

THE EFFECTS OF INTRINSIC ASPECTS OF WORK ON EMPLOYEE WELL-BEING

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Abstract:

In recent years, increasing attention has been directed toward understanding the intrinsic aspects of work and their impact on employee well-being. This study aims to evaluate the influence of intrinsic work factors on employees' health, well-being, and job satisfaction. The research employs artificial neural network analysis, specifically a multilayer perceptron model, to establish relationships between intrinsic work factors (such as motivation, interest in the profession, and recognition) and employee outcomes, including health and well-being. The findings reveal that organizational motivation, interest in the profession, and recognition of effort are the most significant contributors to employee well-being, while other aspects, such as autonomy and task satisfaction, exert less influence. These results highlight the complexity of how intrinsic factors shape the overall work experience, suggesting a differentiated approach to human resource management. In conclusion, intrinsic work aspects positively impact employee well-being, but the influence varies across different factors, emphasizing the importance of fostering motivation, interest alignment, and recognition in the workplace.

Keywords: *intrinsic work factors, employee well-being, job satisfaction, employees' health, satisfaction, artificial neural networks.*

1. Introduction

In the contemporary workplace, understanding the intrinsic aspects of work has become increasingly critical in promoting employee well-being and job satisfaction. Intrinsic factors—such as motivation, personal interest in the work, and the recognition of efforts—play a central role in shaping an employee's experience at work (Deci & Ryan, 2000). Previous research has highlighted that while extrinsic factors like salary and benefits are essential, intrinsic motivators can lead to enhanced job satisfaction, greater productivity, and overall well-being (Ryan & Deci, 2001; Hackman & Oldham, 1976; Wilkinson, 2022).

The relationship between intrinsic aspects of work and employee well-being has garnered significant attention in organizational behavior studies (Bocean, 2007; Bocean, 2011; Vărzaru and Vărzaru, 2015a, 2015b). It has been suggested that a work environment that encourages personal growth, autonomy, and meaningful engagement can positively affect employees' mental and emotional health (Bocean, 2007; Seligman, 2011; Sitnikov, C.C. and Bocean, C.G., 2010, 2013; Vărzaru and Vărzaru, 2013a, 2013b; Ganster and Rosen, 2013; Vărzaru et al., 2013; Vărzaru and Vărzaru, 2016). Despite the wealth of literature on the subject, there remains a gap in empirical research using advanced analytical methods, such as artificial neural networks, to model these complex relationships. This study aims to fill this gap by exploring how intrinsic work aspects influence employee well-being through a neural network analysis approach.

Following the introduction and literature review that establish the theoretical foundation for the research, the methodology, results, and discussions are detailed. The paper concludes with a summary of the research findings.

2. Literature Review

The impact of intrinsic factors on employee well-being has been explored from various perspectives in the literature. Hackman and Oldham (1976) proposed the Job Characteristics Model, which posits that intrinsic job characteristics—such as skill variety, task identity, task significance, autonomy, and feedback—significantly influence job satisfaction and employee motivation. They argue that jobs designed to enhance these characteristics lead to higher employee engagement and overall well-being. The model suggests that when employees perceive their work as meaningful and challenging, they are more likely to invest effort and find satisfaction in their roles (Torrington et al., 2014).

In addition to the Job Characteristics Model, Deci and Ryan (2000) developed the Self-Determination Theory, which emphasizes the importance of intrinsic motivation in promoting psychological well-being. According to this theory, when employees feel autonomous and competent in their roles, they are more likely to experience satisfaction and a sense of fulfillment in their work. This notion has been widely supported in subsequent studies, underscoring the positive relationship between intrinsic motivation and various favorable employee outcomes (Gagne & Deci, 2005; Vansteenkiste et al., 2006; Wilton, 2022).

Furthermore, Seligman (2011) introduced the concept of Positive Psychology, focusing on strengths, virtues, and factors that contribute to human flourishing. In the workplace context, Seligman emphasizes the significance of finding meaning and purpose in one's work, which closely aligns with intrinsic motivation. Research suggests that employees who find their work meaningful report higher levels of job

satisfaction and psychological well-being (Wrzesniewski et al., 1997; Rosso et al., 2010; Boxall and Purcell, 2022).

