



# Utilizing the Qualitative Content Analysis Approach to Present a Psychological Maturity Model for Research Managers Based on Entrepreneurial Development in Education-Oriented Organizations

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## Abstract

Human resources with psychological maturity are among the essential assets required for fostering entrepreneurship in education-oriented organizations. When coupled with high-level professional skills, they become an unrivaled asset for these organizations and serve as the most critical potential factor for transformation, modernization, and the continued effectiveness of production, service, and educational sectors of society. This study aimed to present a psychological maturity model for research managers based on entrepreneurial development in education-oriented organizations. The statistical population consisted of experts, managers of education-oriented organizations, and university professors who have conducted research in the field of entrepreneurial development. The sampling method employed was the snowball sampling technique, leading to the selection of 15 experts. Data were collected using open-ended interviews and analyzed using the qualitative content analysis technique. Following open coding, axial coding, and categorization, several dimensions of psychological maturity were identified and introduced. Personal maturity includes components of psychological readiness and professional capabilities. Entrepreneurial cultural maturity consists of motivations related to entrepreneurship, as well as beliefs and individual values concerning entrepreneurship. Entrepreneurial interaction maturity encompasses verbal communication skills, non-verbal communication skills, listening skills, writing skills, presentation skills, networking skills, and conflict resolution skills. Entrepreneurial psychological encouragement involves components of encouragement toward entrepreneurial behavior and psychological self-leadership.

**Keywords:** *Psychological Maturity, Entrepreneurial Development, Education-Oriented Organizations, Qualitative Content Analysis.*

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## 1. Introduction

Today, all experts agree that the human factor plays a major role in improving or declining organizational outcomes in all organizations, including knowledge-based organizations [1-3]. Managers have realized that even with the best resources and facilities, the absence of competent, mature, self-aware, and motivated human resources capable of maximizing productivity from traditional resources cannot guarantee the improvement of organizational outcomes [4]. Psychological maturity is defined as having the psychological abilities and skills that enable an individual to successfully face challenges and different situations [5-8]. These skills include stress management, motivation, problem-solving, effective communication, emotional intelligence, and self-confidence [9]. Psychological maturity can help individuals take advantage of opportunities, accept the risks associated with entrepreneurship, and implement innovative ideas [10]. Individuals with psychological maturity usually have high motivation to achieve their goals and possess strong management and leadership abilities [11]. Psychological maturity helps individuals confront challenges and adverse situations and learn from various experiences, ultimately contributing to entrepreneurial development and the creation of new opportunities [12].

The unknown aspects of psychological maturity based on entrepreneurial development in education-oriented organizations may include dimensions of an individual's personality and psychology that have not yet been fully understood or are ambiguous [13]. These dimensions may include skills, talents, motivations, beliefs, and values related to entrepreneurship that are not yet fully defined [14]. For example, an individual may possess natural talents and skills in entrepreneurship, but these talents and skills might not yet be fully recognized, requiring development and improvement [15]. Furthermore, an individual's beliefs and values regarding entrepreneurship may be vague and unknown, necessitating deeper analysis and understanding [16]. Therefore, the unknown aspects of psychological maturity based on entrepreneurial development in education-oriented organizations may include such dimensions and characteristics that require further investigation and development. Consequently, the psychological entrepreneurial development of experts and research managers in education-oriented organizations requires extensive efforts and solid steps for improvement and progress.

Alaa et al. (2021) conducted a study to present a conceptual model of the entrepreneurial university with a psychological maturity approach and psychological readiness for commercialization and entrepreneurship in applied science centers in Mazandaran province. Their findings concluded that values and social and cultural attitudes are independent variables with strong influence, impacting all components. The variables of management, entrepreneurship, and knowledge-based employment were identified as dependent variables and the most affected dimensions. The study suggested paying special attention to factors such as the initial motivation for commercialization, researchers' awareness and confidence regarding the commercialization process (intellectual property rights, patent registration, and licensing), and university attitudes [11].

