The Development of Personalised Training Needs Analysis for ACEs using a Psychometric Approach

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Abstract: Entrepreneurship training programmes (ETPs) are one of the most effective approaches for training prospective and established entrepreneurs with critical entrepreneurial mastery. Although various segments of the entrepreneurial community undergo the ETPs successfully, a greenhorn segment of the creative economy industry known as the Malaysian arts culture entrepreneurs (ACEs) community is emerging. Nonetheless, the current ETPs training needs analysis (TNA) instruments are too mainstream, excluding the ACEs distinctive psychometric inventory in producing a less appealing training process. Hence, the study aims to update and improvise the current entrepreneurial psychometric assessment by capturing the psychometric inventory of ACEs distinct from other entrepreneur communities. The study applied a mixed-method approach. The main study output is the ACE-Psychometric Inventory instrument, which could develop a personalised TNA that increases individualised ETPs content and delivery for ACEs. Finally, the study concludes with discussions and research implications.

Keywords: “arts culture entrepreneurship”, “psychometric inventory”, “mixed-method”, “entrepreneurship training”, “psychology”

1. Introduction

Entrepreneurship training programmes (ETPs) are one of the most effective training prospective methods that establish critical entrepreneurial mastery among entrepreneurs (Oosterbeek et al., 2010). Although many entrepreneurial community segments completed the ETPs, a greenhorn segment of the creative industry known as the Malaysian ACEs community is evolving. The ACEs present ETPs trainers a unique challenge due to being a particular type of entrepreneurs (Chang & Wyszomirski, 2015). Most ACEs are related to the group of protean careerists who believe in career personal construction motivated by...
personal identification. Nevertheless, the group is more abstract-oriented, aesthetically driven, and often 'pushed' into entrepreneurship by necessity with a low natural inclination towards entrepreneurship (Bridgstock, 2013).

Although the ACEs community is categorized under the greenhorn segment, the community remains a part of the public entrepreneurship development agenda. The community is also considered an essential contributor to the future national gross domestic product (GDP). According to a United Nations Conference on Trade and Development (UNCTAD) report on the creative economy outlook, the global market for creative goods doubled in size from $208 billion in 2002 to $509 billion in 2015, specifically on the international trade trends from 2002 to 2015 (UNCTAD, 2018). Consequently, the massive potential of the creative economy places ACEs in a strategic business community. The Malaysian government recognised the major opportunity to join the global creative economy spillover effect, promoting Kuala Lumpur as a burgeoning cultural hub and a potentially significant future economic hub through the Cultural Economy Development Agency (CENDANA: a wholly-owned government agency under Malaysia's Ministry of Finance Incorporated) (CENDANA, 2017). Malaysia's arts and cultural industry stakeholders prepared for a chance at glory with the future challenge of unravelling the huge potential of the sector, combining tourism and shopping experiences for goods and services in arts and culture, such as traditional and contemporary handicrafts or souvenirs, apparel and clothing, and food produce. The concern is not a lack of demand, but rather the absence of a well-defined strategy, structural framework, and regulatory framework for steadily developing and sustaining the creative economy.

Efforts were made to support the creative economy agenda of the government, including conducting ETPs for ACEs by the relevant ministry, specifically the Ministry of Tourism, Arts, and Culture (MOTAC) through (1) Makmal Usahawan Seni Budaya (Arts Culture Entrepreneurs Lab) and (2) the Young Arts Entrepreneur! (YAE) Programme. The efforts are a joint endeavour to raise the ACEs capacity to support the creative economy entire vision and become a viable future business venture. Additionally, more advanced pre-, during-, and post-training technologies were developed as ongoing efforts to revitalise and improve the training approach. For instance, a more refined psychometric inventory analysis could disclose more precise information about the trainees to produce a more accurate TNA to be integrated into a rich databank to track and transform trainees’ performance and growth (Christensen, 2018). Thus, ETP trainers could construct more direct, focused, and successful training modules.