Moreover, Kahn (1990) explored the concept of personal engagement in the workplace, suggesting that intrinsic factors such as a sense of belonging and connection to one's work lead to greater employee engagement. This engagement, in turn, positively correlates with overall well-being and job satisfaction. Similarly, Maslach and Leiter (1997) highlighted the role of intrinsic job characteristics in combating burnout, asserting that meaningful work can serve as a protective factor against job-related stress.

Despite the extensive research on intrinsic factors, empirical studies utilizing advanced methodologies, such as artificial neural networks, remain scarce. The neural network approach allows for a more nuanced understanding of the relationships between various intrinsic work aspects and employee outcomes, providing valuable insights into how these factors interact to influence well-being.

3. Research design and methodology

This study employs an artificial neural network approach to analyze the impact of intrinsic aspects of work on employee well-being. The choice of this methodology stems from the need to capture complex, non-linear relationships between various intrinsic job characteristics and their effects on employee outcomes, such as health, well-being, and job satisfaction (Nicolescu. and Vărzaru, 2020; Vărzaru, 2022a, 2022b, 2022c, 2022d; Rotea et al., 2023).

The data used in this research were gathered through a structured questionnaire administered to employees across various sectors. The questionnaire included items that assessed intrinsic work characteristics (e.g., skill variety, autonomy, task significance) as well as measures of employee well-being, including physical health, psychological well-being, and job satisfaction. These variables aimed to capture different aspects of social support within the workplace, including both peer and managerial support (Table no. 1).

Respondents rated their experiences on a Likert scale, enabling quantification of the subjective constructs. The sample was comprised of 383 participants, selected through stratified random sampling to ensure representation from different industries, job levels, and demographic backgrounds. This approach aimed to enhance the generalizability of the findings.

The neural network employed in this research is a multilayer perceptron (MLP) consisting of an input layer, one hidden layer, and an output layer. The input layer includes variables representing intrinsic work aspects (OAR62-OAR64, RI65-RI67), while the output layer consists of variables reflecting employee well-being (SF68-SF70, BA71-BA73, SA74-SA76).

The neural network model was trained using a backpropagation algorithm, which adjusts the weights of the connections based on the error in the predictions. The training process involved multiple iterations until the model achieved satisfactory performance, as measured by the mean squared error. After training the neural network, the normalized importance of input variables was assessed to identify which intrinsic factors had the most significant impact on employee well-being. This analysis was performed using the coefficients obtained from the trained model. The results were interpreted in the context of existing literature, providing insights into the relative influence of different intrinsic work characteristics.

Table 1. Selected variables

Organizational Motivation (OAR62)	This variable assesses the extent to which the organization encourages employees to deliver their best performance at work.
Application of Personal Ideas (OAR63)	This variable measures the ability of employees to implement their ideas within their work.
Sense of Accomplishment (OAR64)	This variable captures the feeling of having done a job well. Employees who score high on this measure feel a sense of achievement in their tasks, which can positively influence their overall well-being and job satisfaction.
Interest in Profession (RI65)	This variable evaluates the perceived interest and engagement employees have in their profession.
Ability to Help Others (RI66)	This variable assesses the extent to which employees feel they can assist others in their workplace.
Respect and Recognition (RI67)	This variable measures the degree to which employees receive the respect and recognition they deserve for their efforts.
Feeling good about one's health (SF68)	Refers to employees' general perception of their health and well-being.
Protecting oneself and others from illness (SF69)	Captures how employees take preventive actions to maintain health and avoid illness.
Working in a safe environment (SF70)	Reflects the level of safety in the workplace, where risks to physical health are minimized.
Feeling good overall (BA71)	Refers to employees' sense of emotional and physical well-being, indicating a balance in their personal and work lives.
Finding meaning and purpose in work (BA72)	Captures how employees perceive the value and significance of their tasks and contributions.
Pride in one's work (BA73)	Reflects the level of pride and fulfillment employees feel towards the work they perform.
Personal satisfaction with work (SA74)	Refers to employees' overall satisfaction with the nature and outcome of their work.
Contentment with career progression (SA75)	Reflects how satisfied employees are with their current career stage and prospects.
Feeling empowered to make important decisions (SA76)	Captures the level of confidence employees have in their ability to influence significant workplace decisions.

