

The Role of Voice in Retention of IT Workers: Paving the Higher Road

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Abstract

When dissatisfied, an employee has two discreet options: exit or voice [19]. While exit is defined as leaving the organization, voice represents an effort to gain correction of the dissatisfying situation. As managers, we want our valued IT professionals to communicate their dissatisfaction and give us an opportunity to correct the situation, rather than move directly to exit. To increase the likelihood of this, we need to better understand factors that influence an employee's decision to voice. Preliminary results from a field survey of 112 professionals indicate that a proactive personality and perceived psychological safety of voice contribute to a propensity to voice, while psychological futility of voice contributes to turnover intention. Managerial openness was associated with higher psychological safety of voice and with lower perceptions of psychological futility of voice.

1. Introduction

In Albert O. Hirschman's [19] classic treatise on exit, voice, and loyalty, he contends that when dissatisfied, an employee has two discreet options: exit or voice. Exit is defined as leaving the organization (i.e., voluntary turnover) and voice is "any attempt at all to change, rather than to escape from, an objectionable state of affairs" ([19], p. 30). If the employee chooses neither of these, Hirschman describes the individual as exhibiting loyalty. Loyalty, in effect, is deciding to put up with the dissatisfying situation, declining to exit or voice.

Most elements of Hirschman's framework are acknowledged in studies of IT turnover (e.g., [39]). Job satisfaction is typically posited and shown to have an inverse relationship with exit, which is operationalized as actual turnover or turnover intention. And affective commitment is presumed to contribute to Hirschman's position of loyalty and is normally modeled as an inhibitor to turnover (exit). But the option of voice for the dissatisfied IT professional is not represented in our turnover research.

For IT workers seeking relief from a dissatisfying job situation, voice represents an "alternate road" – an alternative to exit. As such, voice is a key element in employee retention. A recent survey reported that 54% of employees staying put during the difficult labor market are likely to seek new jobs once the economy improves [2]. When labor markets improve, effective management of voice will be central to curtailing the turnover of valued IT professionals.

Conceivably, voice is the piece of the turnover picture over which managers have the most control. As managers, we want valued IT professionals to communicate their dissatisfaction and give us an opportunity to correct the situation, rather than move directly to exit. Plainly put, we want our valued workers to choose the "we need to correct this" path rather than hit the "I'm outta here" road. Toward this end, we seek to better understand factors that influence an individual's decision to voice.

Furthermore, beyond circumventing turnover of valued employees, voice is vital to proper organizational functioning. Employee perspective and feedback is essential – it is no longer possible to figure it out from the top, from only the manager's chair [35]. Employee voice alerts management to shortcomings; once alerted, needed corrections can be made in the functioning of the organization. Or, put a bit more bluntly: dissatisfied employees can "kick up a fuss and thereby force improved quality or service upon delinquent management" ([19], p. 30). Hirschman further suggests that an organization's most valuable members are the ones likely to "make a fuss... until such time as they do exit" ([19], p. 49).

In the broader realm of turnover research, Withey and Cooper [40] encourage researchers to examine a range of behaviors available to employees who are unhappy with their work, rather than concentrating on the single behavior of exit. Similarly, Hom and Griffeth [20] urge researchers to expand theory to explain why dissatisfaction does not automatically engender exit. In accordance, this paper applies the management literature concerning voice to IT turnover, testing a research model that explicates the potential role of voice in the retention of IT personnel. Preliminary results affirm the importance

of including voice and its antecedents in the study and management of IT turnover. From the results, we draw directions for future research as well as implications for practice.

2. The Role of Voice in IT Turnover

Figure 1 summarizes the role that voice is posited to play relative to exit for dissatisfied IT professionals. Because Hirschman's framework assumes a dissatisfying situation, this model applies to dissatisfied IT workers. In other words, employee dissatisfaction is a boundary condition for the model.

The model was developed by Moore [29]. The focus of the 2011 conference publication [29] is the application of published theory and research from the areas of management and IT turnover to develop the theoretical research model (Figure 1). The present paper is the first empirical test of the model. While the reader is referred to the 2011 paper [29] for the full rationale behind the constructs and relationships in the model, here we share definitions of the constructs in the voice portion of the model, i.e., the portion delineated by dotted lines in Figure 1.

Voice is more specifically defined as: "verbal behavior that is improvement-oriented and directed to a specific target who holds power inside the organization" ([13], p. 870). Proactive personality is defined as a disposition toward taking personal initiative to influence one's environment [12] and proactive personalities are characterized as persevering to bring about meaningful change [5]. Withey and Cooper ([40], p. 535) recognized the existence of "barriers" to voice, and Detert and Burris ([13], p. 869) extended this by focusing on "organizational conditions that favor or inhibit" voice. Two pertinent constructs emerging in the management literature are psychological futility and

psychological safety of voice. The first, psychological futility of voice (PFV), is defined as: the belief that engaging in voice will not lead to desired outcomes [29]. The second barrier is psychological safety of voice (PSV), which is defined as: the belief that engaging in voice will not lead to personal harm [12]. Finally, Detert and Burris [13] define the construct of managerial openness as subordinates' perceptions that their boss listens to them, is interested in their ideas, gives fair consideration to the ideas presented, and at least sometimes takes action to address the matter raised. In general, leader behaviors such as managerial openness affect the motivation of subordinates to speak up [3, 28].

As a sample of the reasoning that underlies this research model, we explain the logic behind the posited relationships of perceived PFV to voice and exit. Hirschman [19] stated that the probability of improvement being achievable by voice will influence the individual's decision to voice. This prospect for effectiveness of voice is captured in the PFV construct, which has roots in Ashford, Rothbard, Piderit, and Dutton's [3] discussion of context favorability in issue selling. A three-item scale for PFV was developed by Burris et al. [6] and, as expected, they found a significant inverse correlation between PFV and voice. In addition to inhibiting voice, our model posits that PFV will increase the probability of exit, based on the original writings of Hirschman [19, p. 37]: "... the decision whether to exit will often be taken *in light of the prospects for the effective use of voice*" (italics in the original). We concur with Hirschman and propose a positive relationship between PFV and exit.

