**A STUDY ON BUILDING SUSTAINABLE EMPLOYEE ENGAGEMENT MODEL IN HR PERSPECTIVES WITH SPECIAL REFERENCE TO PODARAN FOODS INDIA PVT.LTD**

**Ms. K. Akila 1, S. Thanish 2**

1 Assistant professor / MBA, Nandha Engineering College (Autonomous), Erode, Tamil Nadu, akiraj1508@gmail.com

2Student, MBA, Nandha Engineering College (Autonomous), Erode, Tamil Nadu,

[thanishsakthi2001@gmail.com](mailto:thanishsakthi2001@gmail.com)

**ABSTRACT:**

The research highlights the significance of a customized strategy that takes into account the distinct operational and cultural context of each firm and offers practical insights for those trying to manage the difficulties of Diversity and Inclusion initiatives. This study adds to the larger conversation on diversity and inclusion by addressing both the potential and the obstacles and provides a framework for long-lasting and significant Diversity and Inclusion initiatives. These consist of unintentional biases, lack of training, resistance to change, and the absence of quantifiable results. This study looks into the benefits and difficulties that come with putting D&I projects into practice within businesses. It offers a thorough analysis from a variety of angles, including HR professionals, employees, and leadership.

Keywords:Employee engagement, HR Perspectives, diversity, inclusion, obstacles.

**I. INTRODUCTION:**

Employee engagement is a key factor in corporate performance. It is more important than ever for companies to cultivate a dedicated and driven workforce as they struggle to preserve their competitive edge. Productivity, innovation, and retention rates are directly impacted by employee engagement, which is characterized as an individual's emotional commitment to their organization and its objectives. Achieving lasting involvement, however, is fraught with difficulties, especially in this day and age of rapidly advancing technology, shifting labor demographics, and rising employee expectations.

**STATEMENT OF THE PROBLEM:**

By creating a complete and long-lasting employee engagement model from an HR standpoint, this study aims to close this gap. The goal of the study is to pinpoint the critical elements that support long-term employee engagement, investigate how these elements interact, and offer HR practitioners useful recommendations. In doing so, this study hopes to provide a solid foundation that raises worker dedication, happiness, and output, thus assisting in the success and sustainability of businesses as a whole.

**OBJECTIVES OF THE STUDY:**

* To determine the factors that significantly impact employee engagement within the organization.
* To evaluate the effectiveness of existing employee engagement strategies and practices.
* To create a comprehensive model that integrates best practices in HR to promote sustained employee engagement.
* To apply the developed model within the organization and measure its impact on employee engagement levels.
* To offer practical recommendations for HR professionals on maintaining and enhancing employee engagement over time.

**LIMITATIONS:**

* The time frame for implementing and testing the model may be insufficient to capture the long-term impacts of the engagement strategies.
* Uncontrollable external factors such as economic conditions, industry trends, and organizational changes may influence employee engagement levels during the study.
* Employee feedback and survey responses may be subjective and influenced by personal biases or current job satisfaction levels.
* Differences in how the engagement model is implemented across various departments or units may affect the consistency of results.
* The availability of technology and resources to support the engagement strategies may vary, impacting the feasibility and effectiveness of the proposed model.

**RESEARCH METHODOLOGY:**

Research Methodology is defined as a highly intellectual human activity used in the investigation of nature and matter and deals especially with how data is collected, analyzed, and interpreted.

**Research Design:**

* A research design is the strategy for a study and the plan by which the strategy is to be carried out. It specifies the methods and procedures for the collection, measurement, and analysis of data.
* The researcher used a descriptive research design in collecting the data from respondents.

**TYPE OF RESEARCH:**

* Descriptive Research

**SAMPLE DESIGN:**

* Simple Random sampling

**DATA COLLECTION:**

**Primary data:**

* + Questionnaire method
  + Survey method

**Secondary data:**

* + Literature review
  + Company profile

# **STATISTICAL TOOLS USED:**

* Simple Percentage Analysis
* Chi-Square Method
* ANOVA
* Correlation

**II. REVIEW OF LITERATURE:**

## Eswara Reddy December 2023:

Information technology services in India comprise hardware (engineering) services, software and IT services, and e-businesses/e-governance related to government services. Software support and installation, processing services, systems integration, exporting goods and services, and information technology science training and education are all considered forms of IT services. The vast majority of workers in the IT sector now require a methodical approach to management due to the industry's notable advancements. Technology was also required for the topic of managing staff and other factors that came into play. Thus, innovative HR techniques arose to improve employee abilities and motivate them to work toward the organization's objective.