Source: elaborated by the authors using data processed with SPSS v.27

4. Results and discussion

To evaluate the impact of intrinsic aspects of work on employees' health, well-being, and satisfaction, we used artificial neural network analysis. The multilayer perceptron (MLP) model includes an input layer with variables representing intrinsic aspects of work (OAR62-OAR64, RI65-RI67) and an output layer with variables representing employees' health, well-being, and satisfaction (SF68-SF70, BA71-BA73, SA74-SA76). Between these two layers, there is a hidden layer represented by employee well-being (known as the well-being variable), which influences health, well-being, and employee satisfaction. The activation functions of both the hidden layer and the output layer are sigmoid. Figure 1 illustrates the relationships established between the layers of the model.

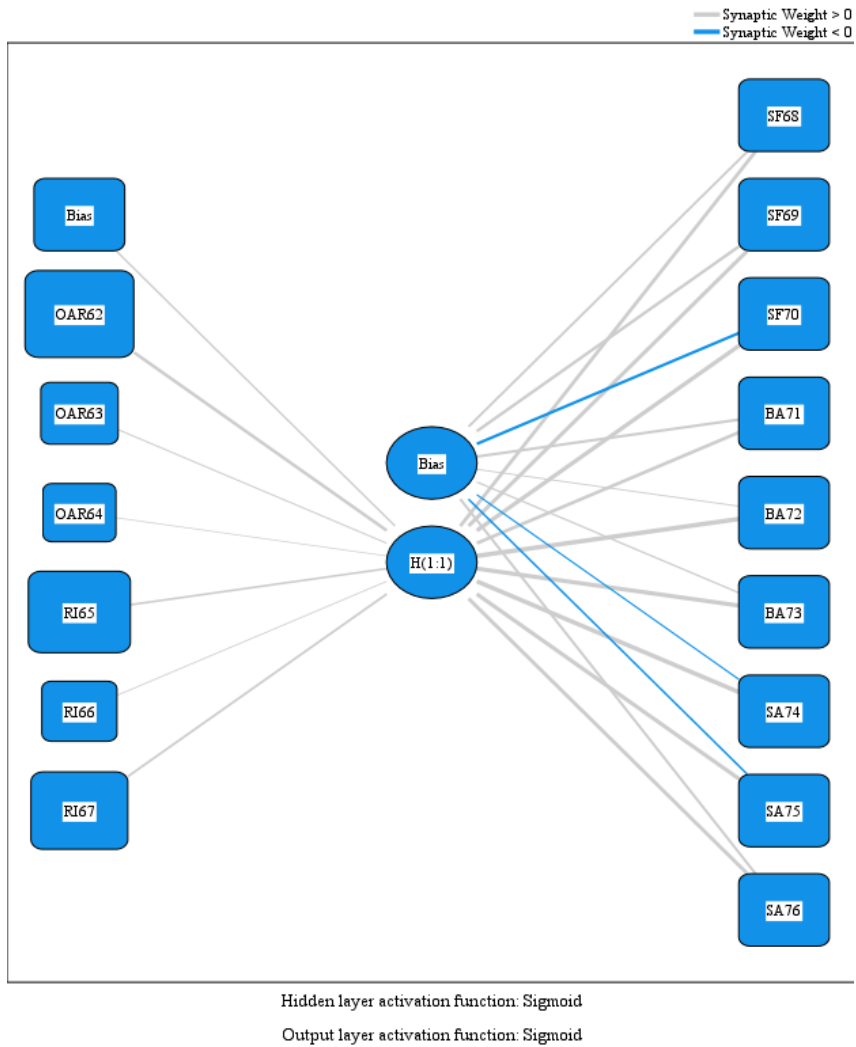


Figure 1. MLP model for evaluating the impact of intrinsic aspects of work on employees' health, well-being, and satisfaction

Source: Developed by the author using data processed with SPSS v.27

Table 2 presents the model parameters and the importance of the input variables in exerting influence.

