

Application of Meta-Analysis for Understanding the Effects of Job Satisfaction on Turnover Intention in Workforce of the Food & Beverage Industry in Taiwan

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ABSTRACT: *This paper aims to gain an understanding on the effects of job satisfaction on turnover intention in the workforce of the food & beverage industry in Taiwan. Data is collected from the literature in Taiwan and overseas and a Meta-Analysis is conducted. The study indicates a significant and negative impact of job satisfaction on turnover intention in the workforce of the food & beverage industry in Taiwan. This research finding can serve as a template for restaurant management in the pursuit of sustainable operations.*

KEYWORDS: *Job Satisfaction, Turnover Intention, Meta-Analysis*

Date of Submission: 06-11-2017

Date of acceptance: 17-11-2017

I. INTRODUCTION

According to a study by the Data Center, Ministry of Finance [1], the number of restaurants in Taiwan has been growing for years and the market is now very crowded. The number of employees in the industry understandably has been increasing at a rapid pace too. Most literature focuses on the high turnover of the workforce in the food & beverage industry. This is a key concern in practice [2]. The attention to personnel turnovers in the food & beverage is high because a high turnover is likely resulted in low service quality [3]. It is hoped that empirical studies can shed light on the reason for high staff turnovers in restaurants and provide a template for improvements [4].

Voluntary departures by employees cause low morale and losses of human resources and management expertise. This is why both practitioners and theorists are concerned with this issue. Leaving a job is a great deal to the life, family and career path of employees. It is not a decision taken lightly. Before formal resignations, there are more or less signs of turnover intentions [5].

Therefore, this paper conducts a meta-analysis in order to gauge the influence of job satisfaction on turnover intention in the workforce of the food & beverage industry in Taiwan. This is the main purpose of this study.

II. LITERATURE REVIEW

To understand the research findings in the past, this paper conducts a literature review on the relevant issues:

Job Satisfaction

This paper defines the concept of job satisfaction as a subjective feeling and response toward their own job and the overall work environment. Satisfaction depends on the subjective perceptions and evaluations about the workplace, administration & leadership, wages & benefits, work feedback, further study and promotion opportunities. In brief, job satisfaction is an intuitive feeling that individuals hold. It determines whether they like their jobs in general or not.

Below is a summary of the literature on the correlation between job satisfaction and turnover intention.

Vroom [6] believed that job satisfaction is the feelings or emotional responses employees have toward the roles they play in an organization.

According to Smith, Kendall and Hulin [7], job satisfaction is the gap between the received rewards and the expected value for employees in specific work environments. The smaller the gap, the higher the job satisfaction. The wider the gap, the lower the job satisfaction.

Locke [8] posited that job satisfaction is the pleasure or position emotions with which an individual assesses work or work experience. In other words, it is the attitudes an individual holds toward their work or specific dimensions about their work. Simply put, work satisfaction is about whether an individual likes his/her job or not or whether he/she is happy with his/her job or not.

Gao [9] contended that job satisfaction is important because it helps managers identify the employees in need of care and attention. It also helps managers gauge the level of employees' satisfaction with work by highlighting the aspects they are most happy and unhappy about.

Chen [10] thought that job satisfaction is an emotional attitude and subjective feelings an individual has toward his/her job. It may be positive or negative. It depends on the gap between actual rewards and expected value derived from work.

Burke [11] said that job satisfaction is a pleasant or positive emotional status when an individual is happy with his/her work assessment or work experience.

Jennifer and Gareth [12] suggested that job satisfaction is the feeling and conviction employees hold toward their work. Job Satisfaction is the most important and one of the most studied dimensions of organizational behavior.

Chung [13] indicated that job satisfaction is an intuitive feeling a person has about their job. It is about whether they like or dislike their work in general.

Liu [14] regarded job satisfaction as a subjective feeling and response individuals hold toward their jobs and work environments as a whole. Satisfaction depends on the subjective perceptions and evaluations about the workplace, administration & leadership, wages & benefits, work feedback, further study and promotion opportunities.

Turnover Intention

This paper defines the concept of turnover intention as the deliberate decision to leave the current job or position after spending some time in an organization. It is the decision for an employee to terminate his/her contract with the organization.

Below is a summary of the literature on the correlation between job satisfaction and turnover intention.

Porter & Steers [15] pointed out that turnover intention is a retreat from existing jobs when members, after working for a period of time, feel unhappy about their current jobs and even want to find a way out.