Hassanpour and Aghajani (2022) conducted a study aimed at presenting a model for establishing an academic accelerator with a psychological readiness approach in the context of entrepreneurship as one of the core missions of universities. The qualitative findings identified five dimensions (cultural change in universities toward acceleration, the need for establishing accelerators, individual capabilities, accelerator services, and the government's role in launching accelerators), 11 components (transformation in university management, executive groundwork, university and societal needs, psychological capabilities, job skills, educational and consulting services, technical support, government assistance, and psychological readiness of officials), and 67 indicators. The quantitative findings indicated a strong fit for the measurement, structural, and overall models. The results showed that the need for accelerators influences cultural change toward acceleration and the government's role in accelerator formation. Additionally, cultural change directly impacts individual capabilities, but the government's role does not have a direct impact on individual capabilities, while individual capabilities directly influence accelerator services [17].

Heshmatifar et al. (2021) conducted a meta-analysis on the psychological correlates of entrepreneurship in Iran and found significant effect sizes between behavioral factors, locus of control, ambiguity tolerance, innovation, psychological characteristics, work-life quality, citizenship behavior, social anxiety, self-efficacy, emotional intelligence, and various psychological empowerment factors such as cognitive intelligence, organizational intelligence, self-leadership, and academic performance [9].

Zakharova et al. (2020) studied the psychological readiness for entrepreneurship among economics students and emphasized that government programs supporting youth entrepreneurship, small and medium-sized enterprises, effective psychological counseling, and the role of student centers in employment promotion could enhance entrepreneurial readiness among high school students [5].

Yin et al. (2020) analyzed the entrepreneurial psychology of preschool students in China with entrepreneurial intentions and recommended that colleges improve students' self-development potential through enhanced psychological entrepreneurship courses, the establishment of psychological counseling institutions on campus, and interactive entrepreneurial platforms. To address the general lack of entrepreneurial awareness among students, they suggested strengthening psychological entrepreneurship education to cultivate entrepreneurial talent and assist students in achieving entrepreneurial success [1].

The psychological maturity of experts and research managers in this field demonstrates their ability to create and sustain an entrepreneurial spirit and support innovative ideas within the organization. Individuals with psychological maturity are highly motivated to achieve their goals and possess strong managerial and leadership skills. Assessing psychological maturity leading to entrepreneurship is of great importance. This assessment serves as an evaluation tool to help individuals measure their readiness and abilities for entrepreneurship [18].

Alaa et al. (2021) designed an entrepreneurial university model with a psychological maturity and readiness approach for commercialization and entrepreneurship in applied science centers in Mazandaran province [11]. Soleymanpour Omran et al. (2018) examined the relationship between psychological empowerment and organizational entrepreneurship, analyzing the mediating role of entrepreneurial opportunity recognition [19]. Heshmatifar et al. (2021) conducted a meta-analysis of psychological correlates of entrepreneurship in Iran [9]. Kumar et al. (2022) investigated factors affecting entrepreneurial psychological confidence in small and medium-sized enterprises in Ethiopia [20].

All the studies conducted within the country indicate that there are limited investigations into the unknown aspects of psychological maturity based on entrepreneurial development in education-oriented organizations. Furthermore, no comprehensive policy document is available to address this issue, which raises the primary research question: What is the psychological maturity model

based on entrepreneurial development for experts and research managers in education-oriented organizations?

## 2. Methodology

The present study is classified as fundamental and interpretive research with an inductive approach, as it moves from specific data to general conclusions. The research strategy employed is qualitative content analysis. The statistical population includes experts, managers of education-oriented organizations, and university professors who have conducted research in the field of entrepreneurial development. The sampling method used was the snowball sampling technique, leading to the selection of 15 experts. The criteria for selecting the experts included having relevant educational qualifications related to the research topic, a minimum of five years of work experience in education-oriented organizations, expertise in the field of entrepreneurship, and a willingness to participate and share their views and experiences.

