated points collected from registration portfolio, and results of both basic and specialization training. However, the criteria must maintain regional diversity over jobs offered in a certain region with which preferences are difficult to match.

3.2. Comparison between Two Enlistment Processes

The major difference between the two processes was structure-based. In prior-2008, the results analysis showed that the overall level of diversity measured at the end of process was high whereas the level of KSAs measured just before the commencement of basic training was low. The timeframe of activities performed was long, and a high rate of withdrawals existed. In this process, Military Preparation Centers (MPCs) are entitled to run most of enlistment activities, except the uptake of specialization course and job offering carried out by schools. A number of MPCs are deliberately set at places with a relatively equal distance from regions to enhance regional diversity among applicants attracted. Because of equal opportunities, a regionally diverse pool of applicant is easily attracted. At the end of basic training, a subset of cadets formed from every MPC is selected and then assigned to a certain school for diversity purpose. This occurs for every school and the accumulated points at that point of time are used for school assignment. Hence, the first item of information relevant to the job (i.e. corps) is informed at this stage. Other items (e.g. salary, rank granted, location, etc. are hidden until the end of specialization training. Mobility and modularity of military units account for hiding such valuable job characteristics.

The shift to the post-2008 process was led by the LFs' tendency to satisfy both members (i.e. applicants and schools). For this, MPCs were cancelled and their roles were totally assigned to schools. This would encourage more applicants to apply being free to select among schools whatever they wish. It would also reduce the number of an applicant's previous movements between regions in prior-2008 process (i.e. from the MPC dedicated to the school assigned, and from the school to the job offered). From a school's perspective, this would help tailoring entry requirements based on their needs for improved training and

enforce accountability. The analysis of post-2008 results demonstrated opposite outcomes. The level of KSAs slightly increased whereas the level of regional diversity considerably dropped. However, the overall rate of withdrawals remained high and the process cycle time became longer because of certain schools being perceived having hazardous training. This, in turn, caused many calls of recovery. Unequal opportunities between those applicants live in the same region where a certain school is and those do not, resulted in a high rate of difference between the two categories in both the number and KSAs. Although schools were enabled to apply positive actions when selecting candidates to remedy inequality, they seemed unable to reach a desired level of regional diversity. The high level of KSAs scored among the category of local applicants was sacrificed by applying positive actions. The rate of withdrawals was high among remote applicants whereas the overall rate was negatively impacted by duplicate selection of an applicant with many schools in absence of control. Thus, cost went higher than prior-2008 process.

4.   Research Method

The research draws upon a case study based approach. The case study of enlistment process in LFs has been selected. According to [14], a case study approach is considered when: the focus of the study is to answer "how" and "why" questions; and various contextual conditions are relevant to the phenomenon under study. A hallmark of case study approach is the use of multiple research methods [14]. We conducted a number of regular semi-structured interviews with the central planning body of enlistment process to capture various goals related to enlistment, the patterns of enlistment activities, and to collect date related to the performance. Using BPMN, the process was modeled and validated through a number of enlistment site visits. The results of initial research indicated that there were a list of enlistment objectives articulated and two development stages conducted to pursue them. In cooperation with a focus group [5] composed by R&D members of LFs, Focal points, HR representative of each corps, and representative of recently enlistees, we posed many questions about whether or not the outcomes of enlistment process match objectives and the intervening problems that impact performance. Facilitated by the process model, the discussion within the members of group was encouraging.
Inspired by SSM [4], in particular human activity model, the conceptual model presented in Section 5 was derived based on a detailed analysis of: (a) the results of interviews and documents inspected related to LFs' enlistment goals and objectives, (b) problem areas and their associations suggested by focus group, and (c) the results of discussion within expert workshops on the artifacts of conceptual model and their relevance. Later, the model was subject to a number of tests at the level of LFs' corps. Finally, the results of tests gave insight towards the applicability of model.