Miller & Katerberg [16] believed that turnover intention is the behavior and attitude as a result of the inclination to leave jobs and seek other opportunities. It is an important predictive variable for departures.

Zheng [17] indicated that turnover intention is the desire to leave a job after an individual has assessed the work environment and acknowledged the meaningfulness of leaving.

Huang [18] suggested that employees make a series of assessments before they leave jobs. The evaluations about resignations is turnover intention.

Yang [19] indicated that turnover intention refers to the psychological status of seeking to leave existing jobs and looking for other job opportunities, before resignations. The stronger the turnover intention, the more likely the departures.

Pan [20] suggested that turnover intention is the desire to leave an organization or a company, i.e. the intention to terminate the contract with the organization.

Chuang [5] argued that turnover intention implies the possibility of changing or leaving jobs for an individual in a specific time period. Departures may be voluntary and involuntary. Involuntary departures include dismissals, retirements and leaving jobs as a result of occupational injuries. Involuntary departures are beneficial to corporate development, but voluntary departures are often detrimental to business growth.

Literature on the Relationship between Job Satisfaction and Turnover Intention

Below is a summary of the literature on the correlation between job satisfaction and turnover intention.

Lin [21] posited a significant and negative correlation between job satisfaction and turnover intention.

Chen [22] pointed out a significant and negative influence of job satisfaction on turnover intention.

Lu [23] highlighted the significant and negative influence of job satisfaction on turnover intention of employees.

Wang [24] indicated a significant and negative influence of job satisfaction on turnover intention.

Jian [25] suggested a significant but a low level of negative correlation between job satisfaction and turnover intention.

Liu [26] believed that the higher the job satisfaction, the weaker the turnover intention.

Fang [27] contended that the job satisfaction of salespeople has a significant and negative influence on their turnover intention.

III. RESEARCH METHODOLOGY

Based on the above research motivations, objectives and literature review, this paper establishes research hypotheses and constructs the research model and the research structure accordingly (Fig. 1).

Research Structure

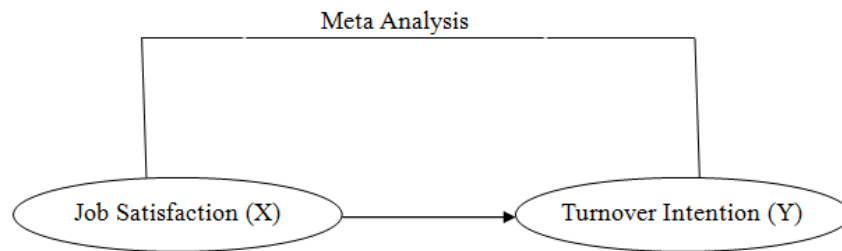


Figure 1 Conceptualization of Research Structure

Data Collection and Method

This paper conducts a Meta-Analysis with the Stata software. The working presumption is that the estimation parameters follow a normal distribution. In the case of greater heterogeneity (i.e. standard deviations), it is better to use random effects than fixed efforts. Therefore, this paper examines random effects to compare results [28] .

Theoretic Foundation for Meta-Analysis [29]

1. The Highlight of DerSimonian & Laird Method (Random effect method)

- (1) For binary or continuous outcomes
- (2) Effect size q_i for study i could be $\ln(OR), \ln(RR), RD$, difference in means or standardized mean difference.
- (3) Note that the effect sizes for OR and RR are logged.
- (4) Assumption that there is a single true answer that all studies are trying to estimate is relaxed.
- (5) Now assume that each study has a different true answer that they are trying to estimate.
- (6) Assume true effect sizes θ_i have normal distribution with mean θ and variance τ^2 .
- (7) τ^2 is the between-study variance.
- (8) Between study variance:

$$\tau^2 = \frac{Q - (k - 1)}{\sum_i w_i - \left[\frac{\sum_i w_i^2}{\sum_i w_i} \right]}$$

Where:

w_i are weights from the fixed effect inverse-variance method

Q is the heterogeneity test statistic form before (either form inverse-variance method or Mantel-Haenszel method)

K is the number of studies, and

τ^2 is set to zero if $Q < k-1$

- (9) Random effect pooled estimate is weighted average:

$$\theta_{DL} = \frac{\sum_i w'_i \theta_i}{\sum_i w'_i}$$

- (10) Weights used for the pooled estimate are similar to the inverse-variance, but now incorporate a component for between-study variation:

$$w'_i = \frac{1}{SE(\theta_i)^2 + \tau^2}$$

- (11) When there is little heterogeneity, so Q is smaller than k-1, $\tau^2=0$ and the weights are the same as the inverse-variance method.