## Susan George December 2023:

Crises are erratic occurrences that could happen at any time and seriously interrupt daily activities, employment, and the usual order of things. We are now in an era of remote and flexible work arrangements across businesses, thanks in large part to the COVID-19 Pandemic. The aforementioned crises have highlighted the significance of employee engagement and corporate culture development in managing unforeseen circumstances. Anticipating and responding to potential disasters becomes imperative as organizations get ready for the future. Industry per industry, the pandemic's effects differed. The production business sought to maintain uninterrupted output as the technology sector worked to establish a virtual workspace.

## Yusuf Iskandar October 2023:

This research examines the intricate relationships that exist between training, recruiting, employee engagement, social entrepreneurship success, sustainable business practices, and the social impact on local communities and Indonesian Micro, Small, and Medium-Sized Enterprises (MSMEs). To investigate a wide range of possibilities, the study uses Structural Equation Modeling (SEM-PLS) through a quantitative analysis involving 487 MSMEs. The results emphasize the contradictory relationship between training and sustainability, highlighting the need for cautious handling of HR operations. Successful recruiting and high employee engagement turn out to be important variables that affect how well social entrepreneurship and sustainable business strategies work.

## T Padmavathi June 2023:

The study aims to evaluate the impact of a sustainable work environment on employee retention, job satisfaction, and work engagement. Additionally, the study looks at how job satisfaction and work engagement relate to a sustainable work environment and employee retention. Theoretical structure Problems with employee retention are becoming one of the most important workforce management issues of the modern day. One major component that has been found to predict employee retention is the work environment. Social exchange theory and the employer-employee relationship were used to identify the components of a sustainable work environment.

## Kiran Vazirani June 2023:

In the past twenty years, HR analytics has grown significantly. Many businesses now use analytics to their advantage to identify every aspect of their workforce and obtain a competitive advantage over rivals. HR analytics are being used by organizations to inform strategic HR decisions to maximize employee performance. By evaluating and enhancing employee engagement and turnover, this study investigates the introduction of HR analytics. When employee engagement is integrated with other HR and non-HR data, employee engagement analytics refers to the practice of using data in the decision-making process. Within the category of workforce analytics is employee engagement analytics.

**III. ANALYSIS AND INTERPRETATION:**

**1. SIMPLE PERCENTAGE ANALYSIS:**

**Table 1: DEMOGRAPHICS**

|  |  |  |  |
| --- | --- | --- | --- |
| **Demographics** | | **No. of Respondents** | **Percentage** |
| Age Group (in Years) | 18-25 years | 36 | 36 |
| 26-35 years | 24 | 24 |
| 36-45 years | 17 | 17 |
| 46-55 years | 11 | 11 |
| Above 56 years | 12 | 12 |
| Total | 100 | 100 |
| Gender | Male | 64 | 64 |
| Female | 36 | 36 |
| Total | 100 | 100 |
| Marital status | Married | 61 | 61 |
| Unmarried | 39 | 39 |
| Total | 100 | 100 |
| Years of  Experience | 0-2 years | 27 | 27 |
| 3-5 years | 36 | 36 |
| 6-10 years | 20 | 20 |
| Above 10 years | 17 | 17 |
| Total | 100 | 100 |

# **INTERPRETATION:**

The majority of respondents are in the 18-25 years age group (36%), indicating a younger demographic. The next largest group is 26-35 years (24%). Respondents above 46 years old constitute 23% of the total, suggesting a smaller representation from older age groups. The majority of respondents are male (64%), indicating a potential gender imbalance in the sample, with females representing 36% of the respondents. Most respondents are married (61%), which might suggest that the sample includes a significant number of individuals who are likely to have family responsibilities. The majority of respondents have 3-5 years of experience (36%), followed by those with 0-2 years (27%). Those with 6-10 years (20%) and above 10 years (17%) of experience form a smaller part of the sample, indicating a relatively less experienced workforce.