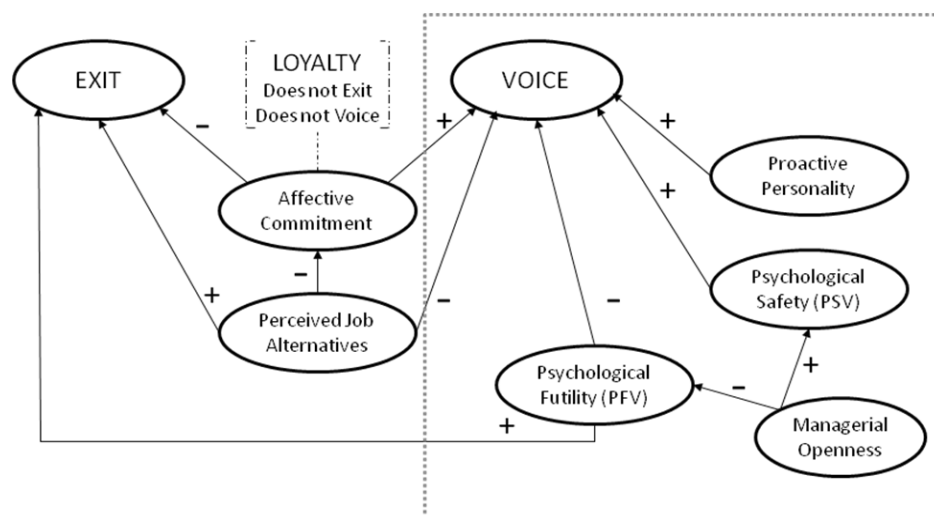


Figure 1. Voice and Exit of the Dissatisfied IT Professional (from [29])

2.1. Key Inferences Drawn from the Model

From the model in Figure 1, we consider the factors involved when a dissatisfied IT worker chooses exit instead of voice. Essentially, low affective commitment, high perceived job alternatives, and high PFV are theorized to be the primary determinants of exit for the dissatisfied worker. This reflects the classic push-pull framework of turnover [27], but with the added element of PFV as a contributor to deciding to exit.

Based on the proposed model, the primary contributors to a dissatisfied IT professional's decision to voice rather than exit are: high affective commitment, low perceived job alternatives, a proactive personality, high PSV, and low PFV. Voice is indirectly influenced by managerial openness, as this type of management behavior is posited to enhance employee PSV and reduce PFV.

When voice is enacted and is successful, then job satisfaction is restored and the individual is no longer represented in the Figure 1 model (which assumes job dissatisfaction). If voice is enacted and is *not* successful, the "voice" portion of the model (delineated by dotted lines) essentially dissolves for the employee. When voice is no longer a viable option, the model is similar to the models utilized to-

date in IT turnover research reflecting only the decision of whether or not to exit.

In Figure 2, we map our research model to the summary model of IT turnover that emerged from the meta-analysis by Joseph and his colleagues [23]. The bold text elements and arrows in Figure 2 represent the constructs and relationships from our model of voice and exit of the dissatisfied IT professional. This mapping verifies that our model fits with existing research on IT turnover.

The Figure 2 mapping serves to broaden our understanding of IT employee turnover. Adding voice to the turnover picture acknowledges that the decision to leave an organization is not an isolated decision; in choosing to exit, the individual is also choosing *not* to try (or continue to try) to change the present dissatisfying situation. Figure 2 reminds us that while established job-related, individual, and organizational factors influence an employee's decision to exit, additional factors related to the job (PSV and PFV), the individual (proactive personality), and the organization (managerial openness) are influencing the dissatisfied employee's decision of whether to voice to try to correct the dissatisfying situation.

Next, we describe the methods we employed to test our research model of voice and exit of the dissatisfied IT professional.

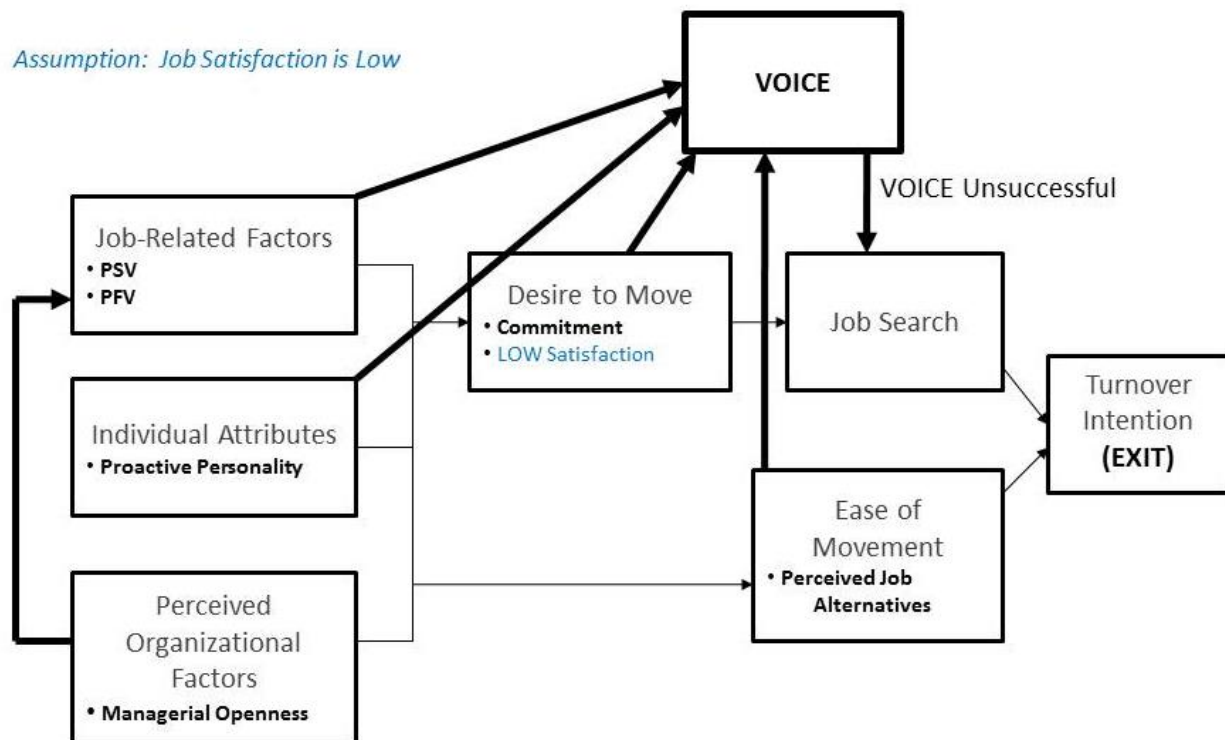


Figure 2. Mapping the Voice-Exit Model to the Joseph et al. [23] Model of IT Turnover (from [29])

3. Research Methods

The data collection for this research study involves an on-line survey measuring employee perceptions of factors related to voice and exit in the work environment. Candidates for the survey were acquired from three sources: past and present participants in University-sponsored workshops and symposia, a workgroup in a large organization in the agricultural business industry, and graduate students enrolled in a project management course. Potential research participants received an e-mail with a brief description of the research study and a link to access the survey.