To collect data and information for analysis, unstructured open-ended interviews were conducted. Data analysis was carried out using qualitative content analysis with the assistance of MAXQDA software. To enhance the credibility of the research (i.e., the extent to which the structure and meaning of the phenomenon are appropriately and accurately represented), participants were consulted, and their feedback on the results was obtained. To achieve transferability (i.e., the extent to which the research findings can be generalized to other settings), the researcher provided a detailed description of the research process, from sampling to data interpretation. To ensure dependability (i.e., the extent to which the research findings can be verified by other researchers), the researcher sought guidance and supervision from expert professors throughout the data collection process to validate the interpretations. To enhance confirmability, the researcher aimed to achieve reliability through multiple reviews and thorough re-examinations of the data, interpretations, and findings of the study.

## 3. Findings and Results

Regarding the demographic characteristics of the 15 interviewees, 60% (9 individuals) held a doctoral degree, and 40% (6 individuals) held a master's degree. In terms of work experience, 13% (2 individuals) had 1 to 10 years of experience, 60% (9 individuals) had 11 to 20 years, and 27% (4 individuals) had more than 21 years of experience. Regarding age distribution, 40% (6 individuals) were

between 30 to 40 years old, another 40% (6 individuals) were between 41 to 50 years old, and 20% (3 individuals) were over 51 years old. Gender-wise, 47% (7 individuals) were female, and 53% (8 individuals) were male.

**Step One: Identifying the Research Problem**

The research problem focuses on identifying the indicators, components, and dimensions of the psychological maturity model based on entrepreneurial development for experts and research managers in education-oriented organizations.

**Step Two: Developing Interview Questions**

The interview questions were formulated based on the interview protocol and are presented below:

- How do you define psychological maturity based on entrepreneurial development?
- What individual indicators of psychological maturity do you suggest for developing entrepreneurship among experts and research managers in education-oriented organizations?
- What contextual indicators of psychological maturity do you suggest for developing entrepreneurship among experts and research managers in education-oriented organizations?

- What psychological characteristics should individuals possess to develop entrepreneurship?
- What factors do you suggest for developing entrepreneurship at the executive level in education-oriented organizations that are based on psychological maturity?
- In your opinion, what could be the practical outcomes of entrepreneurship development based on psychological maturity?

**Step Four: Sampling**

Since the data collection tool was open-ended interviews, the snowball sampling method was used to select the best samples as identified by experts.

**Step Five: Coding and Categorization**

In the current study, before starting the coding process, the researcher transcribed all recorded interviews manually and carefully reviewed them by listening to the recordings again to ensure no statements were omitted. The transcribed interviews were then typed into Microsoft Word, and subsequently, the text was imported into MAXQDA software for coding. A total of 213 initial codes were obtained. After removing duplicate codes and merging similar ones, 59 final codes were extracted (Table 1).

**Table 1.** Extraction of Open, Axial, and Categories Codes

| Category                          | Axial Code                           | Open Code                                     |
|-----------------------------------|--------------------------------------|---|
| Personal Maturity                 | Psychological Readiness              | Risk-taking                                   |
|                                   |                                      | Tolerance of ambiguity                        |
|                                   |                                      | Feeling of comfort                            |
|                                   |                                      | Competence in accepting responsibility        |
|                                   |                                      | Inner peace                                   |
|                                   |                                      | Aversion to artificial behaviors              |
|                                   |                                      | Possessing knowledge                          |
|                                   | Professional Capabilities            | Having experience                             |
|                                   |                                      | Creativity                                    |
|                                   |                                      | Proactiveness                                 |
|                                   |                                      | Competence                                    |
|                                   |                                      | Job satisfaction                              |
|                                   |                                      | Intellectual and research-oriented            |
|                                   |                                      | Problem-solving ability                       |
| Entrepreneurial Cultural Maturity | Entrepreneurship-Related Motivations | Interest in entrepreneurship                  |
|                                   |                                      | Ability to pursue entrepreneurial orientation |
|                                   |                                      | Perseverance in entrepreneurship              |
|                                   |                                      | Valuing entrepreneurial completion            |
|                                   |                                      | Gaining entrepreneurship-related competencies |