**2 CHI-SQUARE ANALYSIS:**

Chi-square test for Age and Leadership.

HO= There is no significant relationship between Age and Leadership.

H1= There are significant relationship between Age and Leadership.

**2.1 Table from the Chi-square test for age and leadership**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ACTUAL VALUE | | | | | | |
|  | A | B | C | D | E | TOTAL |
| AGE | 36 | 24 | 17 | 11 | 12 | 100 |
| LEADERSHIP | 7 | 25 | 32 | 27 | 9 | 100 |
| TOTAL | 43 | 49 | 49 | 38 | 21 | 200 |
|  |  |  |  |  |  |  |
| EXPECTED VALUE | | | | | | |
|  | A | B | C | D | E | TOTAL |
| AGE | 21.5 | 24.5 | 24.5 | 19 | 10.5 | 100 |
| LEADERSHIP | 21.5 | 24.5 | 24.5 | 19 | 10.5 | 100 |
| TOTAL | 43 | 49 | 49 | 38 | 21 | 200 |
|  |  |  |  |  |  |  |
|  | CHI.SQ | 0.01 |  |  |  |  |

CHI SQUARE=X2=0.01

**INTERPRETATION:**

From the table, X2 =0.01 is lesser than 0.05 for H1= There is a significant relationship between age and leadership.

Chi-square test for Gender and Productivity

HO= There is no significant relationship between Gender and Productivity.

H1= There are significant relationship between Gender and Productivity.

**2.2 Table from the Chi-square test for Gender and Productivity.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ACTUAL VALUE | | | | | | |
|  | A | B | C | D | E | TOTAL |
| GENDER | 64 | 36 | 0 | 0 | 0 | 100 |
| PRODUCTIVITY | 12 | 17 | 34 | 28 | 9 | 100 |
| TOTAL | 76 | 53 | 34 | 28 | 9 | 200 |
|  |  |  |  |  |  |  |
| EXPECTED VALUE | | | | | | |
|  | A | B | C | D | E | TOTAL |
| GENDER | 38 | 26.5 | 17 | 14 | 4.5 | 100 |
| PRODUCTIVITY | 38 | 26.5 | 17 | 14 | 4.5 | 100 |
| TOTAL | 76 | 53 | 34 | 28 | 9 | 200 |
|  |  |  |  |  |  |  |
|  | CHI.SQ | 0.00 |  |  |  |  |

CHI SQUARE=X2=0.00

**INTERPRETATION:**

From the table, X2 =0.00 is less than 0.05 for Ho= There is no significant relationship between Gender and Productivity.

**3 ONE - WAY - ANOVA:**

**NULL HYPOTHESIS**

**Ho:** There is no significant relationship between role, organization, and achievements.

**ALTERNATIVE HYPOTHESIS**

**H1:** There is a significant relationship between role, organization, and achievements.

**3.1 Table from the** **role, organization, and achievements.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Role | Organization | Achievements |  |  |  |  |  |  |  |
| 5 | 13 | 9 |  |  |  |  |  |  |  |
| 17 | 9 | 18 |  |  |  |  |  |  |  |
| 21 | 28 | 28 |  |  |  |  |  |  |  |
| 26 | 36 | 23 |  |  |  |  |  |  |  |
| 31 | 14 | 22 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | Anova: Single Factor | |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  | SUMMARY |  |  |  |  |  |  |  |  |
|  | *Groups* | *Count* |  | *Sum* | *Average* | *Variance* |  |  |  |
|  | Role | 5 |  | 100 | 20 | 98 |  |  |  |
|  | Organization | 5 |  | 100 | 20 | 131.5 |  |  |  |
|  | Achievements | 5 |  | 100 | 20 | 50.5 |  |  |  |
|  | ANOVA |  |  |  |  |  |  |  |  |
|  | *Source of Variation* | *SS* |  | *df* | *MS* | *F* | *P-value* | *F crit* |  |
|  | Between Groups | 0 |  | 2 | 0 | 0 | 1 | 3.885294 |  |
|  | Within Groups | 1120 |  | 12 | 93.33333 |  |  |  |  |
|  | Total | 1120 |  | 14 |  |  |  |  |  |

#### **Interpretation:**

* The F-value is 0.
* The P-value is 1, which is significantly higher than the common significance level (e.g., 0.05).
* The F critical value (F crit) is 3.885294.
* As the P value is greater than sig. value (0.01 and 0.05) in all the 3 cases of role, organization, and achievements, the Null hypothesis is rejected.
* Hence, it is concluded that there is a statistically significance difference among the case's role, organization, and achievements.