2. Literature Review

2.1 Contemporary Entrepreneurship Training
The delivery of contemporary ETPs must be based on the concept of action (and being active) to ensure relevancy to the original aim (Hägg & Kurczewska, 2016). Ratten (2019) stated that embracing diversity as a vital component of communities is the way to advance entrepreneurship training. The entrepreneurs can comprise a range of people, businesses, and
other entities collaborating to achieve a common purpose. Resultantly, an inclusive ETP highlighting a personalised approach addresses the target group’s special issues and aid the group by presenting suitable coping mechanisms adapted to the group’s situation (OECD, 2019). Lafortune et al. (2018) found that training efforts involving micro-personalisation positively affect the respondent’s income production, suggesting positive after-effect training and sustainability.

A similar scenario is applicable to ACEs based on the positive impact of personalised entrepreneurship training on the intended beneficiary. Toscher (2019) proposed two effective training forms employed in arts-based entrepreneurship training, such as for music students: (1) new venture creation method and (2) transitioning strategy. The former generally corresponds to a business school standard entrepreneurship education approach that exposes students to numerous entrepreneurship concepts and tools. Nevertheless, the first form is more focused on preparing music students for life as professional musicians outside academia. Regardless of the approach applied by the entrepreneurship educator or trainer, Toscher debated a more significant need to understand better the arts-based recipient of entrepreneurship training or education according to two overlapping factors: (1) the special nature of the entrepreneurial learning process, and (2) the types of entrepreneurial competencies needed to be attained.

Toscher added that a conceptual framework for entrepreneurial learning activities in arts entrepreneurship education (represented by music students enrolled in the music programme) encompassed five elements: (a) context-specific – turning entrepreneurship relevant to a future musician’s career by aiding them to understand what a career in music entails and recognise the relevance of entrepreneurial learning activities, (b) place the entrepreneurial learning activities in the music programme, (c) place the entrepreneurial learning activities in the context of the career relevance (Figure 1). Thus, ACEs gained significant benefits from the personalised entrepreneurship training method due to distinct psychological characteristics and mainstream entrepreneurs. The ACEs training and self-development programme benefit by identifying the behavioural and psychological abilities related to entrepreneurship. The subsequent section analyses the training needs and the psychological characteristics of ACEs.
2.2 Training Needs Analysis
Training is widely defined as acquiring abilities, concepts, or attitudes resulting in improved job performance or task environment. Any training agenda must appropriately fit between the training content and the learners' profiles. The condition is fulfilled only if the intended training content matches the profile of the intended trainees, specifically ACEs. The module trainer should treat training content development as the customer's product or service offering, equal to the value proposition canvas concept whereby the latter should supplement the jobs and pains of the ACEs (Osterwalder, 2014).

The study proposed that the process of conducting a TNA (defined as the process of identifying and gathering data determine what training needs exist in performance) (Rahmana & Sukaya, 2020) is the critical first point of contact to understand the ACEs and is considered a crucial first step for continuing professional development (Holloway et al., 2018). Training analysis creates a formal connection between accessible design data, training media, and goals to facilitate transferring training aspects into the operational environment. A TNA is completed when a significant change in techniques, acquiring new equipment, or deploying new processes is suspected of disrupting the current training programme.

2.3 The ACEs Psychological Inventory Traits
First, ACEs are distinct from other entrepreneurs. The main distinction is the unique perspective on the entrepreneurship-opportunity relationship. Although the entrepreneurship opportunity nexus is generally about identifying and utilising resources (Shane & Venkataraman, 2000), ACEs are more concentrated on developing and using the unique intellectual or creative capital, and being investors in individual or other's talent (Bujor & Avilsacai, 2016). The ACEs combine creative and entrepreneurial qualities to build a
business empire by applying the mindset. Hence, the study proposed the following hypothesis:

**Hypothesis 1:** The ACEs perceived that the individual and external talent could be exploited further for commercial purposes.

Second, ACEs integrate artistic sensibilities with a reasonable commercial judgement, enabling economic viability while staying committed to the cultural vision (Marinova & Borza, 2015). Nevertheless, ACEs must remember that pursuing a long-term career in the creative industry requires ensuring the viability of the venture, whereby fashion, consumer tastes, and youth dominate the industry (Henry, 2007). Additionally, convincing ACEs to commit to any future economic arrangement misalign with their highly subjectively defined creative values. The more focused individual level of creative artistic attitude comprises a deliberate, self-aware process, watching and responding to internalised “subselves,” and integrating divergent thinking types (Gerlach, 2015). Thus, the issue is where should future business partners draw the line between the ACEs proclivity for subjective roots in their artistic attitude (when they intended to stop creating artwork) and any business decision very objectively defined, such as the sale numbers needed to break even or gain positive cash flow. Therefore, the following hypothesis is proposed:

**Hypothesis 2:** The ACEs are more likely to choose artistic attitude over the business logic to preserve their cultural vision.