A total of 1759 individuals were invited to participate in the study with 222 responses obtained for a response rate of 12.6%. The usable sample size was 112, consisting of 40 females and 66 males (6 unanswered). Further details regarding the respondents, as well as a profile of the organizations, are given in Table 1 (below).

Table 1. Descriptive Statistics

Age	Frequency (%)
20-29	4 (3)
30-39	20 (18)
40-49	32 (29)
50-59	39 (35)
60 or Over	6 (5)
Unanswered	11 (10)
Job Profile	Frequency (%)
Business/Systems Analyst	6 (5)
Director/Executive	13 (12)
Engineer/Technical Lead	15 (13)
IT Project Manager	4 (4)
Manager	14 (13)
Programmer/Developer	4 (4)
Project Leader/Manager	33 (29)
Other/Unanswered	22 (20)
Industry	Frequency (%)
Agricultural Business	20 (18)
Government/Military	7 (6)
Healthcare/Pharmaceutical	10 (9)
Information Technology	7 (6)
Manufacturing	15 (14)
Professional Services	23 (21)
Transportation/Utilities	12 (11)
Other/Unanswered	17 (15)
Organization Size	Frequency (%)
1-200	5 (6)
201-500	7 (6)
501-1000	7 (6)
1001-2000	8 (7)
Over 2000	74 (66)
Unanswered	9 (8)

4. Analysis and Results

The partial least squares (PLS) method was used to examine the hypotheses, as it is recommended for complex models focusing on prediction and allows for minimal demands on measurement scales, sample size, and residual distribution [9]. PLS also allows for simultaneous assessment of the measurement model and examination of the structural relationships. Path modeling and analysis was performed on the standardized data using SmartPLS [31]. The survey measures were derived from previously published studies and are given in Appendix A. All items in these measures used Likert scales as indicated in Appendix A.

In this study, we control for organizational tenure and job satisfaction. Organizational tenure was not found to have a significant effect on voice nor exit. Seventy-five of the initial 222 responses were omitted due to missing data. In order to control for job satisfaction, the remaining sample of 147 responses was run through the PLS program. Upon examining the latent variable scores for job satisfaction, 35 of the original 147 data points were deemed to be on the “satisfied” end of the spectrum of job satisfaction. These 35 were removed and the analysis proceeded with a sample of 112.

The measurement model was assessed for reliability and validity. In order to achieve the following results for reliability and validity, a total of seven indicators were removed¹ from the analysis (indicated with an asterisk in Appendix A).

Appendix B gives results of reliability and discriminant validity testing. Reliability was assessed by examining composite reliability and the average variance extracted (AVE). For composite reliability, a threshold of 0.70 [9] is preferable. Results for composite reliability values ranged from 0.826 to 0.971, surpassing the 0.70 level. Values of .50 and greater are considered acceptable for AVE [16]. AVE values ranged from 0.511 to 0.919. Adequate scores for indicator reliability as measured by Cronbach’s alpha range from fair (.45 to .54) to excellent (.71 and higher) [11]. Results for Cronbach’s alpha ranged from 0.735 to 0.971, surpassing the .71 level.

Discriminant validity is assessed by noting that the AVE for a given construct is higher than the squared correlation with any other variable, indicating that the construct is more highly related to its own measures than with other constructs. As

¹ Items were removed to meet required thresholds for AVE and item indicator cross loadings. The removals did not affect the number of significant paths nor significance levels.

opposed to previous methods of displaying the correlations and square root of AVE, this updated method allows for discerning of the differences more easily [8].

Convergent and discriminant validity are also evident in the degree to which the operationalization is similar to other operationalizations to which it theoretically should be similar, and the degree to which the operationalization is not similar to other operationalizations that it theoretically should not be similar to [16]. This can be assessed by examining the item indicator cross-loadings, given in Appendix C, along with the corresponding means and standard deviations for each item.

Assessment of the structural model involves examining the path coefficients and the R^2 values. Path coefficients reflect the strengths of the relationships between the independent and dependent variables. Significance of the paths is determined by using a bootstrap resampling method [7]. The R^2 value indicates the predictive power of a model for the dependent variables. This model accounts for 24.6 percent of the variance in voice and 46.1 percent of the variance in exit. Seven paths were found significant as indicated in Figure 3 (below).

Further analysis examined the impact of the path from PFV to exit. We followed guidelines proposed by Chin [8] for examination of the change in R -squares of two models. A comparison was made between the research model without the path and the research model with the additional path. To test the significance of the effect size, a pseudo-F-statistic can be computed as $F = f^2 \times (n-k-1)$ with 1, $(n-k)$ degrees of freedom, where $f^2 = [R^2(\text{expanded model}) - R^2(\text{main effects model})] / [1 - R^2(\text{main effects model})]$, n equals the sample size and k equals the number of constructs [9]. The sample size is 112 and the number of constructs (independent variables) is 6. Values of 0.02, 0.15, and 0.35 are considered small, moderate and large effects, respectively [10, 20]. Results for the effect size calculations and F test are given in Table 2 (below), indicating that the effect of PFV on exit contributes a small effect size significant at the 0.05 level.