**ANOVA test for vision and goals, personal values, and work environment.**

Ho= There is no significant relationship between vision and goals, personal values and work environment

H1= There are significant relationships between vision and goals, personal values, and work environment.

**3.2 Table from the vision and goals, personal values, and work environment.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Vision and Goals | Personal Values | Work Environment |  |  |  |  |  |
| 8 | 12 | 5 |  |  |  |  |  |
| 19 | 16 | 28 |  |  |  |  |  |
| 25 | 40 | 26 |  |  |  |  |  |
| 28 | 18 | 28 |  |  |  |  |  |
| 20 | 14 | 13 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | Anova: Single Factor | |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | SUMMARY |  |  |  |  |  |  |
|  | *Groups* | *Count* | *Sum* | *Average* | *Variance* |  |  |
|  | Vision and Goals | 5 | 100 | 20 | 58.5 |  |  |
|  | Personal Values | 5 | 100 | 20 | 130 |  |  |
|  | Work Environment | 5 | 100 | 20 | 109.5 |  |  |
|  | ANOVA |  |  |  |  |  |  |
|  | *Source of Variation* | *SS* | *df* | *MS* | *F* | *P-value* | *F crit* |
|  | Between Groups | 0 | 2 | 0 | 0 | 1 | 3.885294 |
|  | Within Groups | 1192 | 12 | 99.33333 |  |  |  |
|  | Total | 1192 | 14 |  |  |  |  |

#### **Interpretation:**

* The F-value is 0.
* The P-value is 1, which is significantly higher than the common significance level (e.g., 0.05).
* The F critical value (F crit) is 3.885294.
* As the P value is greater than sig. value (0.01 and 0.05) in all three 3 cases vision and goals, personal values, and work environment the Null hypothesis is rejected.
* Hence, it is concluded that there is a statistically significance difference among vision and goals, personal values, and work environment.

1. **CORRELATION:**

**Correlation test for meaningful and offers**

**X = Meaningful**

**Y= Offers**

|  |  |  |  |
| --- | --- | --- | --- |
| Meaningful | Offers |  |  |
| 11 | 12 |  |  |
| 9 | 16 |  |  |
| 32 | 24 |  |  |
| 31 | 31 |  |  |
| 17 | 17 |  |  |
|  |  |  |  |
|  |  | *Meaningful* | *Offers* |
|  | Meaningful | 1 | 0.896374791 |
|  | Offers | 0.896374791 | 1 |

Meaningful and Offers:

Correlation Coefficient: 0.896374791

**Interpretation:** **Correlation Coefficient (0.896374791)**:

* The correlation coefficient between "Meaningful" and "Offers" is approximately 0.896.
* This value is close to 1, indicating a strong positive linear relationship between the two variables.
* In simpler terms, as the value for "Meaningful" increases, the value for "Offers" tends to also increase.

**Correlation test for T&D and Reward system**

**X = T&D**

**Y= Reward system**

|  |  |  |  |
| --- | --- | --- | --- |
| T&D | Reward System |  |  |
| 15 | 9 |  |  |
| 17 | 24 |  |  |
| 21 | 31 |  |  |
| 23 | 21 |  |  |
| 24 | 15 |  |  |
|  |  |  |  |
|  |  | *T&D* | *Reward System* |
|  | T&D | 1 | 0.283443779 |
|  | Reward System | 0.283443779 | 1 |

T&D and Reward System:

Correlation Coefficient: 0.283443779

**Interpretation:** **Correlation Coefficient (0.283443779)**:

* The correlation coefficient between "T&D" and "Reward System" is approximately 0.283.
* This value indicates a weak positive linear relationship between the two variables.
* In simpler terms, there is a slight tendency for "T&D" to increase as the "Reward System" increases, but the relationship is not strong.