Thirdly, ACEs view arts as a mission (Klamer, 2011) and employ entrepreneurial and managerial strategies to maintain the creative process. Generally, ACEs are torn between their artistic and economic logic (Eikhof & Haunschild, 2007). Resultantly, the ACEs face dilemmas requiring the creation of a balancing act to resolve (Lampel et al., 2000). The challenge for the people in creative entrepreneurship is balancing between artistic expression, financing, and business development (Bujor & Avalsicai, 2016). The ACEs carefully address their choices and attempt to safeguard the artist's integrity and protect from perceived negative business strategies. Thus, ACEs decide their activity by preserving the artistic sphere and the associated values. Although the act appears inconvenient economically, two opposite conditions emerge: as artists, ACEs relinquish the obligation to contribute to the art world evolution by presenting new creations due to artistic growth and consciousness. Meanwhile, entrepreneurs must consider audience desires and remain committed to artistic morality. Hence, the following hypothesis is suggested:

**Hypothesis 3:** The ACEs more likely desire to be called artists entrepreneurs than mainstream entrepreneurs as ACEs treat arts as a primary mission.

The creative industry is prominent due to the distinct business ecosystem based on business networks that continuously assemble and disassemble value chains to form new products and services. Numerous ACEs are self-employed or employed on a project-by-project basis. The ACEs possess a distinct career structure involving a changing patchwork of concurrent work activities to supplement income (Bridgstock, 2013). The ACEs careers are deemed “protean careerists,” distinguished by personal career construction and strong intrinsic motivations for personal identification with a career, producing a low probability of
stable employment or development as an employed careerist. Jobs are secured through "whom you know," or casual social and professional contacts, as offers are according to the quality and success of past jobs instead of formal application and interview processes (Throsby & Zednik, 2010). Thus, the study presents the following hypothesis:

**Hypothesis 4:** The ACEs are more personally interested in constructing their career organically than following the standard progressive career development.

Arenius et al. 2020 analysed the behavioural profiles of artists and entrepreneurs, revealing that compared to a control group of professional workers, artists and entrepreneurs exhibited a higher risk tolerance, openness to experience, and intrinsic motivation. Artists outperformed entrepreneurs in creativity and emotionality, but entrepreneurs exceed artists in self-efficacy and extraversion. The discovery is crucial, enabling a better understanding of the psychological links between artists and entrepreneurs to encourage artists to explore entrepreneurial endeavours. The following psychological characteristics were assessed: (1) personality traits, such as psychotic and introverted, adventurous and radical, (2) intrinsic motivation, (3) risk preference, (4) creativity, (5) social value orientation, (6) self-efficacy, (7) overconfidence, and (8) attention-deficit or hyperactivity disorder (ADHD).

**Hypothesis 5:** The ACEs more likely exhibit higher risk tolerance, openness to experience, higher intrinsic motivation, creativity, emotionality, self-efficacy, and extraversion than mainstream entrepreneurs.

### 2.4. Conceptual Framework

Calcagno and Balzarin (2016) stated that the psychological makeup of ACEs lies halfway between the conditions from the external world (push factor) and the embodied legacy of their artistic language (pull factor). External conditions function as constraints and enablers. As constraints, they discourage an entrepreneurial attitude while as enablers, they push ACEs to seek sustainable solutions, contributing to the natural order. The former occurs following a persistent state of crisis due to a combination of insufficient public funds and financial failure from enterprises ineffective management. The desire to be creative, autonomous, and completely possess control over their work all pull ACEs to learn how to maintain artistic ambitions while applying an entrepreneurial and management perspective. The ACEs function directly and indirectly to preserve the language of an artistic endeavour while crossing the blurry line between artistic vision and economic knowledge. Resultantly, artistic and entrepreneurial ACEs would welcome the challenge as a natural state of being.
According to the specific psychological constitution in TNA and being open about the other contributing elements, ACEs possess a viewpoint on entrepreneurship as a career option. The situation provides a boundary between the ACEs and other entrepreneurial community. A strong psychometric inventory capturing the ACEs particular psychological traits could aid trainers to better understand the ACEs as trainees and enhance literature on ACEs and entrepreneurship psychology.