|   |   |  |
|---|---|--|
|   | Beliefs and Values Regarding Entrepreneurship | Respect and belief in new sciences and knowledge<br><br>Acceptance of new scientific ideas in entrepreneurship<br>Psychological readiness of officials for entrepreneurship<br>Breaking free from outdated habits and traditions |
| Entrepreneurial Interaction Maturity        | Verbal Communication Skills                   | Speaking clearly and concisely<br>Asking about unclear issues<br>Avoiding interruptions while speaking<br>Confident and assertive tone<br>Speaking fluently  |
|   | Non-verbal Communication Skills               | Eye contact<br>Using open and positive body language<br>Smiling<br>Showing respect and courtesy  |
|   | Listening Skills                              | Paying full attention to the audience<br>Paraphrasing and ensuring information comprehension<br>Avoiding interruptions   |
|   | Writing Skills                                | Writing concisely<br>Using clear and brief sentences<br>Using active voice<br>Editing and proofreading before submission   |
|   | Presentation Skills                           | Using simple and understandable slides<br>Sharing personal stories<br>Enthusiasm during presentations<br>Utilizing images and charts   |
|   | Networking Skills                             | Attending industry events and meetings<br>Participating in online communities<br>Using social media<br>One-on-one meetings<br>Maintaining contact with the audience  |
|   | Conflict Resolution Skills                    | Active listening<br>Emotional intelligence management<br>Adopting a win-win perspective<br>Stating one's position<br>Flexibility   |
| Entrepreneurial Psychological Encouragement | Encouragement toward Entrepreneurial Behavior | Persuasion based on reasoning and attention to details<br><br>Action based on need, cognition, and emotion<br>Persuasion based on emotions and cues  |
|   | Psychological Self-Leadership                 | Self-motivation<br>Self-persuasion   |

**Step Six: Reporting**

In this study, coding involved generating concepts and their characteristics, followed by an effort to determine how these concepts change across the identified dimensions. In the categorization process, codes were systematically

grouped. The study classified 13 axial codes into 4 dimensions, as presented in Table 1. The output of the MAXQDA software at this stage was used to extract categories and dimensions, which are illustrated in Figure 1.



**Figure 1.** Final Model of the Study

**4. Discussion and Conclusion**

Today, one of the most critical concerns of economic policymakers is the issue of employment and entrepreneurship. The growing number of unemployed graduates and job seekers, alongside the government's



inability to create sufficient job opportunities and the necessary infrastructure for entrepreneurship, has posed a significant challenge to the economic system. Reviving entrepreneurial thinking across all levels of governance, particularly in academic and educational institutions, is not only essential but vital. Society does not directly benefit from the research conducted by education-oriented organizations unless mechanisms are designed to transfer research findings to public sector companies and factories—economic agents specializing in commercial investment. Human resources with psychological maturity are a crucial asset for fostering entrepreneurship in education-oriented organizations. When combined with high-level job skills, they become an unrivaled asset and the most significant potential driver for transformation, modernization, and the sustained effectiveness of the production, service, and educational sectors of society.

This study aimed to develop a psychological maturity model for research managers based on entrepreneurial development in education-oriented organizations, using the qualitative content analysis technique. The findings, derived from expert interviews, indicate that the personal maturity of research managers in these organizations is associated with psychological readiness and professional capabilities. Psychological readiness includes risk-taking, tolerance for ambiguity, a sense of comfort, competence in assuming responsibility, inner peace, and an aversion to artificial behaviors. Professional capabilities, including knowledge, experience, creativity, proactiveness, competence, job satisfaction, intellectual curiosity, and problem-solving ability, provide a foundation for fostering entrepreneurship among employees. This process, in turn, leads to greater opportunities for enhancing creativity, innovation, and collective efficiency among employees.