**CONCLUSION:**

Employee engagement model from an HR standpoint is crucial to developing a motivated and effective team. The secret to sustainability is developing an engagement structure that is inclusive, flexible, and sensitive to the changing requirements of staff members. This entails monitoring alignment with the organization's mission and values, utilizing data-driven insights to identify areas for development, and continuously assessing and improving engagement initiatives.

The cornerstones of a strong engagement model are opportunities for growth, recognition, and effective communication. HR may foster mutual respect and trust among staff members by actively listening to them and implementing their suggestions into organizational procedures. Furthermore, funding possibilities for career advancement and professional development shows a sustained commitment to workers' development, which raises engagement and retention even more.

**REFERENCES**

* Alan Bryman, 2001: Popular Research Methods Books; Designing Social Inquiry: Scientific Inference in Qualitative Research Gary King; The Literature Review: Six Steps to Success.
* Formulation and Production Carbonated Soft Drinks, [Originally published](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk01eYGr3S6HEyf4QXWAoygsFseCEXw%3A1609140307756&q=formulation%2Band%2Bproduction%2Bcarbonated%2Bsoft%2Bdrinks%2Boriginally%2Bpublished&stick=H4sIAAAAAAAAAD3MMQ7CMAwAwAmJATHwATyzRCCx9AF8o3LitFhJ7cpxVMFzeCkSA-Mttz-eDmEO11tcEr3v4-Vc0hCiagmbsXuWcVMrw9pj5fbM9Nk9JrWlV3RWARSC1ZR6-jGhRRX0TNB0ciBjKQ3UeGbBWl_wj74ZNevnegAAAA&ved=2ahUKEwiz0b_jkvDtAhUTFLcAHf_LDtAQ6BMoADAPegQIERAC&cshid=1609140373002894): September 1990, [Editor](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk01eYGr3S6HEyf4QXWAoygsFseCEXw%3A1609140307756&q=formulation%2Band%2Bproduction%2Bcarbonated%2Bsoft%2Bdrinks%2Beditor&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKTU6pMo3XUs4ot9JPzs_JSU0uyczP0y8vyiwpSc2LL88vyi62Sk3JLMkvWsRqkZZflFuakwhSopCYl6JQUJSfUgrWoZCcWJSUn5dYkpqiUJyfVqKQUpSZl12sANEKAI9iJ9BwAAAA&ved=2ahUKEwiz0b_jkvDtAhUTFLcAHf_LDtAQ6BMoADAQegQIExAC&cshid=1609140373002894): [A.J. Mitchell](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk01eYGr3S6HEyf4QXWAoygsFseCEXw%3A1609140307756&q=A.J.%2BMitchell&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKTU6pMo1XAvMMjcuSyk1KirSUM8qt9JPzc3JSk0sy8_P0y4syS0pS8-LL84uyi61SUzJL8osWsfI66nnpKfhmliRnpObk7GBlBACMt1T5VgAAAA&ved=2ahUKEwiz0b_jkvDtAhUTFLcAHf_LDtAQmxMoATAQegQIExAD&cshid=1609140373002894)
* Johnny Saldana, 2009: The Coding Manual for Qualitative Researchers Johnny Saldaña. The Coding Manual for Qualitative Researchers. Want to Read. Qualitative Inquiry and Research.
* John W. Creswell, 2017: Research Design: Qualitative, Quantitative, and Mixed Methods Approaches John W.
* Recent Trends in Soft Beverages, originally published: 2011, Editors: L. Jagan Mohan Rao, K. Ramalakshmi