3. Proposed Methodology of Study

3.1. Research Approach and Study Design

The study employed a mixed-methods approach based on an exploratory sequential design. The Hybrid Delphi Method was applied to identify unique ACEs personality items in the qualitative phase. Meanwhile, the survey method was employed in the quantitative phase to determine the validity and reliability of the new individualised psychometric assessment. The qualitative method applied in the study involved interviewing industry experts in art culture entrepreneurship with experience in the commercial and arts and culture sectors. Additionally, the topics for the ACEs psychometric inventory were based on the participants' interview transcripts in the initial step.

The quantitative technique involved performing focus group studies with MUSB and YAE trainees to validate and examine the theme dependability created in the first stage. The study examined the statistical indicators, such as reliability indices, factor loadings, and others to determine the item reliability for the subsequent step. The main objective of the study is to develop a robust online-based psychometric analysis tool to illustrate the psychometric inventory of individuals interested in pursuing a career as an arts culture entrepreneur and to develop training needs analysis data for ETP trainers in developing suitable content for ETP for ACEs.

3.2. Population and Sample Size

The target population were the industry experts with combined experience from the commercial and arts and culture sector and trainees from MUSB and YAE.
4. Discussion

The study proposed ETPs as one of the most effective approaches in a capacity-building programme for future entrepreneur communities, such as ACEs, to realise their entrepreneurship potential and enhance socioeconomic status and incomes. The possibility of ACEs as entrepreneurs should not be underestimated considering the global creative economy expanding market size. The UNCTAD stated that the global market for creative goods increased significantly in 2015, amounting to $509 billion. The ASEAN countries are the regional powerhouses leading creative goods export. The creative economy accounts for

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**Table 1: Research Design Summary**

| Data Source & Data Sampling | • Industry Experts with Combined Experience from the Commercial & Arts and Culture Sector  
|                           | • Trainees from MUSB and YAE |
| Data Collection            | • Hybrid Delphi Method  
|                           | • Questionnaires Survey |
| Data Analysis Framework    | Exploratory sequential design |
| Data Analysis Procedure    | Thematic Analysis & structural equation modelling (SEM or AMOS) |
| Research Output            | ACE - Psychometric Inventory Test |
over 6.1% of the global GDP, ranging from 2% to 7% of national GDPS worldwide. Malaysia is also one of the top ten achievers in the developing economic group from 2002 to 2015, alongside China, Hong Kong (China), India, Singapore, and Thailand (UNCTAD, 2018). The CENDANA reported that the Klang Valley creative sector contributed 2.4% of the Klang Valley GDP in 2017, generating RM 11.2 billion in revenue and employing approximately 86,000 people (CENDANA, 2017).

Following the massive potential, the creative economy is a new economic sector that the government and industry participants should emphasise (Barker & Bank, 2017). Malaysia’s principal development agency, MyCreative Ventures Sdn Bhd, was founded in 2017. Subsequently, the agency primary mission is to enhance the creative economic environment by forming an organised and artist-friendly framework. The measures included access to funding, market access, strategic relationships, talent development, and digital media zones. One of the agency issues is ensuring a continuous supply of capable entrepreneurs in ACEs to handle the initiatives. The creative sector noted the expanding importance of the creative economy and was recently awarded RM 288 million in the 2022 National Budget (MOF, 2022).

According to the principle of fostering talent to take the initiative, the government should improve the quality and competency of ACEs at all levels (grassroots and established). The way to capture talent is through ETPs, which must be well-suited to the ACEs. The objective can be achieved by employing the right training content and approach for the ACEs profile similar to the value fit from the value proposition canvas principle (Osterwalder, 2014). The notion addresses their jobs (anticipated intentions during running the business), pains (a specific problem or concern experienced), and gains (outcomes and benefits required, expect to desire, or would be surprised by), thus enabling the ETP value propositions to be sufficiently realised.