5.   Results: The Conceptual Model

The authors develop a conceptual model that helps identifying the key problems embedded in recruitment practices and mapping their impact to organizational recruitment objectives. The conceptual model is depicted in Fig. 1. We emphasize the notion of applicant centricity and build the model based on it. We argue that the ultimate objective of a competitive e-recruitment practice should always be linked to applicant satisfaction since the Internet-led labor market enables job seekers to be more selective in their choices. In the context of military enlistment, there has been concern that the military is still unable to be the first choice of many job seekers so that it attracts different breed of person compared to other sectors (e.g. less advantaged [12]). Moreover, the rate of enlistment entry is positively correlated with unemployment rate and negatively with the level of social perception of military service being dangerous [11]. An applicant-centric strategy to be achieved requires an organizational capability to reconfigure processes, structures, reward systems, and people practices. According to [10], organizational structure and business processes are the main elements that need to be strongly connected to achieve the business strategy. Hence, the

conceptual model is based on such connectedness. As depicted in Fig. 1, we adopt some notations: ovals, circles, and arrows. The large oval represents the problem of organizational structure which influences other process problems (small ovals) to exist. The impact of each process problem is linked to the strategic objectives by a number that indicates the direct impact of it on a certain objective. The interrelationships between problems are represented by arrows which indicate the reasons of such relationships.

Fig. 1. Conceptual model for contextualizing the problems embedded with enlistment process

There are a number of organizational structure problems that affect process performance and describe the extent to which the structure is aligned with the process (i.e. applicant-centric). Some are size and complexity, (de)centralization, formalization, specialization and so on. In the context of recruitment process, we focus on two structural problems. One is the level of misfit between location of applicant, job, and recruiter. Most studies have addressed the importance of location in recruitment practice as a characteristic of the employer [9], but little has addressed it as a job characteristic. That is, the analysis being conducted confined to a single organization located at one place. The second is inability of integration between organizational units in the case of that many job alternatives of a single applicant exist. The literature has emphasized the positive correlation between job alternatives and applicant interest [3].

The problem of applicant dissatisfaction is at the core of this model. It serves as an interface between organizational structure and process, which links the effects of structural problems with their implications at the process level. For instance, any failure in the structure being not applicant-centric (e.g. remote distance between applicants and recruiters) would lead to applicant dissatisfaction. At the process level, applicant dissatisfaction may result from a number of causes. Uncertainty and a long time process are the main causes.

The problem of participation concerns the quantity and quality of applicants attracted and retained. The policy of attracting as many applicants as possible influences the key objectives by increased time and cost, and less speed in filling vacancies. However, less number of applicants received may entail a call for recovery which, in turn, may cause ready applicants kept on hold. This also results in new rounds scheduled and further operating costs. Duplicate applications in absence of control will affect time and cost. In terms of quality, it is determined by the type of participants based on KSAs and diversity. It is more likely that highly qualified applicants who have multiple job alternatives are most strongly affected by unpleasant subsequent action such as delay [13].

The problem of selection refers to an improper selection device or inappropriate pool to select from [9]. Improper device may lead to less qualified candidates being selected, which influences the level of KSAs and diversity. Improper device may also lead to an applicant being offered with undesired position so that it influences his/her decision about whether or not to accept a job offer. Moreover, it may cause a candidate being selected many times which, in turn, affects the number of candidates needed and someone's right to be selected, and return on investment. For inappropriate pool of applicants, it is unlikely that a selection device produces high quality selectees, if participation does not provide it.

The problem of withdrawal relates to that an applicant self-selects out of the process whether at early stages or later after being selected. The main driver of this problem is applicant dissatisfaction. Unmet expectations of an applicant result from lack of information about jobs, improper selection device, delay and uncertainty. Withdrawal affects applicant participation where it may lead to a call for recovery. It may also influence selection by adding extra selectees in avoidance of potential withdrawals. With regard to the effects of withdrawal on key objectives pursued, it appears to directly influence cost. However, it has many indirect influences on the number and type of participation and time.