* Research Methodology Methods and Techniques by CR Kothari
* Robert Yin, 1984: Design and Methods Robert K. Yin. Case Study Research: Design and Methods
* Recent Trends in Soft Beverages, [Originally published](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk03ljwkwEWa2rvZ3vcGQonbbMzrFgg%3A1609140513779&q=recent%2Btrends%2Bin%2Bsoft%2Bbeverages%2Boriginally%2Bpublished&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKzSm0NM7Qks9OttJPys_P1i8vyiwpSc2LL88vyrYqKE3KySzOSE1ZxGpSlJqcmleiUFKUmpdSrJCZp1Ccn1aikJRallqUmJ5arJBflJmemZeYk1OpANcGAFJK_HBoAAAA&ved=2ahUKEwjnrt7Fk_DtAhVxgtgFHUCCCoUQ6BMoADARegQIFBAC): 2011, [**Editors**](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk03ljwkwEWa2rvZ3vcGQonbbMzrFgg%3A1609140513779&q=recent%2Btrends%2Bin%2Bsoft%2Bbeverages%2Beditors&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKzSm0NM7QUs4ot9JPzs_JSU0uyczP0y8vyiwpSc2LL88vyi62Sk3JLMkvWsSqXpSanJpXolBSlJqXUqyQmadQnJ9WopCUWpZalJieWqwAUVgMADxEhxdfAAAA&ved=2ahUKEwjnrt7Fk_DtAhVxgtgFHUCCCoUQ6BMoADASegQIFRAC)**:** [L. Jagan Mohan](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk03ljwkwEWa2rvZ3vcGQonbbMzrFgg%3A1609140513779&q=L.%2BJagan%2BMohan%2BRao&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKzSm0NM5QAvMMjSvM0wpLirSUM8qt9JPzc3JSk0sy8_P0y4syS0pS8-LL84uyi61SUzJL8osWsQr56Cl4JaYn5in45mcAyaDE_B2sjACeBtNUWwAAAA&ved=2ahUKEwjnrt7Fk_DtAhVxgtgFHUCCCoUQmxMoATASegQIFRAD) [Rao](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk03ljwkwEWa2rvZ3vcGQonbbMzrFgg%3A1609140513779&q=L.%2BJagan%2BMohan%2BRao&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKzSm0NM5QAvMMjSvM0wpLirSUM8qt9JPzc3JSk0sy8_P0y4syS0pS8-LL84uyi61SUzJL8osWsQr56Cl4JaYn5in45mcAyaDE_B2sjACeBtNUWwAAAA&ved=2ahUKEwjnrt7Fk_DtAhVxgtgFHUCCCoUQmxMoATASegQIFRAD), [K. Ramalakshmi](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk03ljwkwEWa2rvZ3vcGQonbbMzrFgg%3A1609140513779&q=K.%2BRamalakshmi&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKzSm0NM5Q4gXxDJNzzbLMTNPytJQzyq30k_NzclKTSzLz8_TLizJLSlLz4svzi7KLrVJTMkvyixax8nnrKQQl5ibmJGYXZ-Rm7mBlBAC-fWmdWAAAAA&ved=2ahUKEwjnrt7Fk_DtAhVxgtgFHUCCCoUQmxMoAjASegQIFRAE)
* The Soft Drinks Companion: A Technical Handbook for the Beverage Industry, Book by Maurice Shachman, originally published: 16 August 2004.
* The Soft Drinks Companion: A Technical Handbook for the Beverage Industry, Book by Maurice Shachman, [Originally published](https://www.google.com/search?sa=X&biw=1536&bih=666&sxsrf=ALeKk03jmA_YtN_RKHJU6k3Ay418eTmTQw%3A1609140227987&q=the%2Bsoft%2Bdrinks%2Bcompanion%3A%2Ba%2Btechnical%2Bhandbook%2Bfor%2Bthe%2Bbeverage%2Bindustry%2Bmaurice%2Bshachman%2Boriginally%2Bpublished&stick=H4sIAAAAAAAAAD3NPQ7CMAxA4QmJATFwATyzRB0QopepnJ82VhK7clKqchxOCl04wPve8Xw5mcl0XVnv7-H5uF2T640VSWZVai3wsIqmfl5sphqD_xykxQBVxgZeiVMFJ2VGJuEeEFpwkclhhojsdwhGUdgbG15BcQpA7JfadIOCi5L7aRFdLMggShMx5rzB__gFx3Nir6MAAAA&ved=2ahUKEwjv8rq9kvDtAhXSgtgFHYc1Az0Q6BMoADAQegQIFBAC): 16 August 2004.