A piece of trainee profiling analysis is added in the TNA curriculum. The study will consider one section of the ACEs unique psychometric inventory and apply it as the input for the personalised TNA as an excellent way to obtain a better grasp of ACEs. The TNA could aid ETP trainers identify knowledge and skill gaps, improve effective training content, ensure training focuses on the right areas of competencies, and prioritise training needs. The study presented the Psychometric Inventory of ACEs, which captured and assessed the ACEs psychometric inventory more thoroughly. Potential ETPs trainers could capture and access psychometric features of ACEs, such as personality, ability, attitude, motivation, interest, needs, emotional intelligence, and others through psychometric testing. The psychometric evaluation could facilitate the ETPs trainers to provide more accurate, relevant, durable, dependable, unbiased, cost-effective, and time-saving outcomes.

6. Implication

The study is relevant due to the socio-economic instability following the global coronavirus disease (COVID-19) outbreak. Despite the challenges, the worldwide economy will rebound. The markets will reactivate when the global economy begins to recover. Trading activity for
products and services will also rise, including the creative economy. Resultantly, the findings and the future effects and outputs of the study are crucial for policy, practise theory, and ongoing research on entrepreneurship training programmes, training needs analysis, and the ACEs community (Ratten, 2020).

In terms of policy, the study provides information to develop the strategic direction of ACEs, primarily through CENDANA and MyCreative Venture. The study contributes to the goal of enhancing the creative economy environment through a well-structured, artist-friendly mechanism. The results of the ACEs psychometric inventory test present the data required to improve future ACEs policies. The government can also determine the grey areas that need more activity in the future by understanding the psychometric inventory data of ACEs at various levels, including local, national, and international levels. The information can be used to rebuild the creative economic ecosystem to nurture future ACEs, such as reforming the national education system.

Regarding practical ramifications, psychometric inventory testing evolved into a powerful evaluation approach gradually (Proyer et al., 2017). The Psychometric Inventory test can objectively evaluate skills and knowledge, talents, attitudes, and personality qualities to improve understanding of individual ACEs and produce better talent management decisions. Thus, a refined method, such as customised and personalised training intervention, could be devised. The results also enable tracking the ACEs milestone performance. The personal profile in the database would be accessible by many authorities and institutions across the board. The records can be retained, and follow-up can be performed in a more objective manner by measuring and taking action on what matters the most.

The ACEs psychometric assessment can produce fascinating results by pinpointing the ACEs strengths and weaknesses, enabling efforts to assist them. The developmental and capacity-building processes might be fine-tuned and adapted to fulfil the specific demands of ACEs. Analytical tools also encourage using technology to enhance analysis and training initiatives. Practically, ACEs possess a set of strengths and flaws. To realise the ACEs full potential, one must identify the fields the ACEs could be used in.

The study adds to the growing body of literature highlighting the ACEs, specifically regarding ACEs unique personality and subsequent entrepreneurial behaviour, such as the aesthetic and economic logic held in the decision-making and entrepreneurial recognition. Furthermore, the study could expand the concept of action (activity) connected to the current entrepreneurial training pedagogical practice. The study also enhances the body of knowledge in the field of the creative economy, particularly in Malaysia (Barker & Beng, 2017).

The study limitations include: multiple observations, possibly under multiple situations, may be required to evaluate such a complex construct. Additionally, when the construct of interest is substantial, one cannot simply analyse using multiple-choice items. A more complex assessment is required. Moreover, a longitudinal study and extending the sample selection to include other ACEs from different countries could benefit future research and produce more fascinating discoveries.
7. Conclusion
The ETPs will continuously aid diverse entrepreneurial communities in developing and enhancing firms. The ETPs can improve by leaving the conventional template in favour of creating a more customised template tailored to each entrepreneur community-specific needs. First, TNA tools should be expanded. Meanwhile, ACEs are recognised as one of the groups with such a unique psychological inventory. Due to the growing popularity of the gig economy in the workplace, strengthening ACE training is crucial. Hence, the ACEs psychometric inventory assessment should be included in the training deliverable to improve and maintain the ACEs entrepreneurial development in the future.

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