Table 2. Parameters of the MLP model evaluating the impact of intrinsic aspects of work on employees' health, well-being, and satisfaction

Predictor		Predicted										Normalized Importance
		Hidden Layer 1	Output Layer									
		H(1:1)	SF68	SF69	SF70	BA71	BA72	BA73	SA74	SA75	SA76	
Input Layer	(Bias)	0.347										
	OAR62	1.027										100.0%
	OAR63	0.175										13.3%
	OAR64	0.014										1.3%
	RI65	0.657										81.2%
	RI66	0.083										7.2%
	RI67	0.711										67.2%
Hidden Layer 1	(Bias)		0.733	1.020	-0.954	0.875	0.093	0.328	-0.284	-0.500	0.786	
	H(1:1)		1.679	2.006	2.402	1.675	3.513	3.421	3.511	2.207	1.700	

Source: Developed by the author using data processed with SPSS v.27

The data analysis from Table 2 provides a nuanced perspective on the impact of intrinsic work aspects on employees' health, well-being, and satisfaction. Leading the influential factors is the motivation provided by the organization to achieve maximum performance. This finding suggests that a work environment that encourages and fosters excellence has a decisive impact on employee well-being. Close behind is employees' interest in their profession, indicating that passion and attraction for the field play a significant role in determining satisfaction and well-being.

Recognition and respect for efforts made also hold considerable importance, highlighting employees' need for appreciation and validation of their work. These three aspects seem to form the core of intrinsic factors with the most substantial impact on employees' work experience and well-being. In contrast, the model reveals that some aspects often considered necessary in management theory, such as the ability to apply one's own ideas in work or the opportunity to help others, have a lesser impact on overall employee well-being. Surprisingly, the feeling of work well done shows the lowest normalized importance, suggesting that intrinsic satisfaction from task completion has a weaker impact on overall well-being compared to other analyzed factors.

The model establishes connections between these input variables and various aspects of health, well-being, and job satisfaction, such as physical health, general well-being, workplace safety, and the sense that work is meaningful and fulfilling. These links illustrate the complexity of relationships between intrinsic aspects of work and multiple facets of employee well-being.

The data provide substantial yet nuanced support for the validation of the paper's hypothesis. Intrinsic aspects of work indeed demonstrate a significant favorable influence on employees' health and emotional well-being, contributing to a more pleasant and fulfilling work experience. However, this influence is not uniform across all analyzed intrinsic aspects. Factors such as organizational motivation, interest in the profession, and recognition of efforts strongly align with the hypothesis, demonstrating a significant positive impact. On the other hand, elements such as autonomy in applying one's ideas or satisfaction from task completion appear to have

a weaker influence than anticipated. This nuance in results suggests that, while the paper hypothesis is generally valid, the relationship between intrinsic work aspects and employee well-being is more complex than a general statement might suggest. The varied importance of different intrinsic aspects indicates the need for a differentiated approach in human resource management, with particular emphasis on creating a motivating environment, aligning personal interests with the nature of work, and fostering a culture of recognition and appreciation (Wilkinson, 2022).

5. Conclusions

This research explored the effects of intrinsic aspects of work on employee well-being, employing an artificial neural network (ANN) methodology to provide a nuanced understanding of these complex relationships. The findings contribute significantly to the existing literature by validating and expanding upon established theories regarding intrinsic motivation and employee outcomes.

The analysis revealed that intrinsic factors, particularly organizational motivation, interest in one's profession, and recognition of efforts, play a pivotal role in enhancing employee well-being. Employees who perceive their work environment as supportive and stimulating exhibit higher levels of job satisfaction, health, and psychological well-being.

The results indicate that employees who experience autonomy and a sense of competence are more likely to report higher satisfaction levels. This finding emphasizes the importance of fostering an environment where employees can exercise their judgment and creativity in their roles. The study highlighted the significance of finding meaning in one's work. Employees who perceive their tasks as meaningful are more likely to experience psychological well-being, suggesting that organizations should cultivate a culture that emphasizes the purpose behind work tasks. Moreover, the research points to the limitations of traditional management theories that prioritize extrinsic factors, revealing that aspects often deemed essential, such as autonomy in applying personal ideas or satisfaction from task completion, have a lesser impact on overall well-being than anticipated. This finding underscores the complexity of the relationship between intrinsic aspects of work and employee well-being, indicating that a more nuanced understanding is required.

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