Table 2. Effect Size Calculations and F Test Results

	R^2	f^2	Pseudo F	Significance
Main effects model	0.440	0.037	3.902	0.05
Expanded model	0.461			

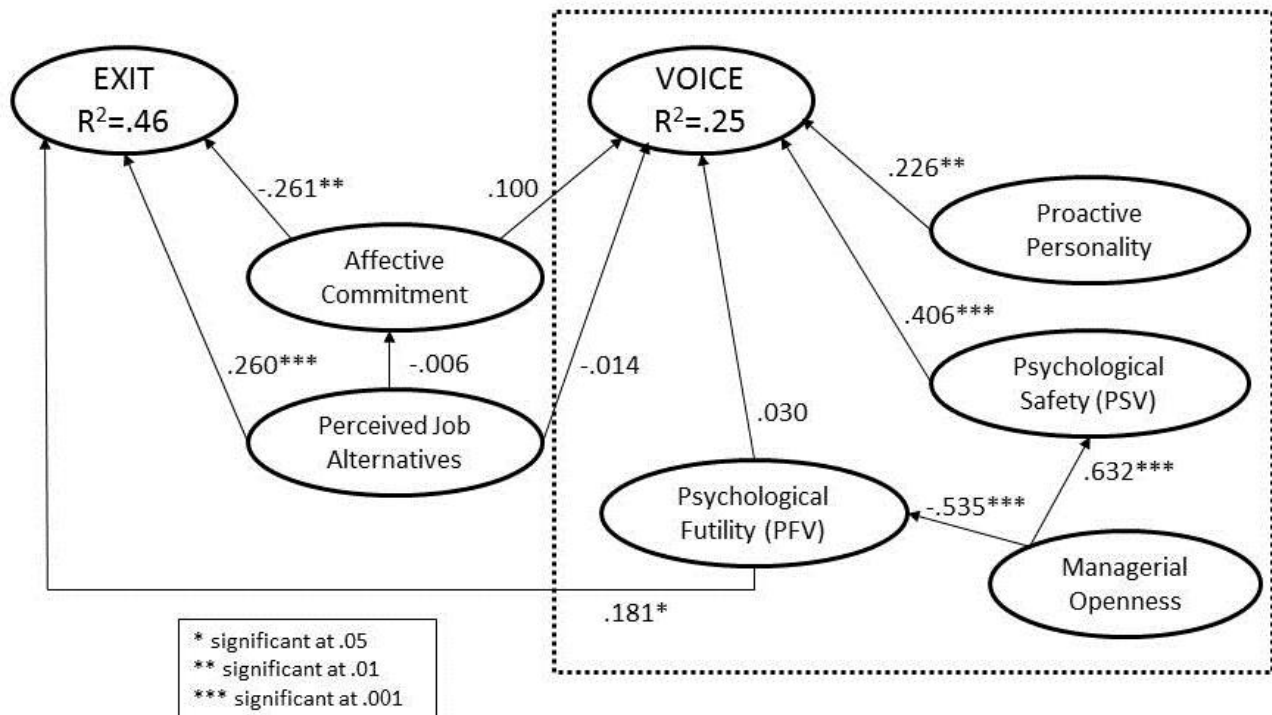


Figure 3. Structural Model Results

5. Discussion

As posited, proactive personality and perceived psychological safety of voice (PSV) contributed to the dissatisfied worker's propensity to voice in our sample. This aligns with the prior studies of these constructs [6, 13, 17]. Also as posited, managerial openness was found to enhance a dissatisfied worker's perceived safety in undertaking voice, supporting the finding of Detert and Burris [13]. The relationship of managerial openness and perceived psychological futility of voice had not been examined in prior research; we theorized an inverse relationship between managerial openness and PFV, and this also was supported.

Our data, however, did not reveal the significant inverse relationship between PFV and voice reported by Burris et al. [6]. Instead, we found PFV contributed significantly to the other side of the equation, namely turnover intention (i.e., exit). Burris and his colleagues [6] did not examine turnover intention, but they reported a significant correlation between PFV and the psychological construct of detachment that can lead to thoughts of leaving the job [18, 38].

Hence, a key contribution from this study is our elucidation of the role that perceived PFV plays directly in regard to *exit*. PFV explained significant variance in turnover intention above and beyond that explained by the traditional variables of job satisfaction, perceived availability of job alternatives, and affective commitment. This finding aligns with the original writings of Hirschman ([19], p. 37): "... the decision whether to exit will often be taken *in light of the prospects for the effective use of voice*" (italics in the original). For researchers and practitioners concerned with retention of valued IT workers, this new factor – perceived psychological futility of voice – commands our attention.

Managerial openness was associated with lower levels of this newly revealed antecedent to turnover intention (perceived psychological futility of voice) and also associated with higher perceived PSV and, finally, a higher propensity for voice. Given the importance of voice in the retention of valued employees, as well as in the optimization of organizational functioning, managerial openness begs the attention of IT researchers and practitioners alike. To better ground our understanding of managerial behaviors that ultimately influence voice, we share a few descriptions of work situations reported by our survey respondents.

When asked to "recall a situation when you were dissatisfied with something in your work and you took the issue to your supervisor" (wording from an

open-ended question on our survey), respondents provided examples of managerial behavior that encouraged voice, including these descriptions provided by two separate respondents:

Downsizing with a release from employment of some of my co-workers. I did not agree with the manner in which some people were notified of their release. An open discussion was held and he listened sincerely to my concerns.

The Director for the team I was assigned was fired. I was thrown into a storm. I took it to my supervisor and she made a conscious effort to get me answers and to identify areas that I could continue without interruptions until the smoke cleared.

When asked to "recall a situation when you were dissatisfied with something but elected not to take the issue to your supervisor" (wording from another open-ended question on our survey), a respondent provided the following description:

I was moved from one project to another project earlier this year. The issue was that I was told after the decision was made and not party to the discussion or decision making process. At that point, it felt fruitless to say anything and felt it may create a perception of a whiner. I transitioned to the new project, so it remains unresolved.

This description of a situation in which voice was not elected suggests the presence of both perceived psychological futility ("fruitless") and perceived psychological safety ("may create a perception of a whiner") of voice. Another respondent's description of a situation in which voice was not elected reflects the relationship between perceived psychological futility of voice and exit:

After numerous times of talking with my manager about my dissatisfaction and his comment that he was sorry but there was nothing he could do, then I decided to wait it out, get the experience I need in the position and move along in looking for a new area to work.