Entrepreneurial cultural maturity in education-oriented organizations is impossible to achieve without the necessary infrastructure for entrepreneurship. Merely emphasizing the importance of entrepreneurship is insufficient to instill this culture in research managers. Entrepreneurial motivations, such as interest in entrepreneurship, the ability to pursue entrepreneurial orientation, perseverance in entrepreneurship, valuing entrepreneurial completion, and acquiring entrepreneurial competencies, are crucial in highlighting the importance of entrepreneurial cultural maturity. If research managers do not recognize the significance of entrepreneurship themselves, they cannot effectively introduce the next generation to the entrepreneurial culture. Employees often look to their

managers as role models; therefore, having entrepreneurial managers not only provides a model for employees but also reinforces their beliefs and values regarding entrepreneurship. If such managers respect and believe in new sciences and knowledge, accept novel scientific ideas, demonstrate psychological readiness for entrepreneurship, and break free from outdated habits and traditions, they can practically familiarize employees with the entrepreneurial process.

Effective interactions are not only the key to unlocking closed doors globally but are also an inevitable and essential activity for entrepreneurs in their entrepreneurial endeavors and networking. What leads entrepreneurs to success are verbal communication skills, non-verbal communication skills, listening skills, writing skills, presentation skills, networking skills, and conflict resolution skills. Conversely, a lack of awareness and application of these communication skills leads to failure. Psychological self-leadership plays a foundational role in encouraging individuals with entrepreneurial potential. Attributes such as self-motivation, self-persuasion, and learning from entrepreneurial experiences create a conducive environment for decision-making. Encouragement toward entrepreneurial behavior, which includes persuasion based on reasoning and attention to detail, action based on need, cognition, and emotion, and persuasion based on emotions and cues, establishes a psychological framework that promotes entrepreneurship among managers.

The development of a psychological maturity model for research managers based on entrepreneurial development in education-oriented organizations is a key outcome of this study. The goal is to leverage the dimensions and skills identified in the model to initiate changes in the behavior and mindset of research managers in such organizations. These findings align with prior studies [9, 11, 17]. However, given that studies [1, 5] focused on different statistical populations, specifically elementary school students, their findings differ from the present study and are not entirely consistent with its results.

To further research on psychological maturity based on entrepreneurship and to encourage research managers with entrepreneurial potential, the following recommendations are suggested:

1. The codes extracted from this study can serve as research leads for other scholars interested in psychological maturity and entrepreneurship.
2. The findings of this study, specifically the psychological maturity model for research

managers based on entrepreneurial development in education-oriented organizations, can be utilized as a reference to encourage managers and stakeholders in other organizations to engage in entrepreneurial experiences.

3. By assessing individuals' levels of psychological maturity and their personal attitudes toward entrepreneurship, their entrepreneurial motivations can be identified and directed appropriately.
4. The findings of this research highlight that individuals' attitudes toward entrepreneurship depend on their level of psychological maturity. Researchers are encouraged to conduct further studies in this field, and policymakers and senior managers should focus on training and development programs to enhance the entrepreneurial mindset and skills of research managers and staff.
5. Identifying the values of research managers, including their perceptions, objects, and inspiring beliefs, can help in designing programs that strengthen these values and contribute to fostering an entrepreneurial culture within education-oriented organizations.
6. Considering the lasting impact of observational learning, facilitating direct interactions between research managers and successful entrepreneurs through face-to-face dialogues and informal discussions can provide valuable career insights and inspiration.

For future research, it is recommended to use multi-criteria decision-making techniques to rank and weight the identified components, helping prioritize them for strategic planning.

### Authors' Contributions

Authors equally contributed to this article.

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### Declaration of Interest

The authors report no conflict of interest.

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### Ethical Considerations

All procedures performed in this study were under the ethical standards.

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