6.   Discussion

Given the criticality of applicant dissatisfaction, uncertainty seems the major problem that leads to dissatisfaction. The effects of this will be addressed in different parts of the discussion. At the beginning, it is very important that an employer's general marketing actions attract the attention of potential job applicants to a job opening. The model suggests that such actions should not leave any room of uncertainty since they are meant not only to attract, but also to generate initial interest [9]. The Internet, as recruitment method, easily brings a job opening to the attention and allows an access to several resources at every time and from any place. It has been suggested that organizations that provide more complete and accurate information will attract and influence more applicants to apply [8]. Despite this may help generating the number of applicants needed, it may not guarantee the level of KSAs required. What makes difference is the type of information provided. The conventional wisdom [9] is that job attributes (e.g. salary, job tasks, job location, work hours, etc.) are more important to applicants than anything else such as the content of a job advertisement, the design of an employer's website, or even a recruiter's behavior. Back to LFs enlistment process, although LFs enjoy an increased rate of applicant every year, the quality (e.g. KSAs) has been still an issue. The problem was inability of LFs to provide valuable information about job attributes. In prior-2008, such attributes were completely absent and the level of KSAs, therefore, was very low. In contrast, we observed a slight increase in the level of KSAs after the mission had been shifted from MPCs to schools. That referred to the fact that a valuable item of information related to the type of job was conveyed, i.e. specialization.

The dynamicity of a military's operational environment often limits disclosure of job attributes, particularly location [6]. In such a case, LFs' decision makers might think about having a strategy that allows temporarily static jobs for new enlistees (e.g. as a reserve force) so that they get encouraged to apply. The potential effectiveness of such a solution builds on that military training is later meant to prepare them mentally, emotionally, and physically for reassignment [12]. Another solution might be to enable them adjusting their choices to remote

assignment after training and link that with incentives. This might need a more flexible pay system. However, all of which should be clearly and fully informed at the time of application.

More certainty (i.e. more job attributes and requirements) adds another value where an applicant can decide whether or not he/she fits the job available. Thus, if he/she perceived fit, then an application might be set and then an obligation to remain would be more likely to occur. Otherwise, an applicant would self-select out of the process at the beginning. Due to uncertainty, withdrawal of applicants was manifest in both LFs' enlistment processes. The rate of withdrawals was high after school assignment in prior-2008 because of unmet expectations related to the type of job needed. It was also high after job assignment in post-2008 because of unmet expectations related to job location.

However, an applicant's expectations should be realistically managed and directed into more alternative opportunities that clearly match his/her qualifications [3]. This can occur not just at the time of placing an application but also when rejection takes place, if jobs are still unoccupied. We address inability of an employer to provide job alternatives as a structural problem (i.e. integration) which can occur either at the micro or macro level. However, at the process level, it can be easily managed using web tools. Certainty should be also taken into account when managing preferences (i.e. selection). For example, the MPC-centric prior-2008 was signaling that many job alternatives by the type are available. However, when it comes to assignment applicants realized unmet expectations. On the other hand, the school-centric post-2008 signaled job alternatives by location while unmet expectations existed. That was, due to improper selection device. Based on above, certainty must be guaranteed at the time of application.

By adopting e-recruitment, diverse participation (e.g. by race, sex, location, ethnic, etc.) can be obtained at the time of application. Given the wide spread of Internet and reduced digital divide, equal opportunity is almost present. Because of lack in equal opportunity, we realized the problem of diverse participation in post-2008 where location inequality affected remote potential applicants being less encouraged to apply. Having generated good participation of applicants, the focus should be on maintaining their interest until they get a job offer. Interest is more likely to continue as long as an applicant perceives that he/she is at the core of an employer's attention. Hence, if uncertainty still exits, then withdrawal can occur at any time. Delay due to either a long time process or call for recovery might get participants dissatisfied and then they might withdraw out. Lack of communication is also very critical since delays are seen by applicants as reflecting something going wrong with their applications. In both LFs' enlistment processes, communication was almost absent and withdrawal, therefore, was high.