Finally, the following situations were described by a single respondent. The first situation is in response to the question asking about a time when a dissatisfaction was taken to the supervisor, and the

second is this individual's response to the question about a time when a dissatisfaction was not taken to the supervisor. Here, the respondent took a dissatisfaction to the supervisor:

I was dissatisfied with our department's overtime policy for our union workers. It was very rigid and left no latitude for participating in pre-shift or post-shift overtime. I told my manager that we would have more people willing to work the overtime if it were more flexible to their personal schedules. He didn't want to take it up with upper management for fear that it would create tension between himself and his management. At the same time he complained that there weren't enough people participating in working the extra overtime hours voluntarily. This was a face to face meeting which resulted in absolutely nothing happening.

And here, this respondent elected not to take a dissatisfaction to the supervisor:

We were getting discrepant parts from our vendors/suppliers. This was brought to the manager's attention by other first level managers and shop floor people. In reference to the above scenario, I figured it would be a waste of time to engage him in any sort of conversation about it. The issue continued for several weeks with him taking no visible action. It was finally resolved when someone went above his head.

This pair of situations shared by the respondent provides a blatant image of the interplay of managerial openness, perceived psychological futility of voice, and the decision of whether to voice or exit. Next, we offer directions for future research and implications for practice based on our findings.

6. Directions for Future Research

Steers and Mowday [37] were among the first management researchers to spotlight the role of voice as a potentially intervening factor in the turnover process. Employees who succeed in changing dissatisfying work situations inherently alleviate their dissatisfaction, shifting intent to leave to an intent to remain [36]. Simply put, voice – when effectively exercised – can dissolve turnover intention before it progresses to actual exit. Given this circumventing nature of the role that voice can play, researchers are urged to examine actual turnover and not solely

turnover intention in studies of voice and exit for dissatisfied IT workers.

Withey and Cooper [40] note that while exit and voice can be independent, such as when a dissatisfied person leaves without exercising voice, they can also be sequential. For example, an individual may choose voice and, if it proves unsuccessful, then choose to exit. From the interviews they conducted, Withey and Cooper [40] identified two noteworthy sequences. In the first sequence, the dissatisfied employee exercises voice and if the voice does not resolve the situation, voice is executed again to a higher level (or alternate person who may be able to correct the situation). If that voice fails, then the individual chooses exit when availability of another job is perceived to be reasonable.

The other sequence that emerged from Withey and Cooper's [40] interviews began with "loyalty." Here, the employee initially chooses to put up with the dissatisfaction. But if nothing changes and enough time passes, then voice is chosen. Again, if voice is unsuccessful, perceived job availability is a primary influence on whether to exit. To assess the prevalence of these and other sequences, Withey and Cooper [40] recommend observational research over longer than six months, which was the period that they studied.

Considering voice in relation to Lee and Mitchell's [24, 26] unfolding model of turnover opens up additional avenues for research. The intent of the unfolding model is to better understand the reasons and processes involved in leaving an organization. The proposed model of voice and exit for dissatisfied IT workers directly maps to "path 4" of the Lee and Mitchell unfolding model. In path 4, lower levels of job satisfaction initiate the cognitive analyses involved in exiting a job, instead of a shock being the precipitator. The present model of voice and exit augments Lee and Mitchell's path 4 by acknowledging that exit is not the only option that dissatisfied workers are likely to consider. In terms of the Lee and Mitchell ([25], p. 451) diagram, the present voice-exit model elucidates what likely happens between the experience of low satisfaction and path 4a (decision to exit without a job search or evaluation of job alternatives) or path 4b (job search and evaluation of alternatives). Whereas branches 4a and 4b assume the dissatisfaction leads to a desire to exit, the proposed model augments the unfolding model by recognizing that the employee could opt for "the other road" of voice.

While on the whole the alternative of voice is not captured in Lee and Mitchell's unfolding model, theoretically, voice is an option in all four paths. For example, if the precipitating "shock" is an unsolicited

job offer that involves a significant increase in pay, the employee may well choose to voice (not exit) in an effort to improve his salary situation at his present organization. If the voice is unsuccessful, then the employee may continue along one of the paths in Lee and Mitchell's model. In sum, researchers are encouraged to examine the integration of voice and the unfolding model of turnover.

Some management researchers have added "neglect" to Hirschman's exit, voice, and loyalty framework (e.g., [15]). Neglect is considered an additional, fourth, possible response to dissatisfaction. Neglect may be shown by spending less time at work and expending less effort when there [32]. Withey and Cooper [40] examined two forms of neglect: lateness and absenteeism. In their data, neglect at times appeared to be a precursor of exit, as employees who have not acted to leave or voice – but "plan" to leave – could be neglectful while they search for another job. Neglect also was sometimes connected to loyalty, in an unconstructive way. Withey and Cooper [40] noted that remaining silent and doing nothing about a situation (i.e., exhibiting neither voice nor exit) did not always represent support for the organization. They provided employee descriptions of what was technically considered loyalty (because the employee did not voice or exit) but seemed more like expressions of resignation and entrapment. This additional employee reaction to dissatisfaction – neglect – may be worthy of further examination in the context of IT work.

Because PSV was found to significantly influence the decision to voice and PFV was found to explain variance in turnover intention above and beyond that explained by the traditional variables of job satisfaction, perceived job alternatives, and affective commitment, further research is needed to identify managerial behaviors that enhance PSV and reduce PFV. For example, Detert and Burris [13] investigated the effect of transformational leadership behaviors on subordinate voice, but did not find consistent support for the relationship. The management literature should be explored for additional supervisor behaviors that can influence PSV and PFV, as well as variables that may moderate their influence on voice.

Finally, we are including both IT and non-IT workers in our sample as we continue to collect data. At this point in our research, we see no theoretical reason why the use of voice should differ between IT and other personnel, but our sample will enable us to separately examine the fit of the research model to sub-samples of IT workers and workers outside of IT, elucidating any significant differences that may exist.

7. Implications for Practice

While the turnover road is often paved by outside employers and the labor market, it is up to the IT workers' own managers to pave the road of voice. Our results indicate that managerial openness will increase the likelihood of a dissatisfied IT worker choosing voice over exit. To exhibit openness, a manager should routinely demonstrate a personal interest, listen carefully, take action, and demonstrate to subordinates that there is little personal risk in honest, professional communication [4, 13, 14]. Our results indicate that this type of behavior by managers can increase PSV and minimize PFV, which in turn enhances the likelihood that valued employees choose voice over exit.