- (12) When $\tau^2 > 0$ the weights are smaller and more similar to each other than in a fixed effect model.
 - (13) Because the weights are smaller, the sum of weights will be smaller, and so the SE will be bigger, CIs wider, and p-values less significant.
 - (14) Small studies will have relatively greater influence.
 - (15) Advantages:
 - a. As widely applicable as the inverse-variance fixed effect model
 - b. Incorporates heterogeneity into the model
2. Confidence interval for pooled estimate
 A 95% CI for the pooled estimate θ is:
 $\theta - (1.96 * SE(\theta))$ to $\theta + (1.96 * SE(\theta))$
 For ratios, θ is the log-transformed estimate.
3. Test for overall effect
 Overall significance test for whether the pooled estimate is significantly different from zero (no effect):

$$z = \frac{\theta}{SE(\theta)}$$
 Look up z in tables of the normal distribution to get the p-value.
 For ratios, θ is the log-transformed estimate.
4. Test for heterogeneity
 (1) Look up Q in tables of the chi-squared distribution on k-1 degrees of freedom. The null hypothesis is that the true effect size is the same for all studies.
 (2) A statistically significant result means that there is strong evidence against there being one common effect size, so we take it that there is heterogeneity.
5. Getting Data into Stata
 (1) Easier to enter into Excel then cut & paste into Stata's data editor
 (2) Ensure each numeric column contains only numbers
 (3) Leave cells empty if data missing
 (4) One row per study

IV. RESULTS AND ANALYSIS

The results of the meta-analysis on random effects are summarized in Table 1.

Table1: Random Effects

| Study | | WMD (95% CI) | % Weight |
|--|--|---------------------|----------|
| Lin [21] | | -5.43(-5.03, -5.82) | 14.09 |
| Chen [22] | | -5.33(-5.02, -5.64) | 14.02 |
| Lu [23] | | -6.01(-5.81, -6.20) | 14.21 |
| Wang [24] | | -6.17(-5.22, -7.12) | 14.38 |
| Jian [25] | | -6.27(-5.23, -7.31) | 14.58 |
| Liu [26] | | -6.22(-5.11, -7.33) | 14.49 |
| Fang [27] | | -6.02(-5.12, -6.92) | 14.23 |
| Overall (I-squared=-59.2%, p=0.001) | | -5.92(-5.22, -6.62) | 100.00 |
| NOTE: Weights are from random effects analysis | | | |
| Scale Range | | | |

The above results show an overall I-squared= 59.2 and p-value=0.001, indicating that the independent variable has significant and negative impacts on the dependent variable.

V. CONCLUSIONS AND SUGGESTIONS

Conclusions

The above results suggest that job satisfaction has a significant and negative impact on turnover intention of the workforce in the food & beverage industry in Taiwan. This is consistent with Lin [21] , Chen [22] , Lu [23] , Wang [24] , Jian [25] , Liu [26] and Fang [27] , despite of different weights.

Research Contributions

The literature review finds that most studies use regressions for exploratory research purposes. Few

studies apply meta-analysis. This adoption of meta-analysis by this paper is relatively a novel approach.

This research finding can serve as a template for restaurant management in the pursuit of sustainable operations. In other words, the research result is a valuable reference to practitioners.

Research Restrictions and Suggestions

This paper conducts an analysis on the employees currently working in the food & beverage industry; therefore, the findings are not applicable to those currently not employed by restaurants in Taiwan. This paper examines the turnover intention of the employees currently working in restaurants in Taiwan, and performs a meta-analysis on relevant literature in Taiwan and overseas, in order to understand the influence of job satisfaction on turnover intention in the workforce of the food and beverage industry in Taiwan. Follow-up studies are suggested to examine other industries or the companies in the same industry with different scales, or explore with other research techniques such as confirmatory factor analysis (CFA) in the analysis of different industries or comparison of model fit for different sectors.

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Yu-Je Lee Application of Meta-Analysis for Understanding the Effects of Job Satisfaction on Turnover Intention in Workforce of the Food & Beverage Industry in Taiwan.” *International Journal of Business and Management Invention (IJBMI)*, vol. 6, no. 11, 2017, pp. 37-42.