A full e-recruitment process seems almost far to harness, at least in enlistment due to, for example, physical assessment needed [6]. Thus, the location where to host recruitment activities (e.g. interviews, tests, etc.) is very critical. That is location of recruiter. However, more important to an applicant is the location of job as it is a job characteristic. Managing the level of fit between those two locations compared to the location of applicant is very necessary. Any misfit might lead an applicant not to apply, or not to stay after applying. We refer to this in Section 5 as a structural problem that needs to be managed in order to generate an applicant's interest and maintain it. Back to enlistment process, in prior-2008 the locations of applicant and recruiter were fitted by MPCs whereas it was not the case at schools after assignment. Job location nearly did not fit because of diversity mandated. In that process, the level of fit increased diversity among applicants at MPCs. However, withdrawals increased later at schools. In post-2008 the level of fit between locations of applicant and recruiter was left to an applicant's choice but job location was not guaranteed. Because of inequality in schools distributed over regions, diversity was low at the beginning and increasingly became worse by withdrawal. To increase an applicant's interest and maintain it, job location must be uncovered, and then any misfit is solved either by incentives or structure redesign, or by both.

Lack of transparency in selection procedures, particularly when direct invention (e.g. positive actions) exits, adds more uncertainty to applicants. Hence, the likelihood of a high quality applicant being receiving a job offer becomes less which, in turn, leads to less participation or less interest to remain. In enlistment processes, both of them were having

complex selection procedures that caused a high rate of withdrawal especially among high quality applicants. In this case, a recruiter might have to increase the number of selectees to compensate potential withdrawals. That occurred at both enlistment processes. The quality of selection in both number and type depends on the quality of participation (e.g. pool of applicants). The problem of participation (i.e. less number attracted, less retention, low level of KSAs or diversity) affects the quality of the pool prepared for selection. Compared to prior-2008 process, highly diverse candidates were selected because of high level of diversity provided by participation, and vice versa at post-2008 process despite positive actions applied.

7. Conclusion and Future Work

Military organizations are concerned about whether or not they can compete in today's tight labor market led by technological advances, i.e. e-recruitment. The model developed helps identifying the potential problems of recruitment practices and links the impact of those problems to recruitment objectives. Having understood those problems within the domain where they exist, the process of deciding how to solve them towards a more competitive e-recruitment would be enabled. Some solutions were provided. Although the model is developed based on a single case study of military sector, we generalized it in a way that provides further exploitation by other industries. It can be also used as a criteria for selecting best practices to investigate the way those problems were solved. The scope of research was limited to mapping the problems perceived at the process level with some consideration of the most relevant strategic and structural aspect. Further research is needed to map the impact of organizational problems to the corresponding process problems. The model developed needs to be validated by a set of cases studies from different domains.

References

1. Barber, A.: Recruiting Employees. Thousand Oaks, CA: Sage Publications (1998)
2. Bray, I.: An Introduction to Requirements Engineering. Addison Wesley, England (2002)
3. Breaugh, J., Starke, M.: Research on Employee Recruitment: So Many Studies, So Many Remaining Questions. Journal of Management. 26, 3, 405--434 (2000)
4. Checkland, P., Scholes, J.: Soft Systems Methodology in Action. John Wiley & Sons Ltd. (1990)
5. Fern, F.E.: Advanced Focus Group Research. Sage Publishing, London (2001)
6. Land Forces: E-Recruitment Strategy. Official Document, Land Forces, SecureLand (2013)
7. Ministry of Defense: Recruitment and Retention in the Armed Forces. National Audit Office NAO, London: (2006)
8. Pfieffelmann, B., Wagner, S., Libkuman, T.: Recruiting on Corporate Web Sites: Perceptions of Fit and Attraction. Int. J. of Selection and Assessment. 18, 40--47.
9. Rynes, S.: Recruitment, Job Choice, and Post-Hire Consequences. In: Dunnette, M., (ed.) Handbook of Industrial and Organizational Psychology (2nd ed.), pp. 399–444. CA: Consulting Psychologists Press, Palo Alto (1991)
10. Shani, A., Docherty, P.: Learning by Design: Building Sustainable Organizations. Malden, MA: Blackwell Publishing (2003)
11. Tresch, T.: Challenges in the Recruitment of Professional Soldiers in Europe. In: Vasile, P., Corina, V., George, R. (eds). Strategic Impact 2008, vol. 3, 28. National Defense University, Romania (2008)
12. United States Army Recruiting Command: Recruiting Operations. USAREC Manual, No. 3-0 (2009)
13. Wanous, J.: Organizational Entry. MA: Addison-Wesley, Reading (1992)
14. Yin, R.: Case Study Research: Design and methods. Sage Publishing, USA (2008)