8. Conclusion

As the first empirical effort reported to directly investigate the relationship of perceived psychological futility of voice (PFV) to turnover, this study elucidates the role of PFV not only to the employee's intention to voice, but to the employee's intention to exit as well. This study is also the first to examine the relationship of managerial openness to PFV, with results confirming the proposed inverse relationship. So not only does managerial openness correlate to higher perceived psychological safety of voice (PSV), but now we have evidence that it also correlates to lower perceived PFV.

These results serve as a stark reminder of the impact an individual IT manager can have on staff retention. As noted in Harvard Management Update ([1], p. 2): "one big reason people ... consider leaving, it turns out, is that a particular boss didn't do what he or she needed to do to keep them." Enabling voice – and improving matters based on input received from a valued employee – is at the heart of good management, and a significant factor in the retention of IT professionals.

9. References

- [1] "Employee retention: What managers can do", Harvard Management Update, April 2000, pp. 1-5.
- [2] Adecco, "American Workplace Insights Survey", June 25, 2009.
- [3] Ashford, S.J., N.P. Rothbard, S.K. Piderit, and J.E. Dutton, "Out on a limb: The role of context and impression

- management in selling gender-equity issues", *Administrative Science Quarterly*, 43, 1998, pp. 23-57.
- [4] Bass, B.M. and R.E. Riggio, *Transformational leadership* 2nd ed, Erlbaum, Mahwah, NJ, 2006.
- [5] Bateman, T.S. and J.M. Crant, "The proactive component of organizational behavior: A measure and correlates", *Journal of Organizational Behavior*, 14, 1993, pp. 103-118.
- [6] Burris, E.R., J.R. Detert, and D.S. Chiaburu, "Quitting before leaving: The mediating effects of psychological attachment and detachment on voice", *Journal of Applied Psychology*, 93(4), 2008, pp. 912-922.
- [7] Chin, W.W., *The Partial Least Squares Approach for Structural Equation Modeling*, in *Modern Methods for Business Research* 1998, Lawrence Erlbaum Associates: Mahwah, NJ. p. 295-336.
- [8] Chin, W.W., *How to Write Up and Report PLS Analyses*, in *Handbook of Partial Least Squares*, V. Esposito Vinzi, et al., Editors. 2010, Springer: Verlag Berlin Heidelberg. p. 655-690.
- [9] Chin, W.W., B.L. Marcolin, and P.R. Newsted, "A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation, Study and an Electronic-Mail Emotion/Adoption Study", *Information Systems Research*, 14(2), 2003, pp. 189-217.
- [10] Cohen, J., *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed, Lawrence Erlbaum Associates, Hillsdale, NJ, 1988.
- [11] Comrey, A.L., *A First Course in Factor Analysis*, Academic Press, New York, NY, 1973.
- [12] Crant, J.M., "Proactive behavior in organizations", *Journal of Management Information Systems*, 26, 2000.
- [13] Detert, J.R. and E.R. Burris, "Leadership behavior and employee voice: Is the door really open?", *Academy of Management Journal*, 50(4), 2007, pp. 869-884.
- [14] Edmondson, A., "Speaking up in the operating room: How team leaders promote learning in interdisciplinary teams", *Journal of Management Studies*, 40, 2003, pp. 1419-1452.
- [15] Farrell, D., "Exit, voice, loyalty, and neglect as responses to job dissatisfaction: A multi-dimensional scaling study", *Academy of Management Journal*, 26(4), 1983, pp. 596-607.
- [16] Fornell, C. and D. Larcker, "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", *Journal of Marketing Research*, 18(1), 1981, pp. 399-50.
- [17] Fuller, B.J. and L.E. Marler, "Change driven by nature: A meta-analytic review of the proactive personality literature.", *Journal of Vocational Behavior*, 75, 2009, pp. 329-345.
- [18] Griffeth, R.W., P.W. Hom, and S. Gaertner, "A meta-analysis of antecedents and correlates to employee turnover: Update, moderator tests, and research implications for the next millennium", *Journal of Management*, 26, 2000, pp. 463-488.
- [19] Hirschman, A.O., *Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States.*, Harvard University Press, Cambridge, MA, 1970.
- [20] Hom, P.W. and R.W. Griffeth, *Employee Turnover*, South-Western, Cincinnati, OH, 1995.
- [21] Igbaria, M. and S.R. Siegel, "The reasons for turnover among information systems personnel", *Information and Management*, 23(6), 1992, pp. 321-331.
- [22] Jackson, S.E., R.L. Schwab, and R.S. Schuler, "Toward an understanding of the burnout phenomenon", *Journal of Applied Psychology*, 71, 1986, pp. 630-640.
- [23] Joseph, D., K. Ng, C. Koh, and S. Ang, "Turnover of information technology professionals: A narrative review, meta-analytic structural equation modeling, and model development", *MIS Quarterly*, 31(3), 2007, pp. 547-577.
- [24] Lee, T.W. and T.R. Mitchell, "An alternative approach: The unfolding model of voluntary employee turnover", *Academy of Management Review*, 19, 1994, pp. 51-89.
- [25] Lee, T.W., T.R. Mitchell, B.C. Holtom, L.S. McDaniel, and J.W. Hill, "The unfolding model of voluntary turnover: A replication and extension", *Academy of Management Journal*, 42(4), 1999, pp. 450-462.
- [26] Lee, T.W., T.R. Mitchell, L. Wise, and S. Fireman, "An unfolding model of voluntary employee turnover", *Academy of Management Journal*, 39, 1996, pp. 5-36.
- [27] March, J. and H.A. Simon, *Organizations*, Wiley, New York, NY, 1958.
- [28] Milliken, F.J., E.W. Morrison, and P.F. Hewlin, "An exploratory study of employee silence: Issues that employees don't communicate upward and why", *Journal of Management Studies*, 40, 2003, pp. 1453-1476.

- [29] Moore, J.E., "Illuminating the Other Road: The Role of Voice in IT Turnover", In Proceedings of Hawaii International Conference on Social Sciences, Kauai, HI, 2011.
- [30] Porter, L.W., R.M. Steers, R.T. Mowday, and P.V. Boulian, "Organizational commitment, job satisfaction, and turnover among psychiatric technicians", *Journal of Applied Psychology*, 59(5), 1974, pp. 603-609.
- [31] Ringle, C.M., S. Wende, and A. Will, *SmartPLS*, 2005, University of Hamburg: Hamburg, Germany.
- [32] Rusbult, C.E., D. Farrell, G. Rogers, and A.G. Mainous III, "Impact of exchange variables on exit, voice, loyalty, and neglect: An integrative model of responses to declining job satisfaction", *Academy of Management Journal*, 31(3), 1988, pp. 599-627.
- [33] Seashore, S.E., E.E. Lawler, P.H. Mirvis, and C. Cammann, *Measuring and observing organizational change: A guide to field practice*, University of Michigan, Ann Arbor, MI, 1982.
- [34] Seibert, S.E., J.M. Crant, and M.L. Kraimer, "Proactive personality and career success", *Journal of Applied Psychology*, 84, 1999, pp. 416-427.
- [35] Senge, P.M., *The Fifth Discipline: The Art and Practice of the Learning Organization*, Doubleday, New York, NY, 1990.
- [36] Spencer, D.G., "Employee voice and employee retention", *Academy of Management Journal*, 29(3), 1986, pp. 488-502.
- [37] Steers, R.M. and R.T. Mowday, *Employee turnover and post-decision accommodation processes*, in *Research in Organizational Behavior*, L.L. Cummings and B.M. Staw, Editors. 1981, JAI Press: Greenwich, CT.
- [38] Tett, R.P. and J.P. Meyer, "Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytic findings", *Personnel Psychology*, 46, 1993, pp. 259-293.
- [39] Thatcher, J.B.L., Y., L.P. Stepina, J.M. Goodman, and D.C. Treadway, "IT worker turnover: An empirical examination of intrinsic motivation", *The DATA BASE for Advances in Information Systems*, 37(2-3), 2006, pp. 133-146.
- [40] Withey, M.J. and W.H. Cooper, "Predicting exit, voice, loyalty, and neglect", *Administrative Science Quarterly*, 34(521-539), 1989.

Appendix A: Survey Measures

Construct	Survey Item	Source	Scale
Managerial Openness (MgrOpen)	To the manager: I speak my mind about the way things are around here.	[13]	C
	The manager uses my suggestions.	[6]	
	To the manager: I give suggestions about how to make this organization better.	[13]	
	To the manager: I speak up with ideas about doing things differently.	[13]	
	The manager is willing to make changes.	[6]	
	The manager is interested in my ideas.	[6]	
	The manager takes action on things brought up by me.	[6]	
Psychological Safety of Voice (PSV)	It is safe to give my opinions.	[13]	C
	It is safe for me to speak up around here.		
	It is safe for me to make suggestions.		
Psychological Futility of Voice (PFV)	Trying to improve things around here by speaking up is a waste of time.	[13]	C
	It is useless for me to suggest new ways of doing things here.		
	Nothing changes even if I speak up to the General Manager.		
Proactive Personality (ProPers)	I am constantly on the lookout for new ways to improve my life.	[34]	A (5pt)
	Wherever I have been, I have been a powerful force for constructive change.		
	Nothing is more exciting than seeing my ideas turn into reality.*		
	If I see something I don't like, I fix it.		
	No matter what the odds, if I believe in something I will make it happen.*		
	I love being a champion for my ideas, even against others' opposition.*		
	I excel at identifying opportunities.		
	I am always looking for better ways to do things.		
	If I believe in an idea, no obstacle will prevent me from making it happen.*		
Perceived Job Alternatives (JobAlt)	If you were to search for an alternative job, how likely is it that you could obtain an acceptable job at another company?	[21]	B
	How would you rate your alternative employment opportunities at the present time?		E
	There are excellent opportunities at the present time to find a job in a different organization that is acceptable to me.		A (5pt)
Affective Commitment (AffComm)	I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.	[30]	A
	I talk up this organization to my friends as a great organization to work for.		
	I would accept almost any type of job assignment in order to keep working for this organization.		
	I find that my values and the organization's values are very similar.		
	I am proud to tell others that I am part of this organization.		
	I could just as well be working for a different organization as long as the type of work was similar.*		
	This organization really inspires the very best in me in the way of job performance.		
	Often, I find it difficult to agree with this organization's policies on important matters relating to its employees.		
	I really care about the fate of this organization.		
Job Satisfaction (JobSat)	In general, I don't like my job.	[33]	A
	All in all, I am satisfied with my job.		
	In general, I like working here.		

Appendix A: Survey Measures (continued)

Construct	Survey Item	Source	Scale
Voice	Talking with my manager to try to correct a problem.	[40]	D
	Talking to manager to try and make things better.		
	Speaking up with ideas about doing things differently.	[13]	D
	Giving suggestions about how to make things better.		
	Speaking my mind about the way things are done around here.*		
Exit	Getting myself transferred to another job.*	[40]	D
	Deciding to quit the company.		
	Getting into action and looking for another job.		
	How likely is it that you will be working at the same company this time next year?	[22]	B
	How likely is it that you will take steps during the next year to secure a job at a different company?		
	I will be with this company five years from now.		
	I will probably look for a job at a different company in the next year.		

A Agree/Disagree (7 pt unless indicated as 5 pt)

B Likely/Unlikely (5 pt)

C Always/Never (5 pt)

D Formulated scale measuring frequency of considering the action (5 pt) - - Have engaged in this action frequently, Have sometimes engaged in this action, Have rarely engaged in this action, Have considered, but not engaged in this action, Have never considered this action

E Excellent, Good, Fair, Poor (No job alternatives)

Appendix B: Results of reliability and discriminant validity testing

	Comp Rel	AVE	Cronb Alpha	Mgr Open	PSV	PFV	Pro Pers	Job Alt	Aff Comm	Job Sat	Voice	Exit
MgrOpen	0.897	0.559	0.866	0.559								
PSV	0.971	0.919	0.956	0.399	0.919							
PFV	0.927	0.808	0.883	0.286	0.291	0.808						
ProPers	0.862	0.511	0.812	0.190	0.037	0.037	0.511					
JobAlt	0.854	0.662	0.748	0.012	0.010	0.000	0.046	0.662				
AffComm	0.921	0.599	0.901	0.227	0.214	0.281	0.076	0.000	0.599			
JobSat	0.902	0.755	0.837	0.167	0.248	0.356	0.013	0.000	0.514	0.755		
Voice	0.826	0.545	0.735	0.255	0.179	0.050	0.097	0.003	0.068	0.035	0.545	
Exit	0.925	0.674	0.902	0.088	0.091	0.221	0.000	0.082	0.298	0.312	0.017	0.674

Appendix C: Results of convergent and discriminant validity testing

	Mean	StDev	Mgr Open	PSV	PFV	Pro Pers	Job Alt	Aff Comm	Job Sat	Voice	Exit
MgrOpen1	3.777	0.887	0.617	0.380	-0.312	0.294	0.129	0.059	0.144	0.407	-0.101
MgrOpen2	3.214	0.788	0.827	0.448	-0.414	0.279	0.107	0.453	0.372	0.283	-0.223
MgrOpen3	3.580	0.887	0.587	0.360	-0.223	0.486	0.108	0.232	0.151	0.599	-0.089
MgrOpen4	3.741	0.825	0.665	0.441	-0.359	0.446	0.084	0.262	0.241	0.575	-0.145
MgrOpen5	3.420	0.907	0.820	0.471	-0.411	0.391	0.113	0.461	0.299	0.300	-0.277
MgrOpen6	3.795	0.997	0.821	0.647	-0.482	0.233	0.051	0.434	0.412	0.346	-0.347
MgrOpen7	3.330	0.962	0.845	0.488	-0.514	0.270	0.025	0.478	0.415	0.287	-0.277
PSV1	3.813	1.027	0.609	0.974	-0.533	0.169	0.109	0.469	0.503	0.373	-0.286
PSV2	3.795	0.978	0.600	0.967	-0.513	0.234	0.117	0.475	0.481	0.380	-0.277
PSV3	3.920	0.902	0.606	0.934	-0.504	0.149	0.068	0.390	0.449	0.461	-0.306
PFV1	2.571	1.198	-0.600	-0.613	0.912	-0.275	-0.048	-0.542	-0.546	-0.259	0.412
PFV2	2.286	1.181	-0.444	-0.421	0.921	-0.114	0.062	-0.463	-0.550	-0.180	0.495
PFV3	2.420	1.062	-0.359	-0.385	0.863	-0.106	0.039	-0.405	-0.513	-0.146	0.349
ProPers1	4.126	0.674	0.311	0.153	-0.128	0.720	0.123	0.238	0.071	0.209	0.014
ProPers2	3.769	0.856	0.412	0.190	-0.260	0.753	0.174	0.318	0.205	0.301	-0.130
ProPers4	3.960	0.691	0.385	0.244	-0.195	0.741	0.166	0.237	0.175	0.235	-0.051
ProPers7	3.806	0.831	0.226	0.000	-0.034	0.764	0.190	0.031	-0.060	0.222	0.172
ProPers8	4.208	0.899	0.276	0.121	-0.159	0.641	0.103	0.174	-0.018	0.179	0.007
ProPers10	3.457	0.887	0.169	0.060	0.073	0.662	0.166	0.112	0.016	0.127	0.028
JobAlt1	3.920	0.969	0.070	0.058	-0.042	0.094	0.747	-0.029	0.002	0.037	0.168
JobAlt2	2.759	0.786	0.094	0.043	-0.016	0.192	0.795	-0.008	-0.002	0.071	0.220
JobAlt3	3.179	1.092	0.100	0.131	0.066	0.217	0.893	0.012	0.010	0.037	0.290
AffComm1	5.938	1.125	0.353	0.298	-0.283	0.225	0.098	0.680	0.511	0.260	-0.257
AffComm2	5.098	1.791	0.396	0.405	-0.470	0.228	0.014	0.877	0.694	0.149	-0.463
AffComm3	3.545	1.931	0.178	0.192	-0.187	0.153	-0.193	0.617	0.356	0.137	-0.489
AffComm4	4.982	1.676	0.419	0.424	-0.437	0.263	0.063	0.844	0.584	0.257	-0.438
AffComm5	5.464	1.610	0.445	0.421	-0.500	0.187	0.015	0.890	0.653	0.263	-0.456
AffComm7	4.384	1.741	0.474	0.454	-0.504	0.301	0.000	0.836	0.716	0.194	-0.471
AffComm8	3.232	1.811	0.301	0.268	-0.363	0.211	0.019	0.636	0.380	0.147	-0.297
AffComm9	5.804	1.413	0.365	0.363	-0.497	0.144	-0.012	0.755	0.636	0.207	-0.428
JobSat1	2.563	1.795	0.285	0.394	-0.482	-0.014	-0.018	0.434	0.855	0.129	-0.485
JobSat2	5.071	1.670	0.352	0.499	-0.563	0.119	0.079	0.677	0.865	0.129	-0.474
JobSat3	5.563	1.381	0.423	0.409	-0.513	0.182	-0.043	0.811	0.885	0.226	-0.497
Voice1	4.304	0.769	0.242	0.183	-0.151	0.074	-0.001	0.154	0.118	0.631	-0.078
Voice2	4.188	0.811	0.372	0.314	-0.094	0.097	-0.003	0.175	0.171	0.722	-0.034
Voice3	4.384	0.647	0.342	0.312	-0.191	0.206	-0.010	0.140	0.100	0.749	-0.134
Voice4	4.455	0.552	0.477	0.391	-0.206	0.409	0.129	0.266	0.164	0.836	-0.125
Exit2	1.938	1.085	-0.272	-0.349	0.324	-0.042	0.175	-0.475	-0.476	-0.161	0.772
Exit3	2.375	1.281	-0.139	-0.165	0.293	0.127	0.168	-0.454	-0.443	-0.063	0.789
Exit4	4.304	1.106	-0.236	-0.171	0.289	0.028	0.311	-0.371	-0.316	-0.090	0.790
Exit5	2.313	1.356	-0.260	-0.243	0.441	0.088	0.308	-0.441	-0.456	-0.005	0.906
Exit6	3.429	1.380	-0.218	-0.239	0.407	-0.147	0.185	-0.502	-0.492	-0.160	0.765
Exit7	2.277	1.330	-0.322	-0.299	0.514	-0.057	0.271	-0.440	-0.534	-0.161	0.893